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A. Understanding a printed text (1)

The following text will introduce you to the topic of the effect of price and income on demand quantities. Look at the way it is divided into paragraphs. Pay attention to the table, figure and notes in the margin.

Now look at these questions:
1. From the heading, what do you expect this text to be about?
2. Do Table 4-1 and Figure 4-1 give the same information?
3. What example has the writer chosen to illustrate his points?
4. How many kinds of elasticity does the writer mention?
5. Which kind of elasticity does the writer explain in this text?

Read the passage through and find the answers to those questions. Remember, you do not have to understand every word to answer them.

### 4-1 THE PRICE RESPONSIVENESS OF DEMAND

1. The downward slope of the demand curve shows that quantity demanded increases as the price of a good falls. Frequently we need to know by how much the quantity demanded will increase. Table 4-1 presents some hypothetical numbers for the relation between ticket price and quantity demanded, other things equal. Figure 4-1 plots the demand curve, which happens to be a straight line in this example.

2. How should we measure the responsiveness of the quantity of tickets demanded to the price of tickets? One obvious measure is the slope of the demand curve. Each price cut of £1 leads to 8000 extra ticket sales per game. Suppose, however, that we wish to compare the price responsiveness of football ticket sales with the price responsiveness of the quantity of cars demanded: clearly, £1

<table>
<thead>
<tr>
<th>PRICE (£/ticket)</th>
<th>QUANTITY OF TICKETS DEMANDED (thousands/game)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.50</td>
<td>0</td>
</tr>
<tr>
<td>10.00</td>
<td>20</td>
</tr>
<tr>
<td>7.50</td>
<td>40</td>
</tr>
<tr>
<td>5.00</td>
<td>60</td>
</tr>
<tr>
<td>2.50</td>
<td>80</td>
</tr>
<tr>
<td>0</td>
<td>100</td>
</tr>
</tbody>
</table>
is a trivial cut in the price of a car and will have a negligible effect on the quantity of cars demanded.

In Chapter 2 we argued that when commodities are measured in different units it is often best to examine the percentage change, which is unit-free. This suggests that we think about the effect of a 1 per cent price cut on the quantity of cars and football tickets demanded. Similarly, it is not the absolute number of cars or tickets we should examine but the percentage change in quantity demanded. Not only does this solve the problem of comparing things measured in different quantity units, it also takes account of the size of the market. Presumably an extra sale of 8000 tickets is more important when ticket sales are 4000 than when they number 40 000.

Thus we reach the definition of the price elasticity of demand, which economists use to measure responsiveness to price changes.

The *price elasticity of demand* is the percentage change in the quantity of a good demanded divided by the corresponding percentage change in its price.

Although we shall shortly introduce other demand elasticities – the cross price elasticity and the income elasticity – the (own) price elasticity is
perhaps the most frequently used of the three. Whenever economists speak of the demand elasticity they mean the price elasticity of demand as we have defined it above.

5 If a 1 per cent price increase reduces the quantity demanded by 2 per cent, the demand elasticity is $-2$. Because the quantity falls 2 per cent, we express this as a change of $-2$ per cent, then divide by the price change of 1 per cent (a price rise) to obtain $-2$. If a price fall of 4 per cent increases the quantity demanded by 2 per cent, the demand elasticity is $-\frac{1}{2}$, since the quantity change of 2 per cent is divided by the price change of $-4$ per cent. Since demand curves slope down, we are either dividing a positive percentage change in quantity (a quantity rise) by a negative percentage change in price (a price fall), or dividing a negative percentage change in quantity (a quantity fall) by a positive percentage change in price (a price rise). The price elasticity of demand tells us about movements along a demand curve and the demand elasticity must be a negative number.1

1 For further brevity, economists sometimes omit the minus sign. It is easier to say the demand elasticity is 2 than to say it is $-2$. Whenever the price elasticity of demand is expressed as a positive number, it should be understood (unless there is an explicit warning to the contrary) that a minus sign should be added. Otherwise, we should be implying that demand curves slope upwards, a rare but not unknown phenomenon.

B. Check your understanding

Now read the text carefully, looking up any new items in a dictionary or reference book. Then answer the following questions:

1. What does Table 4-1 show?

2. What is the first measure the writer suggests?

3. What is the effect of a £1 price cut on football ticket sales?

4. Does the same price cut have the same effect on car sales?

5. In what circumstances do you examine the percentage change?

6. What problem does this solve?

7. How do economists use the price elasticity of demand?

8. Can you explain in your own words the definition of the price elasticity of demand?

9. Which is the commonest of the three demand elasticities?

10. Can you explain in your own words how to calculate demand elasticity?
C. Increase your vocabulary

1. Look at the first paragraph again and say what words have the same meaning as:
   
   • rarely
   • upward
   • crooked

2. Look at paragraph 2 again. What words have the same meaning as:
   
   • not significant or important
   • clear, easily seen or understood
   • of small value or importance

3. Look at paragraph 3 again. Can you explain the following:
   
   • different units
   • percentage change
   • unit-free
   • absolute number

4. Look at paragraph 4 again. What words have the same meaning as:
   
   • every time that
   • in the near future
   • in this way

5. Look at paragraph 5 and the footnote again. What words have the opposite meaning to:
   
   • positive
   • implicit
   • include
   • length

D. Check your grammar

**DESCRIBING**

1. Shorten the following sentences without changing their meaning, like this:

   Nobody likes prices which are constantly rising.
   Nobody likes constantly rising prices.

   • A demand curve which slopes.
   • John is a person who works very hard.
   • We must develop a policy which fixes prices better.
   • Interest rates which rise will damp down demand.
   • An economy which is rapidly expanding can get out of control.
   • Let us look at the information which corresponds to this in tabular form.

2. Shorten the following sentences without changing their meaning, like this:

   The quantity which we require is 5000 units.
   The required quantity is 5000 units.

   • A demand curve which has been drawn inaccurately.
   • A price which has been fixed.
   • We can see changes in the prices of goods which are related to each other.
   • She is a person who has changed since her examination results.
   • The prices which we have been given should be seen as hypothetical.
   • If we don't use a model which has been simplified we shall get bogged down.
   • Ours is a company which is managed well.
   • An economy which is poorly run leads to problems in society.
   • That is a theory which is now out of date.
   • On the evidence available, that is a conclusion which is not justified.
E. Understanding a lecture

You are now going to hear part of a lecture, divided into short sections to help you understand it. As you listen, answer the questions below.

Section 1

- What is the lecturer going to talk about?

- Which columns reproduce the data from Table 4-1?

<table>
<thead>
<tr>
<th>Table 4.2</th>
<th>The Price Elasticity of Demand for Football Tickets</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Price</td>
<td>(2) Quantity of Tickets Demanded (thousands/game)</td>
</tr>
<tr>
<td>£15.00</td>
<td>0</td>
</tr>
<tr>
<td>£10.00</td>
<td>20</td>
</tr>
<tr>
<td>£7.50</td>
<td>40</td>
</tr>
<tr>
<td>£5.00</td>
<td>50</td>
</tr>
<tr>
<td>£2.50</td>
<td>100</td>
</tr>
<tr>
<td>0</td>
<td>100</td>
</tr>
</tbody>
</table>

Section 2

Are these statements correct or incorrect?

- Price elasticity of demand is calculated by considering the effects of price cuts. □
- 20,000 tickets is the quantity that corresponds to a price of £10.00. □
- In this example, a 25% price cut leads to a 100% increase in demand. □

Section 3

- Note down how the answer -4 is arrived at.

- The sign the lecturer explains is /.
  The sign / means (a) multiplied by □
  (b) minus □
  (c) divided by □
  (d) plus □

Section 4

- Is this statement correct or incorrect?
  Other elasticities are not calculated in this way. □
- Note down how other elasticities are calculated.

Section 5

- What is the demand elasticity at a price of £12.50?

- Is this statement correct or incorrect?
  When you divide a positive number by 0 you get plus infinity. □
Section 6
- Complete the definition the lecturer gives
  Demand elasticity is high when
- Complete the definition the lecturer gives
  Demand elasticity is low when
- Is this statement correct or incorrect?
  When economists use the words 'high' and 'low' they pay no attention to the minus sign.
  
2. Now wind the cassette back to the beginning of the lecture and listen to it again. This time, instead of answering questions, take notes. The questions you have already answered will help you do this. When you have listened to the whole of the lecture, you will be asked to give a short oral summary of it. So make sure you note down the important points.

3. You should also write a summary of the lecture, based on your notes.

F. Understanding a printed text (2)

Read the following text carefully, looking up anything you do not understand.

**Elastic and Inelastic Demand**

1 Although elasticity typically falls as we move down the demand curve, an important dividing line occurs at the demand elasticity of \(-1\). Demand is *elastic* if the price elasticity is more negative than \(-1\). Demand is *inelastic* if the price elasticity lies between \(-1\) and 0.

In Table 4.2 demand is elastic at all prices of £7.50 and above and inelastic at all prices of £5.00 and below. If the demand elasticity is exactly \(-1\), we say that demand is *unit-elastic*.

2 Later in this section we show that a cut in prices raises revenue from football ticket sales if demand for football tickets is elastic but lowers revenue if demand is inelastic. Whether or not demand is elastic is the key piece of information required in setting tube fares in the example of Chapter 2 and in setting the price of football tickets in the example we are currently studying.

3 Although the price elasticity of demand typically changes as we move along demand curves, economists frequently talk of goods with high or low demand elasticities. For example, they will say that the demand for oil is price-inelastic (price changes have only a small effect on quantity demanded) but the demand for foreign holidays is price-elastic (price changes have a large effect on quantity demanded). Such statements implicitly
refer to parts of the demand curve corresponding to prices (adjusted for inflation) that are typically charged for these goods or services. They do not necessarily describe the demand elasticity at points on the demand curve corresponding to real prices which have never been observed historically.

The Determinants of Price Elasticity

4 What determines whether the price elasticity of demand for a good is high (say, −5) or low (say, −0.5)? Ultimately the answer must be sought in consumer tastes. If it is considered socially essential to own a television, higher television prices may have little effect on quantity demanded. If televisions are considered a frivolous luxury, the demand elasticity will be much higher. Psychologists and sociologists may be able to explain more fully than economists why tastes are as they are. Nevertheless, as economists, we can identify some considerations likely to affect consumer responses to changes in the price of a good. The most important consideration is the ease with which consumers can substitute another good that fulfils approximately the same function.

5 Consider two extreme cases. Suppose first that the price of all cigarettes is raised 1 per cent, perhaps because the cigarette tax has been raised. Do you expect the quantity of cigarettes demanded to fall by 5 per cent or by 0.5 per cent? Probably the latter. People who can easily quit smoking have already done so. A few smokers may try to cut down but this effect is unlikely to be large. In contrast, suppose the price of one particular brand of cigarettes is increased by 1 per cent, all other brand prices remaining unchanged. We should now expect a much larger quantity response from buyers. With so many other brands available at unchanged prices, consumers will switch away from the more expensive brand to other brands that basically fulfil the same function of nicotine provision. For a particular cigarette brand the demand elasticity could be quite high.

6 Ease of substitution implies a high demand elasticity for a particular good. In fact, our example suggests a general rule. The more narrowly we define a commodity (a particular brand of cigarette rather than cigarettes in general, or oil rather than energy as a whole), the larger will be the price elasticity of demand.
Measuring Price Elasticities

7 To illustrate these general principles we report estimates of price elasticities of demand in Table 4.3. The table confirms that the demand for general categories of basic commodities, such as fuel, food, or even household durable goods, is inelastic. As a category, only services such as haircuts, the theatre, and sauna baths, have an elastic demand. Households simply do not have much scope to alter the broad pattern of their purchases.

8 In contrast, there is a much wider variation in the demand elasticities for narrower definitions of commodities. Even then, the demand for some commodities, such as dairy produce, is very inelastic. However, particular kinds of services such as entertainment and catering have a much more elastic demand. Small changes in the relative price of restaurant meals and theatre tickets may lead households to switch in large numbers between eating out and going to the theatre, whereas the demand for getting out of the house on a Saturday evening may be relatively insensitive to the price of all Saturday night activities taken as a whole.

<table>
<thead>
<tr>
<th>GOOD (GENERAL CATEGORY)</th>
<th>DEMAND ELASTICITY</th>
<th>GOOD (NARROWER CATEGORY)</th>
<th>DEMAND ELASTICITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel and light</td>
<td>-0.47</td>
<td>Dairy produce</td>
<td>-0.06</td>
</tr>
<tr>
<td>Food</td>
<td>-0.52</td>
<td>Bread and cereals</td>
<td>-0.22</td>
</tr>
<tr>
<td>Alcohol</td>
<td>-0.83</td>
<td>Entertainment</td>
<td>-1.40</td>
</tr>
<tr>
<td>Durable</td>
<td>-0.89</td>
<td>Expenditure abroad</td>
<td>-1.63</td>
</tr>
<tr>
<td>Services</td>
<td>-1.02</td>
<td>Catering</td>
<td>-2.81</td>
</tr>
</tbody>
</table>


G. Check your understanding

1. Look at the first paragraph again. Is this statement correct or incorrect?
   • Demand is unit-elastic when the price is £5.00.  

2. Look at paragraph 2 again. What words have the same meaning as:
   • at the moment
   • income
   • reduces
3. Look at paragraph 3 again. Are these statements correct or incorrect?
   - Oil is price-inelastic because price changes do not affect demand very much.
   - Holidays are price-elastic because their price influences whether people will buy them.

4. Look at paragraph 4 again. What words have the same meaning as:
   - not serious
   - in the end
   - replace with something similar
   - carries out
   - however, in spite of that

5. Look at paragraph 5 again. Are these statements correct or incorrect?
   - The writer expects people to buy the same amount of cigarettes whatever the price.
   - People are likely to change their brand if its price rises when other brands keep the same price.

6. Look at paragraph 6 again. Is this statement correct or incorrect?
   - Price elasticity of demand will be greater if a wide range of commodities is considered.

7. Look at paragraphs 7 and 8 again. Using the information given there, write your own explanation of Table 4-3.

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H. Understanding discourse

Listen to a lecturer giving some students instructions about examinations. Note down what you must do.

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