

Chapter 3 The nature of supply

Exercise 3.1

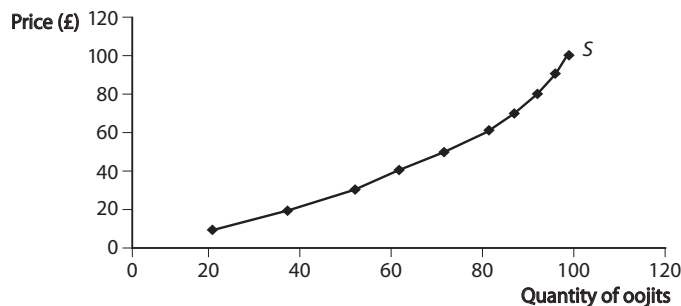


Figure A3.1
The supply of oojits

Exercise 3.2

- If consumers are convinced of the benefits of organic vegetables, the demand curve will shift to the right.
- If firms can produce bicycles using fewer numbers of inputs (e.g. of labour), the supply curve will shift to the right.
- A severe frost in Brazil will shift the supply curve of coffee to the left.
- An increase in the rate of value added tax will shift the supply curve to the left.
- An increase in the real incomes of consumers will affect demand curves: for **normal goods**, the demand curve will shift to the right, whereas for **inferior goods**, the shift is to the left.
- Assuming coffee and tea are substitutes, the demand for coffee will shift to the left and there will be a movement along the demand curve for tea.
- Assuming that coffee and sugar are complements, a fall in the price of sugar will tend to lead to an increase in the demand for coffee, so there will be a shift of the demand curve to the right.

Exercise 3.3

First of all, notice that your company is making a loss, so you need to take some action. The first piece of information you look at is the price elasticity of demand, where you see that you face elastic demand, with the price elasticity being -1.58 . So if you were to increase your fares by 10% (and if your company faced the same elasticity as the average for the market), you would expect to see a fall in demand of 15.8%, and a fall in revenues. On the other hand, if you were to reduce your fares by 10%, revenue would increase following a 15.8% increase in demand.

However, you need to be aware of market conditions. The economy is heading into a recession, and you are faced with an income elasticity of demand that is strongly negative (-2.43). In other words, bus travel is an inferior good. This is good news for you as it means that, as incomes fall in the recession, more people will use the buses, and you will enjoy an increase in demand.

Whether the cross-price elasticity will be helpful to you depends on what is happening in the market for rail travel. If you happen to know that rail fares are about to increase, then again this is good news for you, as bus travel is a strong substitute for rail travel. For a 10% increase in train fares, there will be a 32.1% increase in the demand for bus travel.

These elasticities thus help you to make a reasoned decision on pricing, depending on what is happening in the economy as a whole, and in the markets for close substitutes such as rail travel. The price elasticity of supply is less helpful to you. It tells you how you would respond to a change in price – but you probably know that anyway.

Additional exercise

Fish

Imagine a remote island in the South Seas. Some of the islanders own canoes which they use to go fishing, selling their catch on the beach when they return each day. Some islanders only go fishing occasionally, as they find it more worthwhile to spend their time on other activities. The island has no electricity, so there is no way of storing the fish that are caught — if they are not consumed on the day of the catch, they must be thrown away.

The market for fish on the island is limited by the size of the population. Fortunately for the fishermen, the islanders enjoy fish, and regard it as an important part of their diet, although they also grow vegetables and raise goats and chickens. Fruit and coconuts are also abundant.

- a What would you expect to be the nature of the price elasticity of supply in the short run (that is, on any given day)?
- b Suppose that, on one particular day, fishing conditions are so good that all fishermen return with record catches. How would this affect the price of fish?
- c How might the situation in (b) affect the supply of fish on the following day?
- d How would you expect the supply of fish to be affected by the invention of a new style of canoe that makes it easier to catch fish?
- e How would the market be affected if this new-style canoe also enabled fish to be traded with a neighbouring island?

Fish

Discussion points

- a Once the fishermen have returned from their fishing, the supply of fish is fixed, so supply is likely to be perfectly inelastic on that day. Fish cannot have been stored from the previous day, as this is not possible. The supply curve is vertical.
- b If there is a record catch of fish, the supply will be far to the right. With demand unaffected, the result will be that price will be much lower. You can see this in Figure A3.2. Here, S_n represents supply on a 'normal' day and D represents the demand curve. The equilibrium price is P_n . When there is a record catch, supply is to the right at S_r , and with demand unchanged, the equilibrium price falls to P_r .

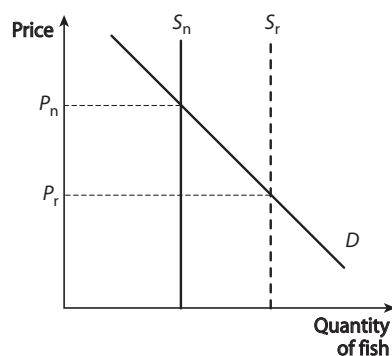


Figure A3.2
The market for fish

- c On the next day, it is possible that some fishermen will be so discouraged by the fall in the price of fish that they will not think it worthwhile to go out fishing. If this is the case, they may choose to do something else the next day, and this will mean the supply curve is likely to be further to the left. Another way of interpreting this is that the long-run supply curve is more elastic than that in the short run.
- d A technological advance that reduces the cost of catching fish (e.g. in terms of the opportunity cost of other activities) will shift the supply curve to the right.
- e One way of looking at this change is that the size of the market has increased, as fish can now be sold to the neighbouring island as well as 'at home'. This would be seen as a shift of the demand curve, which (*ceteris paribus*) would result in a higher equilibrium price. In the longer term, this may lead more islanders to engage in fishing, thus shifting the supply curve also.