

UNIVERSITY OF NORTHUMBRIA AT NEWCASTLE

DIVISION OF ECONOMICS

EC425 Microeconomics 2

Level 2

Friday  
14 January 2000

Time allowed:  
1 hour

Instructions: Candidates are to attempt ONE question.  
Three questions set.  
All questions carry equal marks.

1. Use examples from the oligopoly literature to explain:

(i) The Prisoner's Dilemma game

And

(ii) The 'Chain Store' paradox.

2. "Since we know that firms compete over price rather than quantity, the theory of oligopoly suggests that outcomes will approximate those of perfect competition, even where there are only a few suppliers in the industry". Discuss.

3. Two firms, Jupiter plc and Mars plc, supply the sugar market of Eurotopia. They face the following market demand curve.

$$P = 100 - Q$$

Where P = price in Euros and Q = quantity demanded per week.

Initially, both firms have identical market shares. They also have identical marginal costs (=£24) and no fixed costs.

(i) Calculate the equilibrium price and quantity in this market assuming both firms operate as Cournot oligopolists.

(ii) Compare this equilibrium with that achievable under perfect competition or if the two firms had colluded. Include in your answer welfare loss calculations.

P.T.O.

- (iii) Assuming that Jupiter plc is the dominant firm in the market, how would the equilibrium differ if the oligopolists operated under Stackelberg assumptions. Comment on your findings.
- (iv) Now assume that Jupiter plc has a marginal cost of £20 whilst the MC of Mars plc remains at £24 (again there are no fixed costs). Recalculate the price and quantity equilibrium assuming both firms act as Cournot oligopolists. Comment on your findings.
- (v) Finally, assume that both firms have identical marginal costs once more but that  
 $MC_{\text{Jupiter}} = MC_{\text{Mars}} = 2Q$

Recalculate the price and quantity equilibrium assuming both firms act as Cournot oligopolists and comment on your findings.