

## Homework 3

Due on 30/1/2024, by 23:00

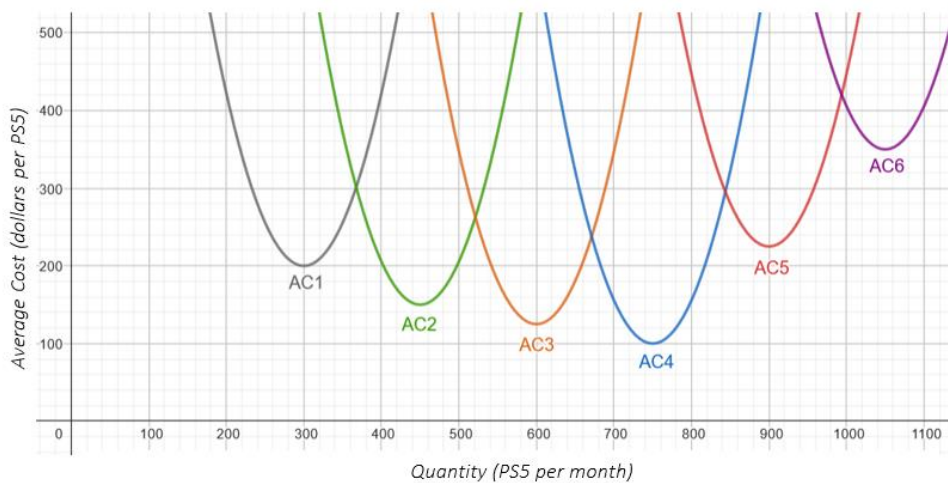
This assignment is optional but **STRONGLY RECOMMENDED**. If you do not submit the answers till the deadline, the score of your final exam will substitute for the score for this assignment. Submit only the correct letter for each task on eLearn under 'Quizzes' within 'COR2100-Economics and Society G7-8-9-10'. 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.

- Which of the following is most accurate about AC, AVC and MC curves in the short-run period?
  - MC intersects with both AC and AVC at their minimums, respectively.
  - AVC and AC never intersect.
  - Both A and B.
  - None of the above.
- Which of the following will affect the MC of a transportation company?
  - The price of fuel.
  - The purchase of a new vehicle.
  - Both A and B.
  - None of the above.
- Which of the following products is most likely to be homogeneous among different sellers?
  - Watermelons.
  - Ice-cream.
  - Air-condition.
  - Cars.
- Suppose that Nakas produces 500 pianos per month at total cost of \$70,000, while fixed cost is \$20,000. How much is the lowest price per piano in order for Nakas to keep operating in the short-run?
  - Around \$40.
  - Around \$100.
  - Around \$140.
  - Around \$180.
- Which of the following is the **LEAST** likely to represent a firm's cost function?
  - $C = 12 + q^2$ .
  - $C = 100 + 4q$ .
  - $C = 6\sqrt{1 + q}$ .
  - $C = 20 + 25/q$ .

6. Which of the following is a sunk cost?
- A. The purchase of a Rolex.
  - B. An SMU tuition payment.
  - C. A Netflix subscription.
  - D. The purchase of an engagement ring.
7. Which of the following is considered to be a characteristic of a PC market?
- A. All sellers are price makers.
  - B. All sellers sell an identical product.
  - C. Buyers can influence the market price, while sellers cannot.
  - D. Sellers can freely enter the market, but they cannot exit.
8. Suppose that due to rising interest rates, the monthly payment for a firm's long-term loan increases from \$2,000 to \$2,500. Which of the following is accurate?
- A. AVC will remain constant.
  - B. AVC will increase.
  - C. AVC will decrease.
  - D. We have no sufficient information to determine whether AVC will change or not.
9. Electricity cost has increased by 20% in the last 3 months. Which of the following is NOT accurate for a producer of paper who uses electric paper mills?
- A. FC will increase.
  - B. VC will increase.
  - C. TC will increase.
  - D. AC will increase.
10. Which of the following is true for a firm in the L-R, as long as LMC is below LAC curve?
- A. The firm experiences Economies of Scale.
  - B. The firm experiences Dis-economies of Scale.
  - C. The firm experiences Constant Economies of Scale.
  - D. We have no sufficient information to answer.
11. Suppose that a firm is at the point where its marginal revenue is greater than its marginal cost. Which of the following is more accurate?
- A. The firm can earn greater profits by increasing its output.
  - B. The firm can earn greater profits by decreasing its output.
  - C. The firm is losing money and must reduce its output.
  - D. Firm is earning maximum profits and should not change its output level.
12. Which of the following would increase the S-R market supply curve?
- A. An increase in the number of firms.
  - B. A technological innovation.
  - C. Both A and B.
  - D. None of the above.

**Scenario 3.1:** A tailor can produce 500 jackets with 5 different combinations of capital (K) and labor (L): (i) 25K and 8L; (ii) 20K and 10L; (iii) 14K and 16L.; (iv) 16K and 20L; or (v) 12K and 22L.

13. According to scenario 3.1, which of the following is accurate?
- A. Combination (i) is economically more efficient than (ii).
  - B. Combination (ii) is economically less efficient than (iii).
  - C. Combination (iii) is economically more efficient than (iv).
  - D. Combination (iv) is economically less efficient than (v).
  - E. All combinations are economically efficient.
14. According to scenario 3.1, if the per unit cost of capital is 70 and the per unit cost of labor is 50, which of the following combinations is the most economically efficient?
- A. (i).
  - B. (ii).
  - C. (iii).
  - D. (iv).
  - E. (v).



**Figure 3.1:** The S-R average cost curves for 6 different scales of production for Sony’s production plants.

15. According to figure 3.1, how much is Sony’s long-run average cost if the output is 500 PS5 per month?
- A. Around \$150.
  - B. Around \$200.
  - C. Around \$250.
  - D. Around \$300.
  - E. Around \$350.
16. Suppose that Sony is using scale AC1 in figure 3.1 and later turns out that the monthly demand is 400 PS5. Which of the following is true?
- A. The firm experiences Constant Returns to Scale.
  - B. The firm experiences Increasing Returns to Scale.
  - C. The firm experiences Diminishing Returns to Scale.
  - D. None of the above.

17. Suppose that Sony is using scale AC3 in figure 3.1 and later turns out that the monthly demand is 800 PS5. Which of the following is true?
- A. The firm experiences Dis-economies of Scale.
  - B. The firm experiences Constant Economies of Scale.
  - C. The firm experiences Economies of Scale.
  - D. None of the above.
18. According to figure 3.1, which of the following could explain the LAC between 500 and 600 PS5 per month?
- A. Sony can buy large quantities of semiconductors at a discount price.
  - B. Sony can hire specialized workers around the world.
  - C. Both A and B.
  - D. None of the above.

| $q$ | $MC$ | $AC$ |
|-----|------|------|
| 1   | 25   | 35   |
| 2   | 19   | 27   |
| 3   | 18   | 24   |
| 4   | 24   | 24   |
| 5   | 34   | 26   |
| 6   | 44   | 29   |
| 7   | 57   | 33   |

**Table 3.1:** quantity ( $q$ ),  $MC$  and  $AC$  for a PC firm

19. Refer to table 3.1. If the fixed cost of the firm is \$10 and the market price is \$18, which of the following is most likely for this firm if cost conditions do not change?
- A. To keep operating.
  - B. To shut-down immediately.
  - C. To shut-down in the long-run.
  - D. We need information about firm's fixed cost to answer.
20. Refer to Table 3.1. At the market price is \$57, how much is the profit for the firm?
- A. Around \$100.
  - B. Around \$125.
  - C. Around \$150.
  - D. Around \$175.
  - E. Around \$200.

*Good afternoon! "A student struggles for 20 minutes on a single task on the homework. He works as hard as he can, and finally he decides to pick C. After a few days, while checking the answer key, he realizes that the correct answer was in fact B. Reading the solution, he understands why but he feels frustrated and disappointed. He worked so hard and he still lost the 5 points from this task. He believes that his entire effort went to waste. A few weeks later, he comes across a similar question in the exam. It takes him only a few seconds to figure out what the correct answer is. Now, he is experienced, he has learned from his mistake, he will not fall into the same trap for the second time. How could he, after how he felt last time? When the exam is over, it comes in his mind that the 5 homework points he previously lost will worth just 0.05% of his final grade. The answer he nailed during the exam, though, is at least 4%. It seems to him that this amounts to a return on investment of 8,000%! Now, it does not sound like a bad deal to him." There is no better investment in life than learning from your mistakes.*

*Kosmas*