

Garrowsay Fuel

Student workbook | Pearson Edexcel A level Economics A (9EC0), Theme 3, sections 3.4.4 and 3.4.7 | Year 12 or 13 | Original TBS three-lesson data-response pack

Garrowsay is an island about 20 km off the mainland, reached by one ferry a day. Its people buy their petrol and diesel from five forecourts. Prices rarely move, and when they do they move together. Over three lessons you work as an economic adviser to Garrowsay Island Council: you will explain why the forecourts behave as they do, work through the figures and diagrams, and advise the council on a mainland chain that wants to open a fuel site.

Lesson	Question	You will
1	Why do the forecourts leave their price alone?	calculate concentration ratios, complete a kinked demand table and diagram, find the elasticity above and below the kink and see where marginal revenue breaks
2	Do the forecourts act together?	read a price log for price leadership, work out a prisoner's dilemma, test when cheating pays and name price wars, predatory pricing and limit pricing
3	Should the council let a new seller in?	work out an entrant's profit and sunk costs, test limit pricing and write a recommendation of about 180 words

Garrowsay at a glance

Feature	Details
Money and units	Prices are in pence (p) per litre. Sales are in thousand litres a month. Profits and revenues are in £ thousand a month. Costs include normal profit: what the owner's time and money would earn elsewhere.
Cost	Every forecourt pays 100p for each extra litre (fuel, duty, VAT and delivery): marginal cost MC = 100p a litre.
Island demand	The island buys 400 thousand litres a month. In the tasks, treat this total as fixed whatever the price (a simplification).
Council	Garrowsay Island Council gives planning permission for fuel sites and owns the harbour car park.
Diagrams	Figures 1 to 3 are numbered. Read prices to the nearest 5p and quantities to the nearest 5 thousand litres in Figure 1, and profit to the nearest £1 thousand in Figure 3.

Garrowsay, the five forecourts, the mainland chain, the council, the quotes and every figure are fictional and invented for teaching. They are not real statistics and do not describe any real place or business. You need a calculator, a pencil and a ruler. The data pack is on pages 2 to 4; each task repeats the figures it needs. This is a TBS resource, not a Pearson resource: not endorsed by Pearson. It is original classroom material, not an exam paper.

Free sample

Garrowsay Fuel: oligopoly and contestability

Contents of the full pack

Lesson 1: Why do the forecourts leave their price alone?

Lesson 2: Do the forecourts act together?

Lesson 3: Should the council let a new seller in?

Student workbook and teacher guide, as PDF and as editable Word files.

The teacher guide has lesson plans, full worked answers and indicative guidance.

This sample is the cover and the first two pages of Lesson 1 of the student workbook. It contains no answers. The pages that follow are exactly as in the full pack.

Lesson 1: Why do the forecourts leave their price alone?

By the end of this lesson you can calculate and use concentration ratios, complete a kinked demand table and diagram, calculate the elasticity above and below the kink, and explain why marginal revenue breaks at the kink and what that means for price.

Starter: which characteristic?

Write the characteristic of an oligopoly that each description shows: high barriers to entry or exit, high concentration ratio, interdependence or product differentiation.

Description (Garrowsay)	Characteristic
1. The three biggest forecourts sell 85% of the island's fuel	
2. New tanks need planning permission, and digging them costs a great deal	
3. When Tarvik changes its price, the others watch and react	
4. Tarvik has a shop, a car wash and a loyalty card; Skerbie has none	
5. A closing forecourt cannot sell its underground tanks	
6. Skerbie's owner: "I check the Tarvik price board every morning"	

Task 1: concentration ratios

Table 1 (sales in thousand litres a month; total 400). Complete the market share of each forecourt (share = sales / 400 x 100) and the cumulative share, starting with Tarvik at the top. The n-firm concentration ratio (CR_n) is the combined share of the n largest firms.

Forecourt	Sales (thousand litres a month)	Market share (%)	Cumulative share (%)
Tarvik Fuels	160		
Hessock Garage	110		
Lundrey Motors	70		
Skerbie Pumps	40		
Pellock Farm Pumps	20		
Total	400	100	

Working space:

b. State CR2 and CR3.

c. Hessock Garage and Lundrey Motors propose to merge. Calculate CR2 and CR3 after the merger.