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Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Level 3 Economics 2023

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.

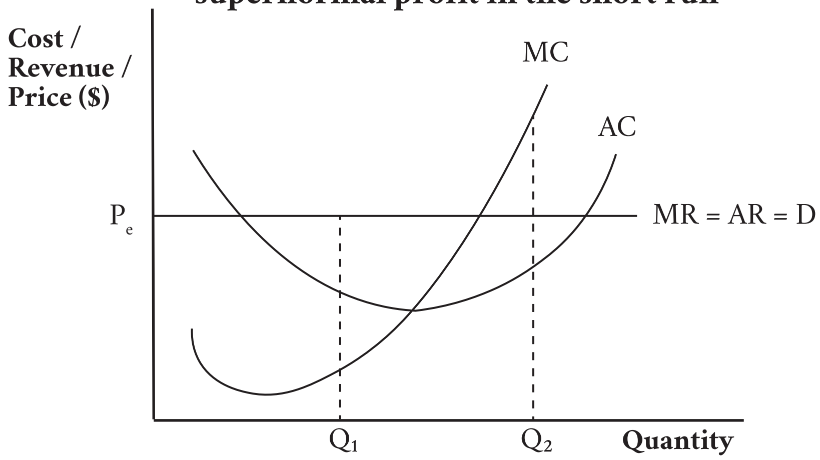
Do not write in any cross-hatched area (DO NOT WRITE IN THIS AREA). This area will be cut off when the booklet is marked.

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

QUESTION ONE: Perfect competition and monopoly

In the short run, both the perfect competitor and monopoly are equally able to make supernormal profits. Their long run profitability, however, is quite different due to their unique market structure characteristics.

Graph One: Perfect competitor earning supernormal profit in the short run

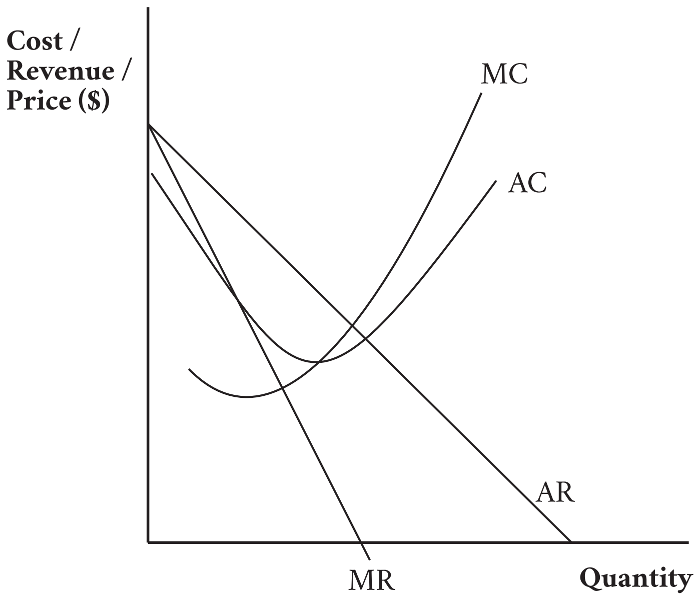


(a) (i) On Graph One above, show the profit maximising output level for the perfect competitor in the short run, and label it Q_e.

(ii) Using marginal analysis, explain why the perfect competitor might not choose to produce at output level Q_1 AND output level Q_2.

(iii) On Graph One on page 2, show the long run price (label P_{LR}) and profit maximising output (label Q_{LR}) for the perfect competitor by adding a new $MR_1 = AR_1 = D_1$.

Graph Two: Monopoly earning supernormal profit in the short run



(b) On Graph Two above, show the:

- profit maximising output level for the monopoly in the short run, and label it Q_e
- long run profit maximising output level for the monopoly and label it Q_{LR}, and shade in and label the type of economic profit made.

Refer to the characteristics of perfect competition and monopoly, and Graphs One and Two in your answer to part (c).

(c) (i) Compare and contrast the long run profit maximising output and profit levels of the perfectly competitive firm and the monopoly.

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(ii) Explain why the perfectly competitive firm is allocatively efficient and the monopoly is not.

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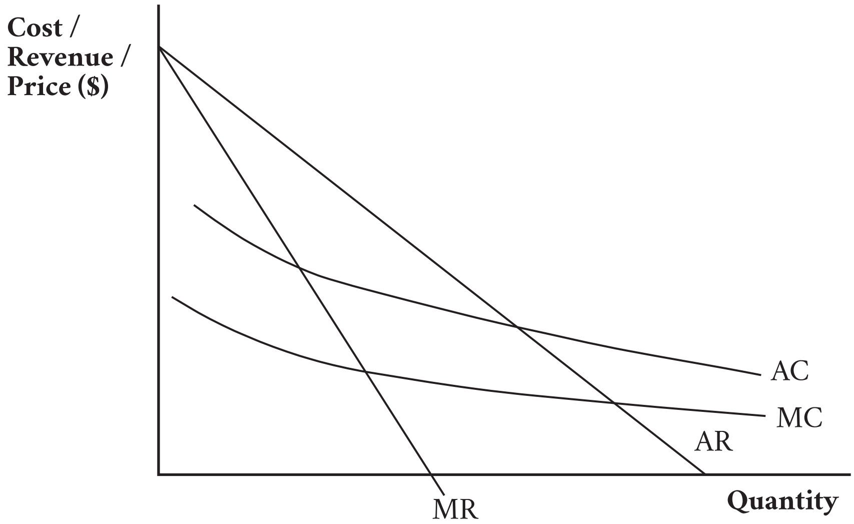
QUESTION TWO: Natural monopoly

Natural monopolies are considered desirable despite the inefficiencies they create. This is because they can supply the entire market at a lower price than two or more firms.

The Government might allow a natural monopoly to maximise profit despite the inefficiencies it creates.

Graph Three: Natural monopoly operating at profit maximising



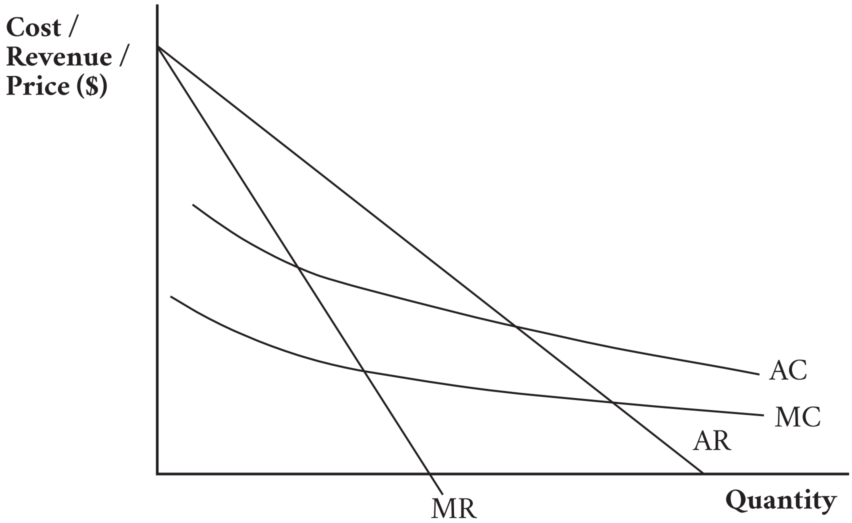
(a) (i) On Graph Three above, show the natural monopolist operating at profit maximising by:

- labelling the price (P_e) and quantity (Q_e)
- shading and labelling the type of profit
- shading and labelling the consumer surplus
- shading and labelling the deadweight loss.

(ii) Referring to the characteristics of a natural monopoly, Graph Three, and the resource material above, explain why the Government might prefer not to encourage competition.

An alternative is to regulate the natural monopoly to average cost pricing.

Graph Four: Natural monopoly operating at average cost pricing



(iii) On Graph Four above, show the natural monopolist operating at average cost pricing by:

- labelling the price (P_{ac}) and quantity (Q_{ac})
- shading and labelling the consumer surplus
- shading and labelling the deadweight loss.

Instead of regulating the natural monopoly, the Government could allow it to continue to operate at profit maximising, and impose a targeted tax on the supernormal profit it makes.

Refer to Graphs Three and Four and the resource material in your answer to part (b).

(b) Compare and contrast the impacts on the natural monopolist of a targeted tax on supernormal profits (profit maximising) and being regulated to average cost pricing.
In your answer, consider effects on:

- consumer surplus
- allocative efficiency
- a natural monopolist's profit
- the Government.

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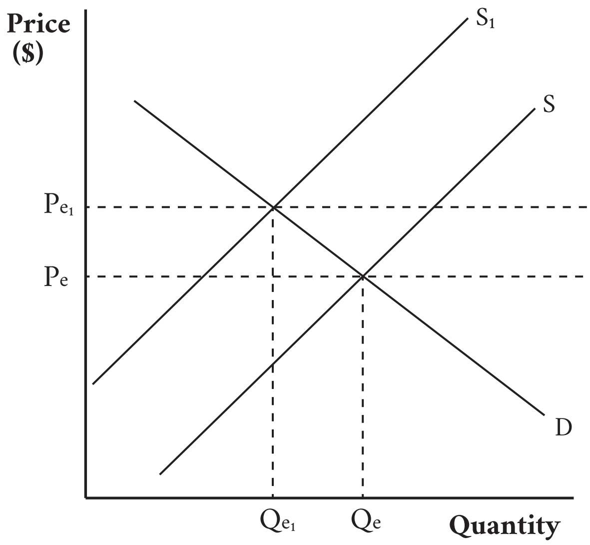
QUESTION THREE: Perfect competition in the short and long run

Due to the increasing number of claims in recent years, insurance premiums have risen significantly. This is having an effect on all businesses.

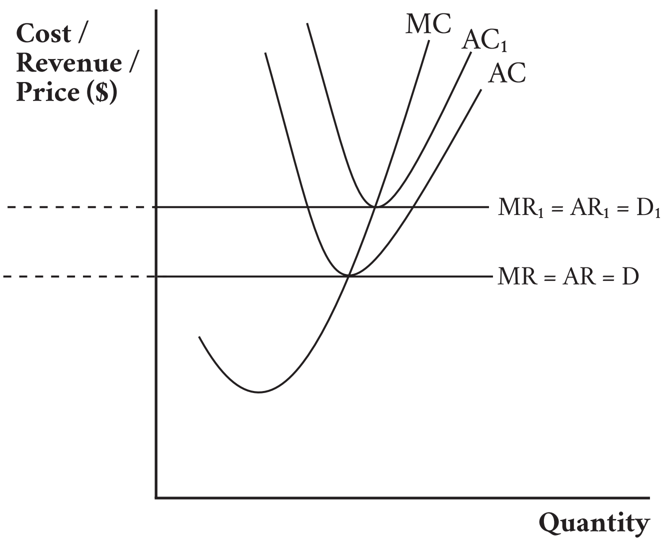
(a) (i) Explain why an increase in insurance cost increases average cost but does not affect marginal cost.

Graph Six shows the average cost curve increasing to AC_1 for the individual perfect competition firm as a result of higher insurance cost.

Graph Five: The market



Graph Six: A perfect competition firm



(ii) On Graph Six above, identify and label the:

- short run profit maximising (or loss minimising) output level (Q_1) and price (P_1), and shade and label the profit
- long run profit maximising output level (Q_{LR}) and price (P_{LR}).

Graph Five on page 10 shows the new market equilibrium price and quantity (P_{e1} and Q_{e1}) in the long run as a result of the type of short run profit made by the firm.

(iii) Explain the short and long run price and profit situation for the individual firm following an increase in their average cost. Refer to the characteristics of perfect competition, and Graph Five and Graph Six in your explanation.

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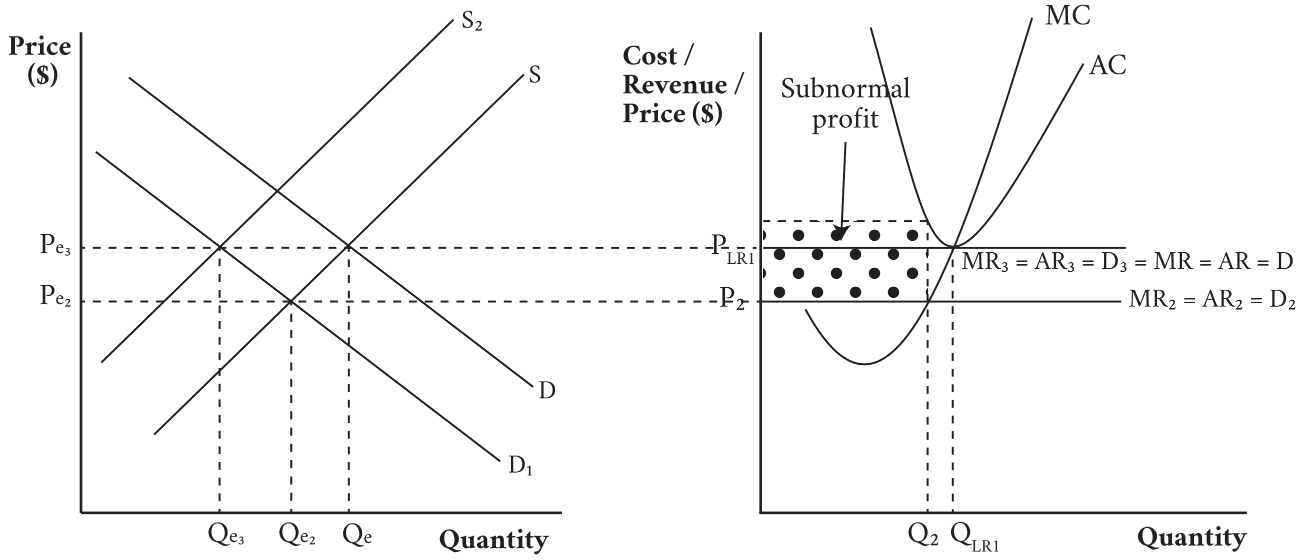
A recession is defined as two consecutive quarters of negative economic growth. It is often accompanied by rising unemployment and low consumer and business confidence.

Graph Seven: The market **Graph Eight: A perfect competition firm**



Graph Seven shows the new market equilibrium price (P_{e3}) and the quantity (Q_{e3}) in the long run as a result of the type of short run profit made by the firm following the recession.

P_{LR1} and Q_{LR1} on Graph Eight are the long run profit maximising price and output level for the perfect competition firm.

Refer to Graphs Five, Six, Seven, and Eight in your answer to part (b).

(b) Compare and contrast the impact of an increase in average cost and a recession on the long run market equilibrium quantity. In your answer, explain why the market quantity decreases more under a recession.

Extra space if required.
Write the question number(s) if applicable.

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