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Level 3 Economics 2022

91400 Demonstrate understanding of the efficiency of different market structures using marginal analysis

Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of the efficiency of different market structures using marginal analysis.	Demonstrate in-depth understanding of the efficiency of different market structures using marginal analysis.	Demonstrate comprehensive understanding of the efficiency of different market structures using marginal analysis.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–15 in the correct order and that none of these pages is blank.

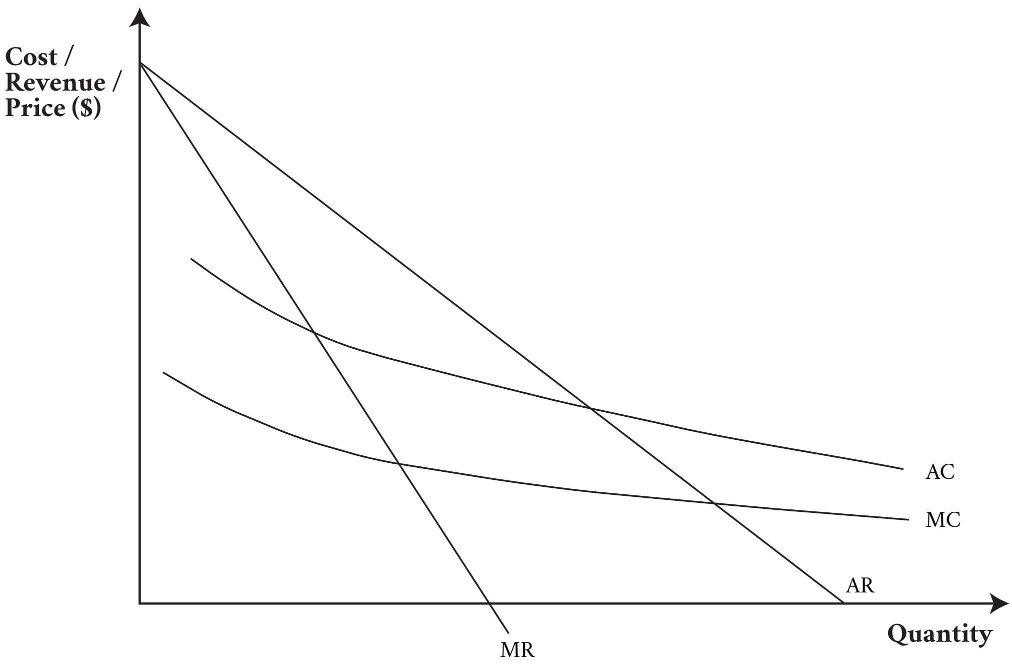
Do not write in any cross-hatched area ( ). This area may be cut off when the booklet is marked.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

QUESTION ONE: Regulated natural monopoly

Natural monopolies may be regulated by the Government to improve allocative efficiency.

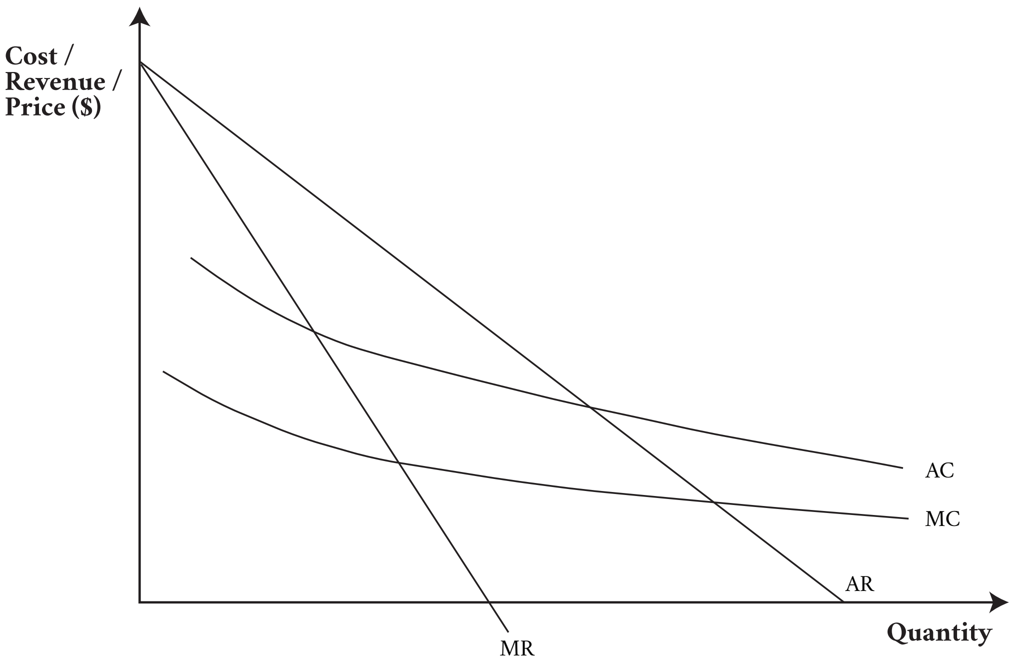
Graph One: Natural monopoly operating under marginal cost pricing regulation



(a) (i) On Graph One above, show the impacts of the Government regulating the natural monopolist to operate at marginal cost pricing by:

- labelling the price (Pmc) and quantity (Qmc)
- shading and labelling the consumer surplus
- shading and labelling the deadweight loss (if it exists).

Graph Two: Natural monopoly operating under average cost pricing regulation



(ii) On Graph Two on page 2, show the impacts of the Government regulating the natural monopolist to operate at average cost pricing by:

- labelling the price (Pac) and quantity (Qac)
- shading and labelling the consumer surplus
- shading and labelling the deadweight loss (if it exists).

(b) In Table One below, identify the type of economic profit made by the natural monopolist operating under a marginal cost pricing regulation and an average cost pricing regulation set by the Government.

Table One

	Marginal cost pricing	**Average cost pricing**
Type of economic profit		

(c) Compare and contrast the impacts of a marginal cost pricing regulation and an average cost pricing regulation on consumers, the natural monopolist, the Government, and allocative efficiency. In your answer refer to Graph One, Graph Two, and Table One, and explain:

(i) The effect of each of the two pricing regulations on consumer surplus and allocative efficiency.

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(ii) The effect of each of the two pricing regulations on the natural monopolist's profit and the Government.

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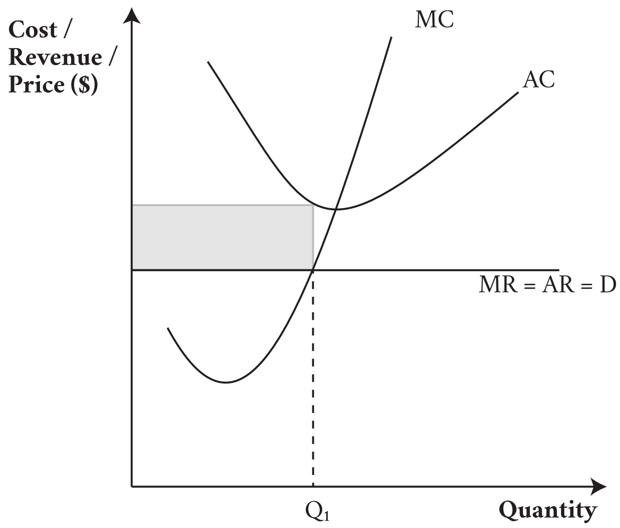
QUESTION TWO: Perfect competition and decrease in fixed costs

In recent years, low interest rates made it easier for firms to repay their loans, resulting in lower fixed costs. The size of fixed cost reductions differs between firms. Those with larger loans tend to experience bigger reductions.

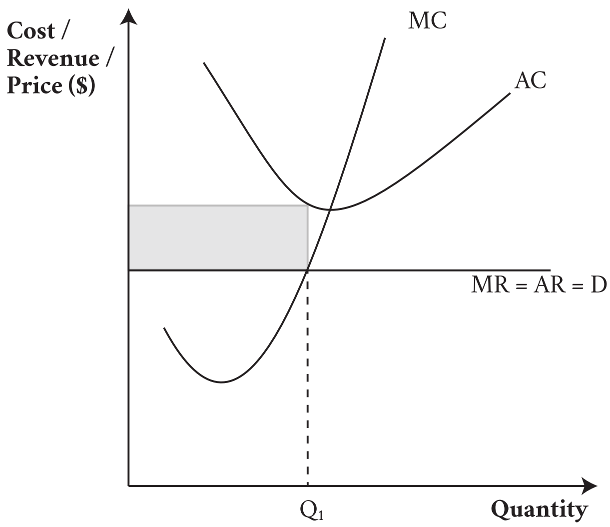
Firm A and Firm B are earning a short run subnormal profit in a perfectly competitive market structure.

Graph Three: Individual firm with a larger loan (Firm A)



(a) (i) On Graph Three above, show how lower interest rates might lead to the individual firm with a larger loan (Firm A) earning a supernormal profit. Label any curve shift(s), and shade in the supernormal profit ▨.

Graph Four: Individual firm with a smaller loan (Firm B)



(ii) On Graph Four above, show how lower interest rates might lead to the individual firm with a smaller loan (Firm B) earning a reduced amount of subnormal profit. Label any curve shift(s), and shade in the subnormal profit ▨.

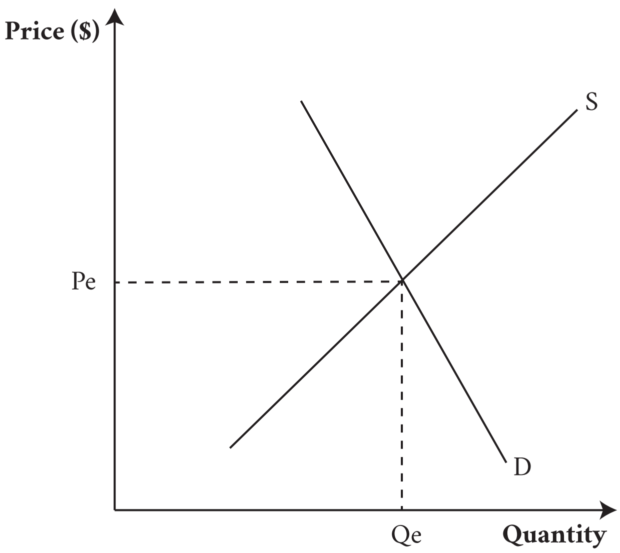
(b) Compare and contrast how the varying decreases in fixed costs might impact the output level and the type of economic profit made by individual firms in the perfect competition market structure. In your answer refer to Graph Three and Graph Four and explain:

(i) What fixed costs are, and their impact on Firm A's and Firm B's cost curves.

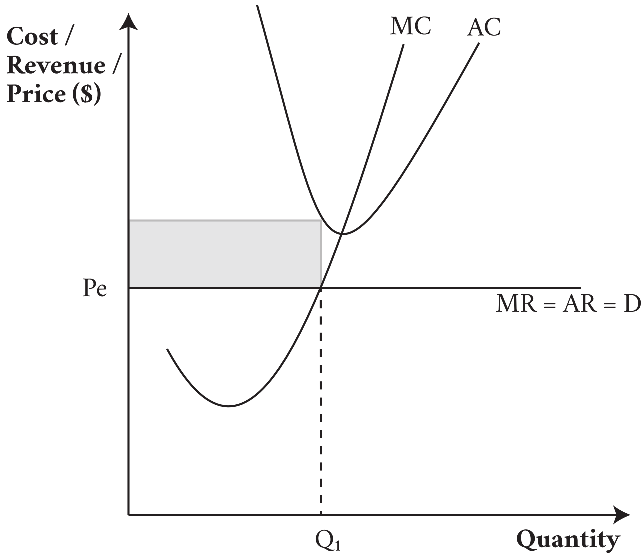
(ii) Why, while Firm A earns a supernormal profit but Firm B earns a subnormal profit, the output level remains the same for both firms.

Despite the low interest rates, many firms like Firm B have continued to make subnormal profits.

Graph Five: The market



Graph Six: The individual firm



(c) (i) On Graph Five above, show how the market will react to the subnormal profit in the long run. Label any curve shifts, and changes in the market equilibrium price (P_2) and quantity (Q_2).

(ii) On Graph Six above, show how the long run change in the market will affect the long run profit maximising equilibrium for the individual firm. Label any curve shifts, and changes in the profit maximising price (P_{LR}) and quantity (Q_{LR}).

(iii) Explain the long run profit situation for the individual firm. Refer to Graph Five, Graph Six, and the characteristics of perfect competition.

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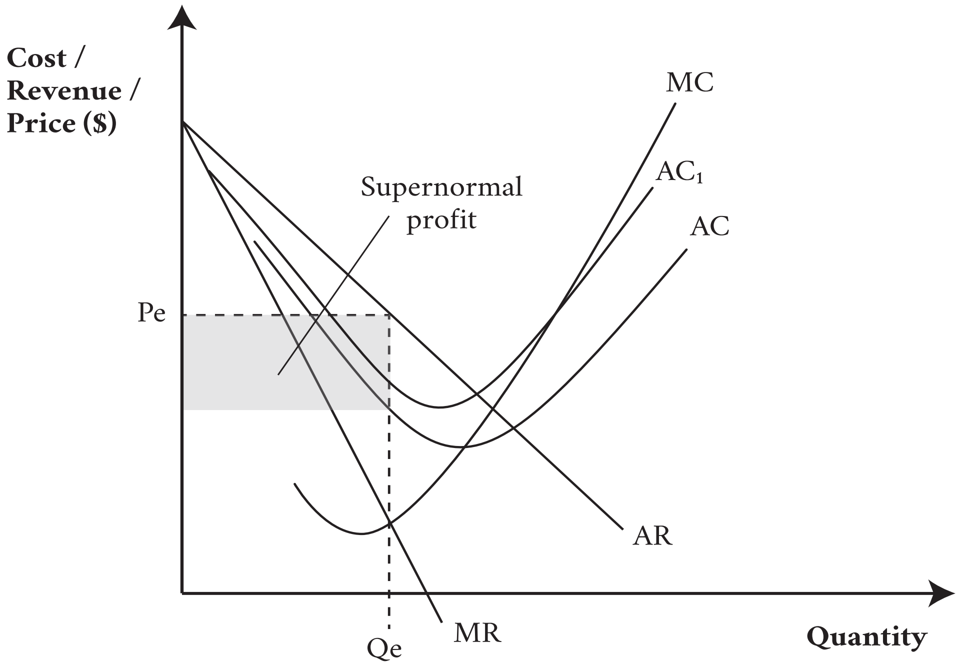
QUESTION THREE: Monopoly and changes in variable costs and demand

COVID-19 and border restrictions have resulted in many firms facing higher freight costs. Freight costs are a variable cost.

Graph Seven: A monopoly – impact of an increase in variable costs



(a) Graph Seven above shows a monopoly making a supernormal profit. A new average cost curve (AC_1) has been added for you.

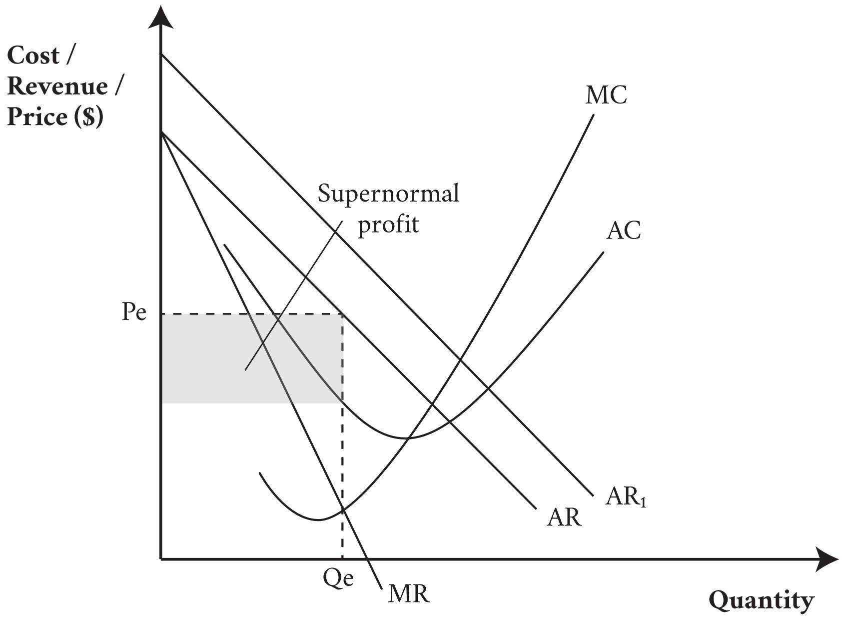
(i) Complete the graph by:

- adding the new MC curve (label MC_1) to reflect the increase in variable costs
- identifying and labelling the profit maximising price (P_1), and quantity (Q_1)
- shading ▨ and labelling any changes in the type of economic profit made.

(ii) Using marginal analysis, explain what output decision the monopolist might make following an increase in their variable costs. Refer to Graph Seven in your answer.

As the monopoly grows in popularity, demand for its product increases.

Graph Eight: A monopoly – impact of an increase in demand



(b) Graph Eight above shows a monopoly making a supernormal profit with an increase in demand. A new average revenue curve (AR_1) has been added for you.

Complete the graph by:

- adding the new MR curve (label MR_1) to reflect the increase in demand
- identifying and labelling the profit maximising price (P_2), and quantity (Q_2)
- shading ▨ and labelling any changes in the type of economic profit made.

(c) Compare and contrast the impacts of increased variable costs with increased demand on the monopoly's long run profitability. Refer to Graph Seven, Graph Eight, and the characteristics of a monopoly in your answer and explain:

- the long run profit made by the monopoly
- why the increased demand is more beneficial for the monopoly than the increased variable costs.

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