1.30 Productive, Allocative, Dynamic and X-Efficiency

Total Marks

AQA 7136 · Calculators not allowed · about 60 minutes · Write-in edition

Name: _____ Date: ____ / ____ / _____

Answer all questions. Write full sentences for questions worth 4 marks or more and for the final 15-mark essay. Time guidance: 60 minutes total.

1 Explain how intense short run competition between firms in a market might encourage dynamic efficiency, giving one realistic limitation to this argument.

(Total for Question 1 is 3 marks)

2 Explain briefly why perfect competition in the long run achieves both productive and allocative efficiency, and give one real-world reason why perfect competition is rare.

(Total for Question 2 is 2 marks)

3 Evaluate the view that more competitive markets are always more efficient than less competitive markets.

(Total for Question 3 is 15 marks)

4 Define X-inefficiency as used in the theory of the firm and give one cause of X-inefficiency in a firm operating with little competition.

(Total for Question 4 is 2 marks)

5 Explain dynamic efficiency and outline one way a firm might achieve it over time.

(Total for Question 5 is 3 marks)

6 State briefly which market structure, on average, is most likely to achieve allocative efficiency in the long run, and give one reason why.

(Total for Question 6 is 2 marks)

7 Explain briefly how X-inefficiency can affect the position of a firm's short run average cost curve compared with its minimum possible average cost curve.

(Total for Question 7 is 2 marks)

8 Diagram question, context: cost curves and market demand used to identify productive and allocative efficiency. Draw a diagram on Price (vertical axis) and Output/Q (horizontal axis) showing: a U-shaped short run average cost curve (SRAC), an upward-sloping marginal cost curve (MC) that cuts SRAC at its minimum, and a downward-sloping market demand curve (D). On your diagram mark clearly and label point A where the firm is productively efficient and point B where allocative efficiency occurs. Also state the price and output coordinates for both points in words and explain why each point satisfies its efficiency definition.



(Total for Question 8 is 6 marks)

9 State four distinct differences between productive efficiency and allocative efficiency in terms of criteria and welfare implications for consumers and producers.

(Total for Question 9 is 4 marks)

Mark scheme · 1.30 Productive, Allocative, Dynamic and X-Efficiency

Question 1

intense competition can push firms to innovate to gain cost or product advantages, investing in R and D to shift LRAC downwards or differentiate products **M1**

this leads to dynamic efficiency as new products or lower costs emerge over time benefiting consumers **A1**

limitation: fierce competition may reduce firms profits and available funds for R and D, so in some markets competition can undermine dynamic investment **A1**

Answer: Competition can drive firms to invest and innovate to gain an edge, producing dynamic efficiency, but if competition drives profits too low the funds and incentives for R and D fall, limiting dynamic gains.

Question 2

in perfect competition free entry drives economic profit to zero and firms produce at minimum average cost, achieving productive efficiency **M1**

price equals marginal cost in long-run equilibrium, achieving allocative efficiency; real-world rarity: product differentiation, barriers to entry, or economies of scale make perfect competition uncommon **A1**

Answer: Free entry and price-taking push firms to produce at minimum AC and P = MC in the long run, giving productive and allocative efficiency. It is rare because barriers to entry and product differentiation or significant economies of scale exist in most industries.

Question 3

Level 1 Basic assertions about competition and efficiency with limited development. May state that competition often improves productive and allocative efficiency but lacks depth, few or no diagrams, weak or no judgement. **1-5**

Level 2 Clear analysis across several efficiency types, including some diagrams or examples. Considers how competition promotes productive and allocative efficiency and may encourage dynamic efficiency, but recognises limitations such as underinvestment and short-run costs. Partial balanced judgement. **6-10**

Level 3 Well-developed, balanced evaluation covering productive, allocative, dynamic and X-inefficiency with clear diagrams where relevant. Weighs benefits of competition against countervailing factors such as natural monopoly scale economies, R and D funding, and regulatory costs. Provides a reasoned and supported final judgement that competition is generally beneficial for static efficiencies but not always superior for dynamic outcomes or where scale economies justify less rivalry. **11-15**

Indicative content:

- Explain how competition tends to drive firms to produce at lower average cost and to price closer to marginal cost, improving productive and allocative efficiency.
- Use diagrams: cost curves and demand to show P = MC allocative condition and SRAC minimum for productive efficiency; explain movement under entry and exit in competitive markets.
- Discuss dynamic efficiency: competition creates incentives to innovate, but profits fuel R and D; firms in less competitive markets may have more retained earnings to invest, leading to trade off between static and dynamic efficiency.
- Consider X-inefficiency: lack of competition raises the risk of managerial slack and higher costs, so more competitive markets reduce X-inefficiency.
- Analyse natural monopoly and scale economies: for some industries large scale reduces LRAC so a single firm may be productively efficient; breaking it up could raise average costs and reduce welfare.
- Consider public policy and regulation: regulation can mimic competitive pressures but may be costly or imperfect; price caps can reduce X-inefficiency but harm dynamic incentives.
- Weigh who gains and who loses: consumers gain from lower prices and higher allocative efficiency, producers may lose short-run rents but may gain from dynamic returns if protected by intellectual property or moderate market power.
- Conclude with a supported judgement, for example that competition usually enhances static efficiencies and reduces X-inefficiency, but is not always superior when dynamic efficiency or large scale economies are central, so the claim is not universally true.

Question 4

X-inefficiency is when a firm fails to achieve the lowest possible cost of production, operating with higher costs than necessary **B1**

one cause: lack of competitive pressure leading to managerial slack, wasteful use of inputs, or weak incentives to minimise costs **B1**

Answer: X-inefficiency is when a firm operates above its lowest possible cost; one cause is weak competitive pressure producing managerial slack and reduced effort to minimise costs.

Question 5

dynamic efficiency refers to efficiency gains over time, through innovation, investment and improvements that lower long run average costs or improve product quality **M1**

one way to achieve it: sustained R and D and investment in new technology that shifts the long run average cost curve downwards over time **A1**

this increases consumer welfare via lower prices or better products in future periods **A1**

Answer: Dynamic efficiency means improving efficiency over time via innovation and investment; a firm can achieve it by sustained R and D that reduces long run average costs and improves product quality.

Question 6

answer names the market structure, e.g. perfect competition **B1**

gives a reason: in perfect competition price equals marginal cost in the long run because firms are price takers and entry/exit drives profits to normal, aligning P with MC **B1**

Answer: Perfect competition, because free entry and price-taking behaviour tend to drive price to equal marginal cost in the long run.

Question 7

X-inefficiency means the firm uses more inputs or operates less productively than it could, raising observed average costs **M1**

graphically this means the firm's SRAC sits above the theoretical minimum average cost curve, so costs are higher at given output levels **A1**

Answer: X-inefficiency raises actual average costs above the minimum possible, so the observed SRAC lies above the firm's minimum average cost curve.

Question 8

diagram correctly shows SRAC U-shaped and MC cutting SRAC at its minimum, and a downward-sloping demand curve D **B1**

point A correctly labelled at the minimum of SRAC **B1**

explanation for A: produces at lowest average cost, so productively efficient **B1**

point B correctly labelled where demand curve D intersects MC **B1**

explanation for B: at B price equals marginal cost, so allocative efficiency obtains as resources match consumer willingness to pay **B1**

student states price/output for A and B in words, e.g. A: output Q* at lowest AC and price equal to ACmin; B: output Qc where P = MC and price equals consumers marginal valuation **B1**

Question 9

first difference: productive efficiency criterion is lowest average cost, allocative efficiency criterion is P = MC **B1**

second difference: productive efficiency benefits producers by lowering unit costs, while allocative efficiency benefits consumers because price reflects marginal valuation of goods **B1**

third difference: productive efficiency may not ensure output matches consumer preferences, whereas allocative efficiency ensures resources are allocated to highest valued uses **B1**

fourth difference: productive efficiency is about technical/cost conditions, allocative efficiency is about marginal social welfare and the distribution between consumer and producer surplus **B1**

Answer: Productive efficiency requires lowest average cost, while allocative efficiency requires price equal to marginal cost. Productive efficiency lowers producers unit costs; allocative efficiency means output matches consumer valuations so consumer welfare is maximised at the margin. Productive efficiency is technical, allocative efficiency is about marginal welfare and the split of surplus.