

Homework 6 – KEY

Average: 81.21 + Opts GI bonus

Due on 26/9/2023, by 23:00

This assignment is optional but STRONGLY RECOMMENDED. If you do not submit the answers till the deadline, the score of your final exam will substitute for the score for this assignment. Submit only the correct letter for each task on eLearn under 'Quizzes' within 'COR2100-Economics and Society G7-8-26-49'. Note that the actual text of questions and answers is not supposed to appear on the eLearn quiz. You have unlimited attempts. The system is programmed to credit your last attempt. Be informed that if you submit an attempt and afterwards you re-open the quiz, you must submit your answers AGAIN. Otherwise, the system will grade the unfinished attempt with 0 (because it is the last one) and there is NOTHING I can do to fix this after the fact. Late homework or homework submitted outside eLearn cannot be accepted as this would violate SMU official policy for fairness and transparency in grading. This assignment is protected by Grade Insurance™: If the assignment's average turns out to be below 75, an equal amount of bonus points will be given to every work, for the average to become 75. Direct any homework questions to your TA.

1. If chicken costs \$8.80/kg and the government sets a price ceiling at \$7.00/kg, which of the following is most likely to happen?
- A. Demand for chicken will increase. *[Quantity demanded will increase]*
 - B. Supply of chicken will decrease. *[Quantity supplied will decrease]*
 - 60% C. **A shortage of chicken will occur.**
 - 38% D. All of the above.
[At the price of \$7, quantity demanded for chicken will be higher than quantity supplied and a shortage will occur]
2. Which of the following is most possible to be a non-excludable good?
- A. A theater play. *[You have to pay a ticket to watch the performance]*
 - B. An article on Economist. *[You have to pay subscription to read it]*
 - 93% C. **A YouTube video.** *[YouTube videos are free to watch]*
 - D. Internet connection. *[You must pay your internet provider to have access to internet]*
3. Which of the following is most possible to be a non-rival good?
- 89% A. **A mobile app.** *[If I download it on my phone, you can also do so]*
 - B. A public basketball court. *[If I play on the court, others cannot]*
 - C. A hotel room. *[If I rent it for a night, you cannot rent it too]*
 - D. A copy of a book. *[If I own it, you cannot have it too]*
4. Which of the following is accurate for government intervention in a PC market?
- A. Imposing a price ceiling below the market equilibrium price will create a surplus. *[No, this will create a shortage]*
 - B. Imposing a price floor above the market equilibrium price will create a shortage. *[No, this will create a surplus]*
 - C. Both A and B.
 - 97% D. **None of the above.**

Scenario 6.1: Firm A creates a negative externality towards firm B. The externality reduces Firm B's profits by d per year. Firm A can resolve the externality by investing i dollars per year. Firm A's profit is π per year.

5. According to scenario 6.1, if $d = \$1,500$, $i = \$2,000$ and $\pi = \$1,000$, which of the following is most likely to happen?
- 72%A. Firm B will buy firm A by paying \$1,000 per year and shut it down. *[It costs \$1,000 to solve a problem of \$1,500]*
 - 16%B. Firm B will offer to firm A \$1,400 per year to share the cost of the investment. *[Firm A has no incentive to accept this offer]*
 - C. Firm B will undertake firm A's investment by giving \$2,000 per year to it. *[It would cost \$2,000 to solve a problem of \$1,500]*
 - D. Firm B will continue to bear the cost of externality.
6. According to scenario 6.1, if $d = \$750$, $i = \$2,000$ and $\pi = \$1,000$, which of the following is most likely to happen?
- A. Firm B will buy firm A by paying \$1,000 per year and shut it down. *[It would cost \$1,000 to solve a problem of \$750]*
 - 14%B. Firm B will offer to firm A \$650 per year to share the cost of the investment. *[Firm A has no incentive to accept this offer]*
 - C. Firm B will undertake firm A's investment by giving \$2,000 per year to it. *[It would cost \$2,000 to solve a problem of \$750]*
 - 79%D. Firm B will continue to bear the cost of externality.
7. According to scenario 6.1, if $d = \$1,500$, $i = \$800$ and $\pi = \$1,000$, which of the following is most likely to happen?
- A. Firm B will buy firm A by paying \$1,000 per year and shut it down. *[It would cost \$1,000 to solve a problem that could be solved with \$800]*
 - 22%B. Firm B will offer to firm A \$700 per year to share the cost of the investment. *[Firm A has no incentive to accept this offer]*
 - 72%C. Firm B will undertake firm A's investment by giving \$800 per year to it. *[It would cost \$800 to solve a problem that is worth \$1,500]*
 - D. Firm B will continue to bear the cost of externality.
8. According to scenario 6.1, if $d = \$1,500$, $i = \$1,000$ and $\pi = \$950$, which of the following is most likely to happen?
- 61%A. Firm B will buy firm A by paying \$950 per year and shut it down. *[It would cost \$950 to solve a problem that is worth \$1,500]*
 - 17%B. Firm B will offer to firm A \$900 per year to share the cost of the investment. *[Firm A has no incentive to accept this offer]*
 - 17%C. Firm B will undertake firm A's investment by giving \$1,000 per year to it. *[It would cost \$1,000 to solve a problem that could be solved with \$950]*
 - D. Firm B will continue to bear the cost of externality.

9 ✓ Which of the following is a main characteristic of a natural monopoly?

- 95% A. Economies of scale over the relevant range of output.
- B. Dis-economies of scale over the relevant range of output.
- C. Marginal cost is U-shaped over the relevant range of output.
- D. Marginal cost is constant over the relevant range of output.

[Natural monopoly by definition exists in a particular market if a single firm can serve that entire market at a lower cost than two or more firms. This requires large economies of scale]

10 ✓ Which of the following is most likely to be an example of market failure?

- A. Excludable goods are traded in the market. *[This does not prevent the market from bringing about an efficient outcome]*
- 88% B. A good is not allocated to the person who needs it more. *[As explained in class with the example of face masks]*
- 11% C. The production of plastic causes waste. *[The production of everything causes waste. It would be a failure only if the consumption of plastic is excessive, which is not shown here. Plastic is a valuable material, and responsible practices related to its use and disposal can help mitigate its environmental impact]*
- D. Producing at a large scale is much more efficient than small-scale production. *[Economies of scale do not prevent the market from bringing about an efficient outcome]*

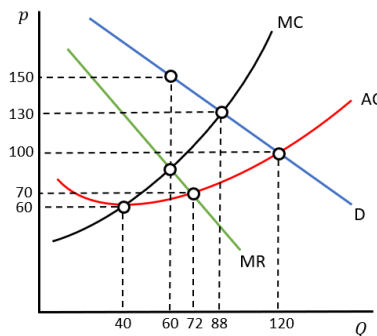


Figure 6.1: The demand and cost functions for a monopoly.

11 ✓ According to figure 6.1, how much should a price ceiling be, in order for the DWL to become zero?

- A. Around \$60.
- B. Around \$70.
- C. Around \$100.
- 96% D. Around \$130.
- E. Around \$150.
- F. No price ensures zero DWL.

[At the price ceiling of \$130, the seller will produce 88 units and the demand will be equal to the competitive supply (MC), so the market will be fully efficient and there will be no DWL]

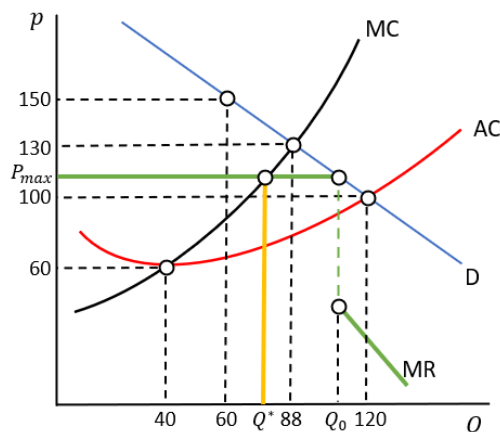
12. According to figure 6.1, if a regulator sets a price ceiling at \$160, how many units will the seller produce?

- A. Around 40 units.
- 34% B. Between 40 and 60 units.
- 58% C. Around 60 units.
- D. Around 72 units.
- E. Around 88 units.
- F. Around 120 units.

[The price ceiling at \$160 will be non-binding restriction for the monopolist, because it does not prevent her from setting the profit maximizing price at \$150, where MC = MR]

13. According to figure 6.1, if the regulator sets a price ceiling between \$100 and \$130, how many units will the seller produce?
- A. No more than 40 units.
 - B. No more than 60 units.
 - 70% C. **No more than 88 units.**
 - 23% D. Above 88 units.
 - E. Above 120 units.

[As we can see at the diagram below, if the regulator sets the price ceiling P_{max} between \$100 and \$130, the seller will stop producing at Q^ , somewhere between 60 and 88 units, where the seller's profit maximizing condition, i.e. $MR = MC$, holds. This is because from 0 up to Q_0 units $MR = P_{max}$*



14. According to figure 6.1, if the regulator wants to force the seller to produce 120 units, what price ceiling should the regulator set?
- A. Below \$100.
 - 20% B. Around \$100.
 - C. Between \$100 and \$130.
 - D. Around \$130.
 - 78% E. **It is impossible to force the seller to produce 120 units.**

[If the regulator sets the price ceiling at \$100, the seller will stop producing somewhere between 60 and 88 units, where $MR = MC$. It is impossible to force this seller to produce more than 88 units, because MC exceeds the demand]

15. Which of the following is most likely to be punishable under the antitrust law of Singapore, US or EU?
- 24% A. Refusing to supply input indispensable for competition in an ancillary market.
 - B. Offering discounts to customers who buy most of their supplies from the dominant company.
 - 68% C. **Price discriminating between business clients without any objective justification. [Any discrimination in the treatment of different business clients without justification is considered abusive]**
 - D. Making it difficult for customers to switch to competitors.

16. Which of the following is most likely to be the reason why firms are seldom fined for price-fixing?
- 77% A. **It is hard to prove. [Such deals between businesses are usually done under the table]**
 - 15% B. It is hard to detect. [Prices are officially recorded in accounting forms]
 - C. Price-fixing is legal. [No, it is mostly illegal!]
 - D. All of the above.

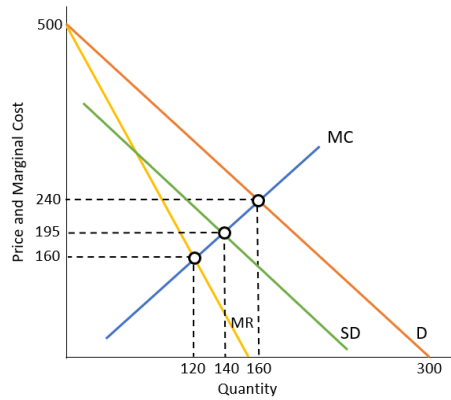


Figure 6.2: The demand (D), marginal cost (MC), marginal revenue (MR) and social benefit (SD) for a PC market.

17. ✓ Which of the following could be depicted in figure 6.2?
- 85%A. **The market for smoking tobacco.** *[True, since the figure depicts a negative externality on consumption]*
 - B. The market for public transportation. *[Public transportation should have SD to exceed D because it is associated with a positive externality]*
 - C. The market for bread for a bakery at the mall. *[This market is not associated with any externality. SD and D should coincide]*
 - D. All of the above.
18. ✓ According to figure 6.2, what quantity will be produced if there is no government intervention?
- 16%A. Around 120 units.
 - B. Between 120 and 140 units.
 - C. Around 140 units.
 - D. Between 140 and 160 units.
 - 84%E. **Around 160 units.**
[Since the market is perfectly competitive and the supply is given by the MC , without government intervention the market equilibrates at 160 units, where demand is equal to supply]
19. ✓ According to figure 6.2, how much is the socially optimal quantity?
- A. Around 120 units.
 - B. Between 120 and 140 units.
 - 97%C. **Around 140 units.**
 - D. Between 140 and 160 units.
 - E. Around 160 units.
[The socially optimal quantity is given by the point at which social benefit is equal to the firms' marginal cost or at 140 units]
20. ✓ According to figure 6.2, what could the government do in order for the socially optimal quantity to be produced?
- A. Subsidize the sellers. *[Will further increase the quantity]*
 - B. Subsidize the buyers. *[Will further increase the quantity]*
 - 81%C. **Impose a per unit tax.** *[Will reduce the quantity closer to the social optimal]*
 - D. Impose a price floor. *[Impossible to reduce the quantity]*
 - E. No intervention is needed.