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Cambridge International AS and A Level

Economics

Revision Guide
Second edition

Susan Grant

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Table of Contents

Introduction

The structure of the book

This book is designed to help students revise both AS Level and A Level Economics. Chapters 1 to 5 are devoted to AS Level Economics, while chapters 6 to 10 cater to A Level. Each of these chapters contains a number of common features. They start with a summary of the key economic content that will help students to recall the topics covered during the course. Throughout the chapter there are progress checks designed to provide a quick assessment of students' knowledge and understanding. There are also a number of tips and revision activities. The tips give guidance on key points. The revision activities seek to allow students to apply the skills they have developed to a range of different situations and tasks.

At the end of each chapter there are two mind maps, data response, multiple choice and essay questions. The mind maps are designed to show links within certain topics, provide another way of summarising key points and encourage students to draw more mind maps as part of their revision.

The multiple choice questions help students to check their understanding and the skills they have gained, as well as giving them practice in answering the types of questions they will face in the examination. The data response and essay questions also provide examination practice. In addition, they assess students' ability to explore topics in more detail and to demonstrate their analytical and evaluative skills.

Answers for all the questions are provided at the end of the book for the benefit of the students. Students are encouraged not to look at the answers to a chapter until they have attempted all the questions in that chapter. They should also bear in mind that the answers to the essay questions are suggested answers. No answer can cover all the possible points and equally valid answers can be structured in a slightly different way.

The difference between IGCSE and AS/A Level

Some AS/A Level candidates have previously studied IGCSE Economics whilst others are new to the subject. In either case, it is important to remember that AS Level is a step up from IGCSE and, in turn, A Level is a step up from AS Level. As students progress up the levels, they are required to demonstrate higher order skills. At IGCSE Level there is, for instance, more emphasis on knowledge and understanding than at AS/A Level. The skills that become more important at AS/A Level are analysis, evaluation and judgement making.

The weighting given to the skills assessed at AS Level and A Level are 30% for knowledge and understanding, 20% for application, 30% for analysis and 20% for evaluation.

At AS/A Level students are beginning to work as economists. Economists working for a government, an NGO, bank or multinational company, for instance, analyse economic data, make judgements about the best strategies to follow and write reports which analyse the significance of events and government policy changes for their organisations. They will be able to write clearly, carry out numerical calculations and interpret and use statistics, graphs and diagrams. Through the examination questions students will be able to exhibit all of these skills.

At AS Level, the multiple choice questions have a 40% weighting as a means of assessment, the data response question a 30% weighting and the structured essay a weighting of 30%. The AS Level papers provide half the weighting for A Level with the remaining 50% being made up of 15% for the multiple choice questions, 10% for the data response questions and 25% for the essay questions. The overall weighting for the A Level is 35% for the multiple choice questions, 25% for the data response questions and 40% for the essay questions.

When revising the A Level part of the syllabus, it is important not to forget the AS Level part of the syllabus. For instance, in considering the reasons for market failure, students also have to consider public goods, merit and demerit goods which are first encountered at AS Level.

Coverage

The book follows the Cambridge International Examinations syllabus closely. Chapter 1 covers some key concepts and resource allocation. It includes scarcity, opportunity cost, positive and normative statements, factors of production, different economic systems, production possibility curves, money and different types of goods and services. Chapter 2 focuses on demand and supply. It covers the nature and determinants of demand and supply, elasticities, changes in market conditions and consumer and producer surplus. Chapter 3 concentrates on how the government intervenes in markets. It examines the effects of maximum and minimum prices, taxes, subsidies, transfer payments, the direct provision of goods and services and nationalisation and privatisation. In Chapter 4 the focus switches from the micro to the macro economy. It examines aggregate demand and supply analysis, inflation, balance of payments, exchange rates, the terms of trade, principles of absolute and comparative advantage and protectionism. Chapter 5 covers the three types of macroeconomic policies and then concentrates on policies to correct balance of payments disequilibrium, inflation and deflation.

Chapter 6 starts the A Level coverage. It covers the efficient allocation of resources and then externalities, market failure, social benefits, social costs and cost-benefit analysis. In Chapter 7 the price system and the roles of consumers and firms in the workings of the price system are explored. The law of diminishing returns, indifference curves, budget lines, costs of production, profit, different market structures, the growth and survival of firms and the different objectives of firms are covered.

Chapter 8 examines government microeconomic intervention, labour market forces and government intervention in the labour market and government failure in microeconomic intervention. In terms of government microeconomic intervention, it covers policies to achieve the efficient allocation and correct market failure, the concept of equity and policies towards income and wealth distribution. Among the labour market issues explored are the demand and supply of labour and wage determination in perfect and imperfect markets. Chapter 9 is a wide ranging chapter. It starts by examining economic growth, economic development, sustainability, national income and the classification of countries. Then it covers employment, unemployment, the circular flow of income and the money supply. It finishes by examining the Keynesian and Monetarist schools, the demand for money and interest rate determination and policies towards developing economies including policies of trade and aid.

The final chapter, Chapter 10 covers macro policy aims, the inter-connectedness of macroeconomic problems and the effectiveness of policy options to meet all macroeconomic objectiveness. Among the concepts explored are the Phillips curve and the Laffer curve.

Study skills

This book aims both to strengthen students' understanding of the economics they have covered during their course and to develop their study skills. It is designed to improve their ability to interpret and draw diagrams, interpret other forms of data, undertake numerical calculations and to write lucid and well-structured answers.

This book is designed to make revision more effective and hopefully increase the students' enjoyment of the subject, enabling them to excel in the examinations.

How to use this book: a guided tour

Learning summary

After you have studied this chapter, you should be able to:

- explain the measures of fiscal policy, monetary policy and supply side policy
- discuss the effectiveness of fiscal, monetary and supply side policies to correct balance of payments disequilibrium
- analyse expenditure-reducing and expenditure-switching
- discuss the effectiveness of fiscal, monetary and supply side policies to correct inflation and deflation

Learning summary – A summary list of key topics and concepts that you will be looking at in this chapter, to help with navigation through the book and give a reminder of what's important about each topic for your revision.

TERMS

Market economy: resources are allocated by the price consumers are willing to pay for products.

Planned economy: government decides how resources are allocated.

Terms – clear and straightforward explanations are provided for the most important words in each topic. Key terms appear in blue bold type within the main text.

TIP

It is useful to give examples of taxes in your own country in assessing the effects of taxation.

Tip – quick suggestions to remind you about key facts and highlight important points.

Multiple Choice Questions

1 Which of the following is an example of an external benefit of increased train travel?

A Increased overcrowding on trains

B Reduced fares for train passengers

C Reduced congestion on roads

D Higher profits for train operating firms

2 After carrying out a cost-benefit analysis, a government decides to go ahead with a hospital building scheme as there is a net social benefit. Private costs were calculated to be $500 m, private benefits at $600 m and external benefits at $700 m. What does this information indicate about the external costs of the scheme?

Multiple Choice Questions – Exam-style multiple choice questions for you to test your knowledge and understanding at the end of each chapter. The answers are provided at the back of the book.

Revision Activity C

a Categorise the following effects of building and operating a new airport into private benefits, private costs, external benefits and external costs.

1 Air and noise pollution generated by flights to and from the airport

2 Air fares collected by the airlines that use the airport

3 A fall in the price of houses close to the airport

4 Destruction of wildlife habitats

5 Increased custom for local taxi choice

6 Insurance paid by the airport operators

7 Revenue for airport operators

8 Traffic congestion near the airport

9 Wages paid to workers building the airport

b Using the information in Table 6.01, calculate the marginal social benefit and the marginal social cost. What is the allocatively efficient output?

Revision activity – Practice questions in each chapter to help with your revision.

Progress check A

Explain two reasons why a fall in profit levels may reduce investment.

Progress check – check your own knowledge and see how well you are getting on by answering regular questions.

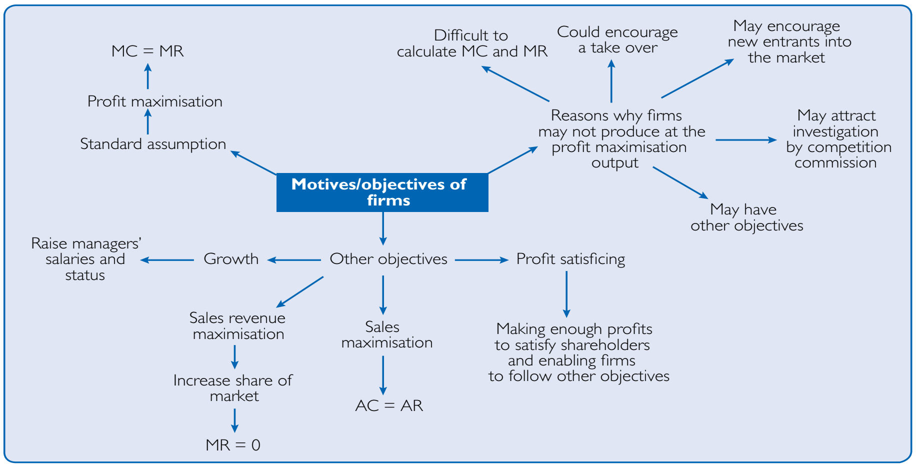
REVISION TIPS

Adding to your notes

As you progress through the course and check through your notes, you should get used to adding to them. You should do this for a number of reasons including:

- ✓ to fill in any gaps.
- ✓ to provide relevant examples.
- ✓ to show links to other topics.
- ✓ to take into account recent developments.

Revision Tips – Useful tips to help you with your revision.



Mind Maps – To help consolidate key topics.

Essay Questions

1 a Explain the difference between a maximum price and a minimum price. [8]

b Discuss whether the introduction of an effective minimum price will benefit producers. [12]

2 a Explain the characteristics of a good tax. [8]

b Discuss the effectiveness of government policy measures to correct market failure in the case of merit goods and demerit goods. [12]

Essay Questions – Exam-style questions for you to test your knowledge and understanding at the end of each chapter. The answers are provided at the back of the book.

Data Response Questions

1 Measuring inflation

Many countries use consumer price indices to measure inflation. These are weighted price indices which reflect both changes in prices and changes in household spending patterns. There are a number of reasons why household spending patterns alter over time. These include changes in tastes and relative prices. As these factors vary from country to country, weights also vary. Table 4.06 compares some of the weights in the consumer price indices of India and Pakistan.

	India	Pakistan
Category	Weight (%)	Weight (%)
Food and beverages	45.86	34.83
Alcohol and tobacco	2.38	1.41

Data Response Questions – Exam-style questions for you to test your knowledge of analysing data at the end of each chapter. The answers are provided at the back of the book.

Section 1:
AS LEVEL

Chapter 1

Basic economic ideas and resource allocation

Learning summary

After you have studied this chapter, you should be able to:

- define the fundamental economic problem
- explain the meaning of scarcity, opportunity cost and the basic economic questions
- define ceteris paribus
- recognise the importance of decision making at the margin
- distinguish between positive and normative statements
- outline the characteristics of factors of production
- distinguish between the rewards and the factors of production
- define specialisation
- assess the advantages and disadvantages of division of labour
- compare different economic systems
- explain the role of the factor enterprise in a modern economy
- draw and interpret production possibility curves
- explain how constant and increasing opportunity cost determine the shape of the production possibility curve
- explain the functions and characteristics of money
- distinguish between money and barter
- define liquidity
- explain free goods, economic goods, private goods and public goods
- distinguish between merit goods and demerit goods

1.01 The fundamental economic problem

The fundamental economic problem is that there are never enough resources to produce all the products people would like to have.

Resources are limited in supply (finite) whilst wants are unlimited (infinite).

1.02 Meaning of scarcity and the inevitability of choices at all levels

As there is scarcity of resources, choices have to be made. Consumers have to decide what to buy, workers – which jobs to do, firms – what to produce, governments – what to spend tax revenue on.

Progress check A

Will the economic problem ever be solved?

1.03 Opportunity cost

Having to select one option involves an opportunity cost. Opportunity cost is the best alternative forgone.

Due to the economic problem of wants exceeding resources, economies have to decide what to produce, how to produce it and who will receive what is produced.

What to produce, how to produce and who will receive what is produced are sometimes referred to as the three basic questions which all economies have to answer.

TERM

Opportunity cost: the best alternative sacrificed when an option is selected.

TIP

Opportunity cost is a concept that you can use in analysing and evaluating a significant number of topics, e.g. whether a government should spend more on healthcare.

1.04 Ceteris paribus

Ceteris paribus means other things being equal.

Economists often make use of ceteris paribus to consider the possible effects of a change in one variable on another variable. For instance, an increase in real disposable income would be expected to lead to an increase in demand for gold watches, on the assumption that the other influences on demand for gold watches are not changing.

TERM

Ceteris paribus: other things being equal.

1.05 Decision making at the margin

Individuals, households, firms and governments often have to make marginal decisions. These involve considering whether to make slight changes. For instance, whether to buy one more apple, produce one more car or to reduce the number of teachers employed in state schools.

1.06 Positive and normative statements

A positive statement is a statement of fact. It can be tested to assess whether it is right or wrong.

A normative statement is a statement based on opinion. It is a value judgement and, as such, cannot be proved right or wrong.

There are both positive and normative statements in economics. 'The unemployment rate in a country is 6%' is a positive statement. In contrast, 'the government's key priority should be reducing unemployment' is a normative statement.

TIP

Much of what you write will be based on positive statements. In coming to a conclusion in an answer you may, however, be making a value judgement e.g. on what might be the most appropriate government policy measure to reduce unemployment. The conclusion should be based on economic analysis and not on uninformed opinion.

TERMS

Marginal decision: whether to make slight changes.

Positive statement: a fact that can be tested.

Normative statement: a value judgement based on opinion that cannot be tested.

1.07 Characteristics of factors of production and their rewards

Factors of production are resources used to produce goods and services:

- Land covers all natural resources – for example, the surface of the earth, the sea, rivers, minerals below the earth. Most land is geographically immobile but occupationally mobile. The reward to land is rent.
- Labour is human effort, mental or physical, used in the production of goods and services. Labour may be geographically immobile due to differences in housing costs and because of family ties. It may be occupationally immobile if workers lack education and training. Spending on education and training increases human capital. Wages are the reward to labour.
- Capital is human made goods used to produce other goods and services. Investment is spending on capital goods. Net investment occurs when firms purchase more capital goods than are needed to replace those capital goods which have become obsolete – gross investment exceeds depreciation. Capital varies in its occupational and geographical mobility. A photocopier, for instance, can be used in most types of industries and can be moved from one part of the country to another. In contrast, an operating theatre is likely to be occupationally immobile and a gold mine is geographically immobile. The reward for capital is interest.
- Enterprise is the willingness and initiative to organise the other factors of production and, crucially, to bear the uncertain risks of producing a product. Entrepreneurs are the people who have the willingness and initiative to make decisions and to take the risks involved in production. In a public limited company, the role of the entrepreneur is divided between the managers (who make the business decisions) and shareholders (who bear the risks). Entrepreneurs tend to be relatively, occupationally and geographically mobile. The reward for enterprise is profit.

TERMS

Factors of production: resources used to produce goods and services.

Land: natural resources both on the surface and beneath the earth.

Labour: human effort used in production.

Capital: goods used to produce other goods.

Enterprise: organising the factors of production and bearing the risks of producing a product.

Revision activity A

a Identify an example of each factor of production that is employed in the film industry.

b Give an example of a capital intensive industry and a labour intensive industry.

c What factors influence the supply of labour to a particular occupation?

d Explain the link between enterprise and opportunity cost.

e Why is the rent on land in city centres usually higher than that on land in rural areas?

TIP

The two factors of production that students most commonly get confused about are land and capital. Remember land is any natural resource and not just land as soil, and capital refers to capital goods i.e. human-made goods and not money.

1.08 Specialisation

Specialisation involves concentrating on particular tasks or products. Workers, firms, regions and countries can concentrate on producing one product.

Specialisation can increase output but there are risks attached. For instance, if a firm makes only one product and demand for that product falls, the firm would be in difficulty.

TERM

Specialisation: concentration on a particular task or product.

1.09 Division of labour

Division of labour involves breaking down the production into separate tasks and having each worker concentrate on a particular task.

One of the first economists to describe division of labour was Adam Smith. In his book *An Enquiry into the Nature and Causes of the Wealth of Nations* (often shortened to *The Wealth of Nations*), he described the 18 separate processes involved in producing a pin.

Advocates of division of labour claim that it increases output and reduces the average cost of production. This is because it enables workers to concentrate on what they are best at, increases their skill ('practice makes perfect'), reduces the time it takes to train them, reduces the equipment needed, cuts back on the time involved in moving from one activity to another and makes it easier to mechanise the process.

Critics of division of labour, in contrast, argue that it may reduce output and increase the average cost of production. They claim that workers can get bored, doing the same task time after time. Boredom can lead to workers making mistakes and leaving the firm after a short time. In addition, division of labour may mean that a firm does not find out what task a worker is best at and may mean that a firm will find it difficult to cover for workers who are absent from work due to illness or because they are undergoing training.

Progress check B

In what way do schools engage in division of labour?

TERM

Division of labour: breaking down production into separate tasks to be carried out by separate workers.

1.10 Different economic systems

An economic system is a way of allocating resources to answer the three fundamental questions of what to produce, how to produce it and for whom.

There are three main types of economic systems:

- a market economy
- a planned economy
- a mixed economy

TERMS

Market economy: resources are allocated by the price consumers are willing to pay for products.

Planned economy: government decides how resources are allocated.

Market economies

A market economy is one in which resources are allocated by means of the price mechanism. Consumers indicate what they are willing and able to buy through the prices they are prepared to pay. Private sector firms respond to changes in consumer tastes by altering what they produce. Property is privately owned and the government's role in the economy is minimal.

Among the advantages claimed for a market economy are consumer sovereignty, incentives for workers and firms to be efficient and innovative, and a lack of bureaucracy.

The possible disadvantages of a market economy include an inequitable distribution of income, a risk of unemployment of resources, under-consumption of merit goods, over-consumption of demerit goods, lack of provision of public goods, information failure, and abuse of market power.

TERM

Public good: a product that people cannot be stopped from consuming even if they are not willing to pay for it and once used can still be used by others.

TERMS

Merit good: a product the government considers people undervalue.

Demerit good: a product the government considers people overvalue.

Planned economies

A planned economy is one in which the government makes most of the decisions on how resources are allocated. Property is largely state owned and most workers are employed in state owned enterprises (SOEs). The private sector's role in the economy is minimal.

The advantages of a planned economy include:

- full employment of resources
- avoidance of wasteful duplication
- an equitable distribution of resources
- consideration of externalities
- provision of merit goods and public goods
- discouragement of demerit goods
- long term planning and support for vulnerable groups

Among the possible disadvantages of a planned economy are slow responses to changes in consumer demand, too much bureaucracy, a lack of incentives, and too much concentration on capital goods.

Mixed economies

In a mixed economy, both the private and public sectors play a key role. Resources are allocated using both the price mechanism and state planning.

A mixed economy seeks to gain the advantages of both a market and a planned economy whilst seeking to avoid the disadvantages. How successful it is depends on the effectiveness of government policies and how efficient the private sector is.

In the late twentieth and early twenty-first century, a number of economies moved from a planned towards a market economy.

There are a number of problems that can arise when central planning in an economy is reduced:

- Inflation may rise when price controls are removed.
- It may take time to build up entrepreneurial skills, to develop a financial sector (including a stock exchange) and implement a social welfare network.
- The removal of government support and trade restrictions can result in some enterprises going out of business and can cause unemployment.

1.11 The role of the factor enterprise in a modern economy

In many countries enterprise is playing an increasing role. As the size of the private sector increases relative to the size of the public sector, there is more opportunity for new businesses to be set up.

Enterprise can encourage invention, innovation and competition. Such effects can increase output and improve living standards.

Revision activity B

Complete Table 1.01.

A comparison of a market economy and a planned economy		
Features	**Market economy**	**Planned economy**
Allocative mechanism		State directives
Key sector	Private	
Key decision makers	Consumers	
Other names		Centrally planned, collectivist, command, state owned
Example	Hong Kong	
Ownership of means		State owned
Provision of public goods		
The profit motive	Present	

Table 1.01

1.12 Production possibility curves

A production possibility curve (PPC) shows the maximum output of two types of products that can be produced with existing resources and technology.

A production point on the curve represents full use of resources, a production point inside the curve indicates unemployed resources and a production point outside the curve is currently unattainable.

A shift to the right of a PPC is caused by an increase in the quantity or quality of resources. A change in the slope of a PPC will occur if the ability to produce only one of the two products alters.

TERM

Production possibility curve (PPC): a diagram showing the maximum output of two types of products that can be made with existing resources and technology.

The shapes of production possibility curves

A straight line PPC indicates a constant opportunity cost.

A PPC which is bowed out indicates an increasing opportunity cost. In this case, as more capital goods, for example, are produced, more consumer goods have to be sacrificed. This reflects the fact that the resources which are most suited to producing capital goods are used first.

TIP

In drawing PPC curves make sure that you draw the curve/line all the way to each axis – do not leave a gap. Also when drawing the PPC as a curve, make sure it is continuing to rise when it touches the vertical axis – do not have it turning down.

Revision activity C

Look at Figure 1.01 and answer the questions which follow.

a What does a straight line production possibility curve (PPC) such as AB indicate?

b What does the movement of the PPC from AB to AC show?

c Why may the PPC have shifted from AB to DE?

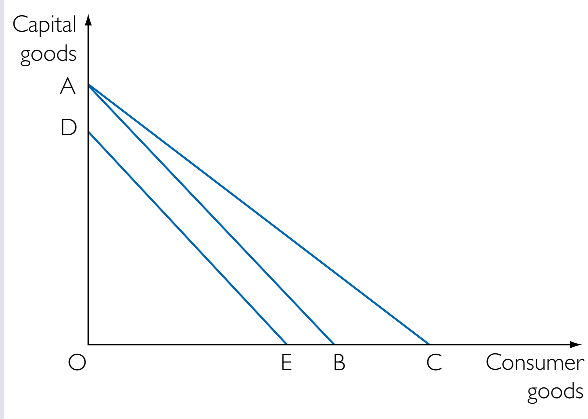


Figure 1.01

1.13 The functions and characteristics of money

Money covers any item which carries out the functions of money. The four functions of money are:

1 a medium of exchange
2 a store of value
3 a unit of account
4 a standard of deferred payments

Probably the best known function of money is as a medium of exchange. Money makes it easy for people to buy and sell products. In the absence of money, people would have to engage in barter.

A store of value means that money enables people to save. Money can be saved in a range of financial institutions to be used in the future.

Money acts as a unit of account, or a measure of value, as it permits the value of goods, services and assets to be compared.

A standard of deferred payments allows people to agree prices of future payments and receipts. This enables payments to be made and received in the future and allows people, firms and governments to lend and borrow.

To act as money, an item has to be generally acceptable. An item may have all the other characteristics needed for it to act as money but if people are not prepared to accept it in exchange for products and in its other capacities, it will not act as money. The other characteristics money should possess are durability, recognisability, divisibility, portability, limited in supply, stability in value and uniformity. There are links between the characteristics. For instance, to be stable in value it should be limited in supply.

TERMS

Money: any item that acts as a medium of exchange, store of value, unit of account or standard of deferred payments.

Barter: direct exchange of products.

Near money

Near money is a term for financial assets that can be converted into money relatively quickly. While such assets are not currently carrying out the essential function of money, that is acting as a medium of exchange, they have a high degree of liquidity. Examples of near money include treasury bills and short term government bonds. Commercial banks hold a range of these assets as they can be quickly turned into cash and so count in their liquidity ratios.

Money and barter

Barter is the direct exchange of products. Money has a number of advantages over barter. The key one is that it makes it easier and quicker to buy and sell products. As a result, money can encourage specialisation and trade.

Money also makes it easier for people to save, value products, borrow and lend. A system of barter would involve uncertainty as to which products other people will be prepared to accept and how they will value them.

Progress check C

Why do apples not act as money?

Liquidity

Liquidity means the ability to turn an asset into cash quickly and without loss. Cash is obviously the most liquid asset. Current (checking) accounts at commercial banks are more liquid than deposit (savings) accounts.

A commercial bank keeps some liquid assets to meet their customers' demand for cash.

TERM

Liquidity: being able to turn an asset into cash quickly without a loss.

Revision activity D

Fit the following terms into the sentences, using each term only once:

1 medium of exchange
2 store of value
3 unit of account
4 standard of deferred payments
5 general acceptability
6 durability
7 liquid
8 cheques
9 divisible

a . . . . are not money. They are a means of transferring a bank deposit from one person to another.

b The function of money which allows products to be bought on credit is a . . . .

c To act as a . . . . money has to be . . . . in order that payments of different values can be made and change can be given.

d A sight deposit (current account) is more . . . . than a time deposit (deposit account).

e The . . . . and . . . . of money allows it to act as a . . . .

f Money acts as a . . . . when the value of products is compared.

1.14 Economic goods and free goods

The vast majority of goods and services are what economists call economic goods. An economic good is one which takes resources to produce it. As a result, its production involves an opportunity cost.

Free goods are rare. They do not involve the use of resources to produce them and so they do not have an opportunity cost. Examples include sunlight and air.

Progress check D

A firm gives a present of a free cake to its customers just before a public holiday.
Explain whether the cake is a free good or an economic good.

TERMS

Economic good: takes resources to produce.

Free good: no resources are used to produce it.

1.15 Private goods and public goods

Most products are private goods. A private good is both excludable and rival. It is excludable in the sense that someone who is not prepared to pay for it can be prevented from consuming the product. It is rival in that if one person consumes the product, someone else cannot consume it. As private goods are excludable, they can be sold through the market. Private sector firms have an incentive to produce them as they can charge directly for them.

The two key characteristics of a public good are non-excludability and non-rivalry. It is not possible to stop non-payers from enjoying the product. As a result, people have no incentive to pay for a public good. Once provided, a public good is available for everyone including non-payers. So people can act as free riders, consuming the product without paying for it. When people consume a public good, they also do not reduce other people's ability to consume the product. For instance, one more person walking down a street will not reduce the benefit other people receive from the street lighting.

Two other characteristics of a public good are non-rejectability and zero marginal cost. It is not possible for people to reject public goods such as defence. It is also often the case that once provided, it will not cost any more to extend the benefit of a public good such as sea defence to another person.

As it is not possible to charge people directly for public goods, private sector firms lack the financial incentive to provide them. As a result, the provision of public goods has to be financed out of taxation. The government can produce them or pay private sector firms to provide them.

A quasi-public good is a product which possesses some of the features of a public good. For instance, it may be difficult to restrict entry to a beach, making it non-excludable, but if it is crowded it may be rival. Some economists refer to products which are non-excludable but rival, such as a beach and fish in the ocean in some cases, as common resources.

It can be difficult for a government to determine the quantity of a public good to provide. This is because preferences are not revealed via the price mechanism.

TERM

Quasi-public good: has features of public and private goods, also called common resources.

Progress check E

Why does the development of electronic road pricing suggest that roads are changing from being a public good into a private good?

1.16 Merit and demerit goods

Merit and demerit goods are special categories of private goods.

A merit good is a product that a government considers people undervalue. It has two key characteristics. As well as people underestimating the benefit they receive from consuming the product, the consumption also provides external benefits. As a merit good is undervalued, it will be under-consumed and so under-produced if left to market forces. Output will be below the allocatively efficient (socially optimum) level. The existence of information failure and external benefits results in market failure.

To encourage greater consumption of a merit good a government may:

- provide it for free
- subsidise it
- set a maximum price combined with some state provision
- provide some information about its benefits

If the government thinks it is very important for people to consume the product, it may make its consumption compulsory.

A demerit good is a product that the government considers people overvalue. As with a merit good, a demerit good has two key characteristics. People fail to appreciate the harmful effects they experience from consuming the product and consumption of the product generates external costs. As a demerit good is overvalued, it will be over-consumed and over-produced if left to market forces. Output will be above the allocatively efficient level. The existence of information failure and external costs results in market failure.

To discourage consumption of a demerit good a government may: tax it, set a minimum price or provide information about its harmful effects. If the government thinks the product is very harmful, it may ban its consumption.

Governments differ as to what they consider to be merit and demerit goods. The US government, for instance, believes that people are fully and accurately informed about the benefits and risks of owning guns and so does not impose many restrictions on gun ownership. In contrast, the UK government makes it more difficult to own a gun as it thinks information failure and the negative externalities involved are more significant.

TERM

Private good: a product that people can be stopped from consuming and where one person's consumption does not reduce other people's ability to consume it.

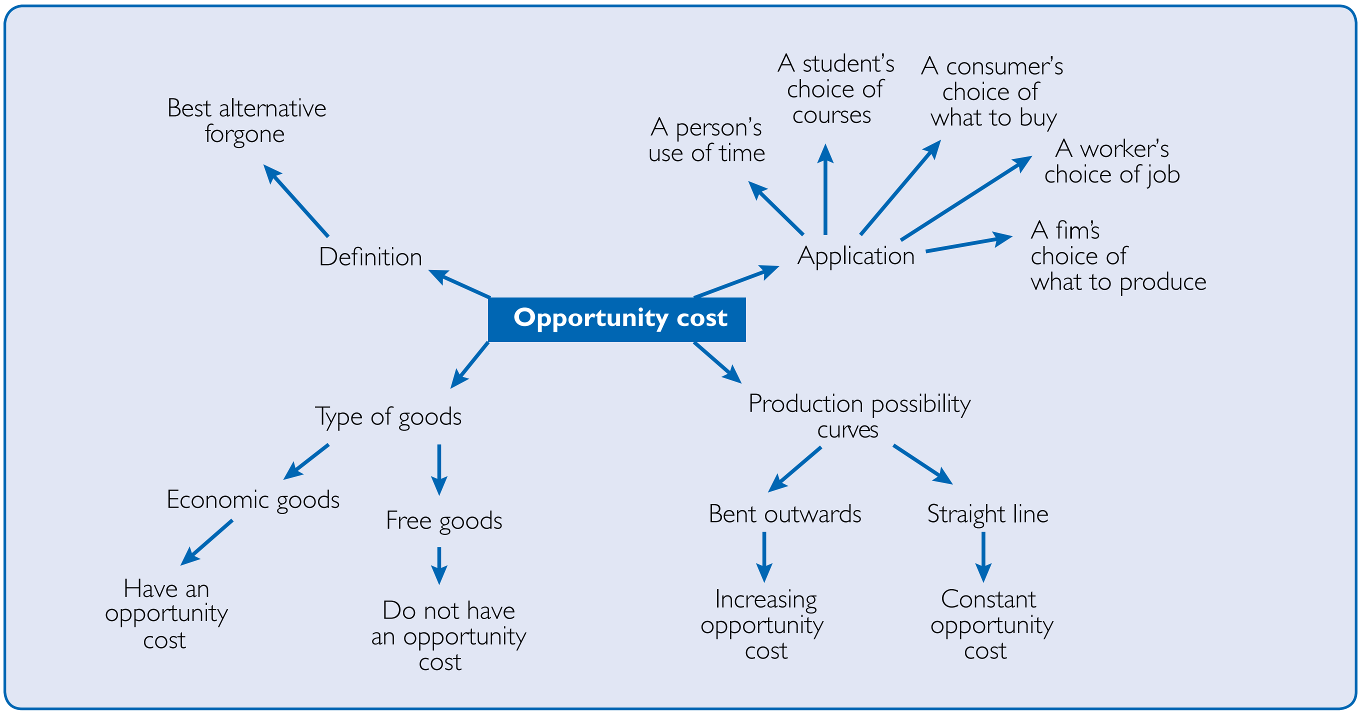
Progress check F

Why may a product be treated as a demerit good in one country but not in another country?

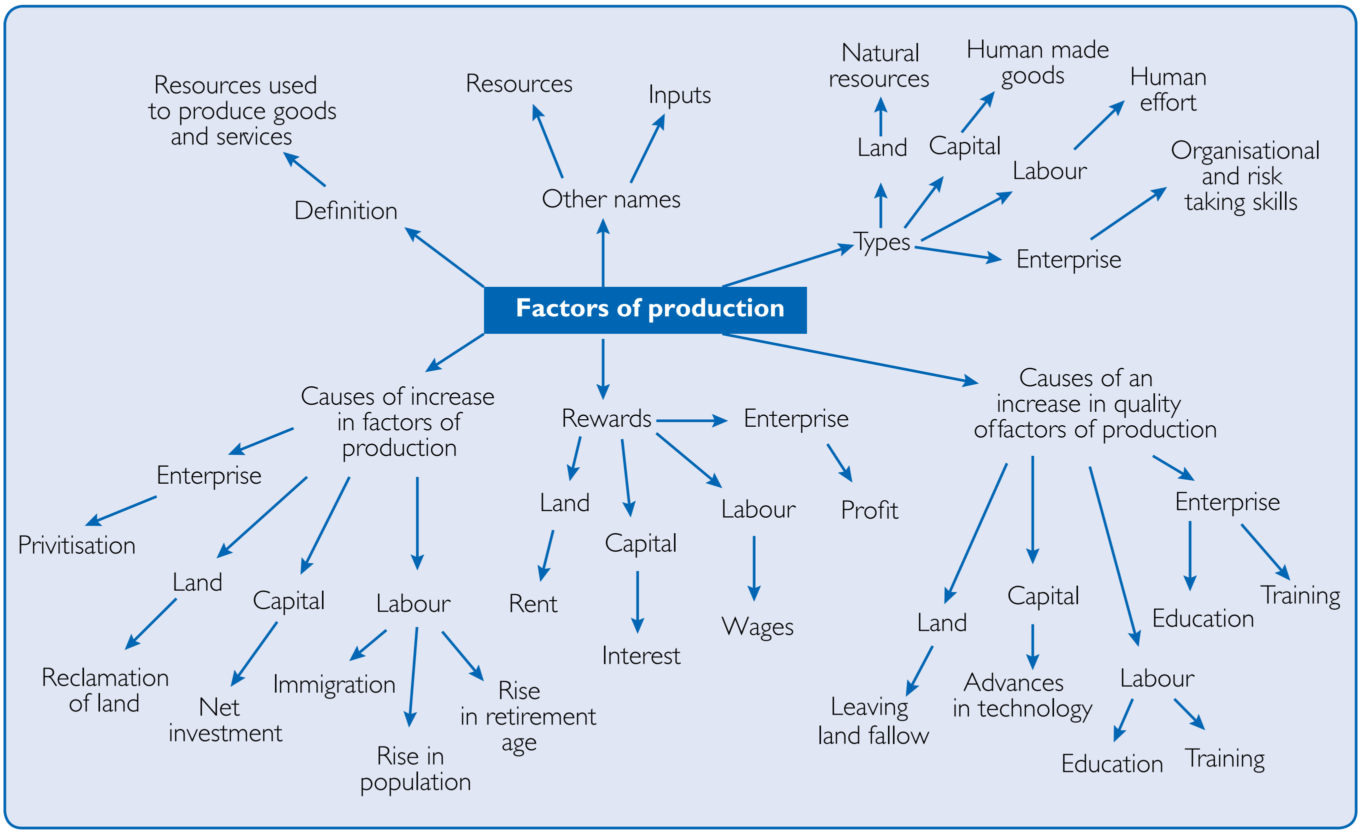
TIP

Take care not to confuse public goods and merit goods. To decide whether a good is a public good, the key question is not whether people have to pay to consume it but whether it would be possible to charge for them.

Mind maps



Mind map 1.01: Opportunity cost



Mind map 1.02: Factors of production

Exam-style Questions

Multiple Choice Questions

1 In which circumstance would there be no opportunity cost involved in a country producing more agricultural products?

A Demand for manufactured goods has declined

B Previously unemployed resources are used to produce agricultural goods

C Resources that had been used to produce manufactured goods are transferred to producing agricultural goods

D The price of agricultural goods does not change as more are produced

2 Which question cannot be studied using positive economic analysis?

A How should products be distributed between households?

B In what sector are most workers employed?

C What is the gap between government spending and tax revenue?

D Does the economy is operate a planned economic system or a market system?

3 Which point on Figure 1.02 represents complete specialisation?

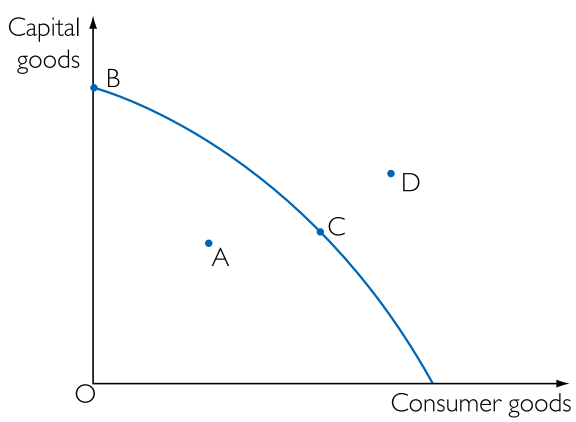


Figure 1.02

4 What is the key characteristic of a mixed economy?

A Some of the products produced are domestically produced and some are imported.

B The economy has both declining and expanding industries.

C There is both a private sector and a public sector.

D The sizes of the primary, secondary and tertiary sectors are equally balanced.

5 Who determines how resources are allocated in a planned economy?

A Consumers

B Managers

C Shareholders

D The government

6 What does the existence of scarcity mean?

A Economies are inefficient.

B Economies are developing.

C Households, firms and governments have to make choices.

D It is not possible to increase the quantity of resources.

7 What is the key characteristic an item needs to possess to act as money?

A General acceptability

B Intrinsic value

C Indivisibility

D Unlimited supply

8 The tourist industry makes use of a range of factors of production. Which of the following is an example of land used in the tourist industry?

A A hotel

B A beach near the hotel

C An air ventilation system in the hotel

D An indoor swimming pool in the hotel

9 Figure 1.03 shows the production possibility curve of an economy. What is the opportunity cost of the economy increasing the output of capital goods from 20 m to 50 m?

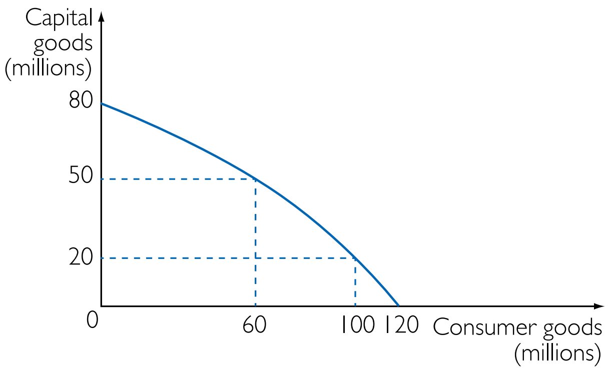


Figure 1.03

A 30 m capital goods

B 40 m consumer goods

C 70 m consumer goods

D 120 m consumer goods

10 What causes the free rider problem?

A People avoiding paying fares on public transport

B People who would have paid higher fares benefiting from government subsidies to producers of public transport

C Public goods being non-excludable

D Public goods being non-rival

Data Response Question

Since 1989 Eastern European countries have moved from operating planned economies towards operating market economies. This rate of change has varied. Russia and Kazakhstan, for instance, sold off its state owned enterprises (SOEs) and generally reduced government intervention at a quick rate. In contrast, Croatia, Poland and Slovenia removed price controls and subsidies and privatised relatively slowly.

Some economists claim that the 'shock therapy' swept away safety nets with state ownership. In a number of Russian towns, the SOEs provided not only jobs but also healthcare, childcare and pensions. When the SOEs were sold off unemployment rose and life expectancy fell. The lives of men were particularly badly affected with their lifespan falling even further than that of women.

The question of how fast to make the transition from a planned to a market economy is now facing China. The country is becoming more market orientated with the role of the private sector increasing. Structural change is also occurring with the proportion of output and employment accounted for by the secondary and tertiary sectors increasing.

The first decade of the twenty-first century witnessed a period of rapid economic growth in China boosted by high levels of investment and a low exchange rate which increased net exports. Although the country's economic growth slowed in the second decade of the twenty-first century it was still higher than most countries.

Table 1.02 shows some key social and economic data on China, Poland, Romania and Slovenia.

	Key social and economic data			
Country	**Life expectancy 2014**		**Annual growth (% change in real GDP) 2014**	**Unemployment (% in 2014)**
	Male	**Female**		
China	73.4	77.7	7.3	4.1
Poland	73.5	81.5	3.4	12.3
Russia	64.7	76.6	0.6	5.2
Slovenia	74.4	81.9	3.0	13.1

Table 1.02

a Identify from the extract three indicators of an economy moving from a planned to a market economy. [3]

b Which stage of production is not referred to in the extract? [1]

c Explain, using a production possibility curve, what happened to the Russian economy when the SOEs were sold off. [5]

d Using Table 1.02, comment on whether the Polish economy performed better in 2014 than the Russian economy. [5]

e Discuss whether the sale of state owned enterprises will benefit an economy. [6]

Essay Questions

1 a An economy can produce capital and consumer goods. Explain the possible effects on the economy's production possibility curve of an advance in technology affecting the production of capital goods. [8]

b Discuss whether a market economy or a planned economy is more effective in dealing with the economic problem. [12]

2 a Explain what is meant by the basic economic problem and the three fundamental questions that all economies face. [8]

b Discuss how useful the price mechanism is in tackling the basic economic problem. [12]

REVISION TIPS

Engage in continuous revision. Many students think that revision is cramming facts just before an examination. The word 'revision' actually means to review work. This is something that you should do throughout your course. If you spend at least ten minutes after each lesson checking what you have just learned it will increase your understanding of the topics and help you to remember the key features. It may also encourage you to add notes on topics you feel uncertain about, or are particularly interested in, and to ask your teacher for clarification on some aspects. You should also review all your work on a regular basis, for example, every two weeks. By doing this, you should already be relatively familiar with the work you understand by the time you come to your final revision.

The price system and the micro economy

Learning summary

After you have studied this chapter, you should be able to:

- define effective demand
- distinguish between individual demand and market demand
- explain the factors that influence demand
- distinguish between movements along and shifts in demand curves
- define and calculate price elasticity of demand (PED)
- explain the range of price elasticities of demand
- describe the factors that affect PED
- discuss the implications of PED for revenue and business decisions
- define and calculate income elasticity of demand (YED)
- distinguish between positive and negative YED
- discuss the implications of YED for revenue and business decisions
- define and calculate cross elasticity of demand (XED)
- distinguish between positive and negative XED
- discuss the implications of XED for revenue and business decisions
- distinguish between individual supply and market supply
- define price elasticity of supply (PES)
- explain the range of PES
- describe the factors that affect PES
- recognise the implications for speed and ease with which businesses react to changed market conditions
- distinguish between equilibrium and disequilibrium
- explain the effects of changes in supply and demand on equilibrium price and quantity
- apply demand and supply analysis
- outline demand and supply relationships
- explain the role of the price mechanism in rationing, signalling and transmitting preferences
- define consumer surplus and producer surplus
- explain the significance of consumer and producer surplus
- describe how consumer surplus and producer surplus are affected by changes in equilibrium price and quantity

2.01 Demand

Effective demand

Demand is the willingness and ability to buy a product. Economists sometimes refer to this as effective demand. This is to emphasise that the desire for the product has to be backed up by the money to buy the product.

When economists state that e.g. demand for a product is 600 at a price of $18, they mean people will buy that quantity at that price.

Individual and market demand

Individual demand is the amount of a product a person is willing and able to buy at each and every price. A demand curve can be plotted to show how much an individual would be prepared to buy at different prices. A demand curve is drawn up from a demand schedule. It shows the quantity demanded at different prices. Price and demand are usually inversely related.

A **market demand** curve shows the total demand for a product. The market demand is found by adding up the amount demanded by individual consumers at different prices.

TERMS

Effective demand: willingness and ability to buy a product.

Individual demand: amount an individual will buy at each price.

Demand curve: shows the demand at different prices.

Market demand: the total demand for a product.

Factors that influence demand

Demand for a product is influenced by a number of factors including changes in:

- its price. As indicated above, a rise in price would be expected to result in a fall in demand.
- disposable income. A rise in **disposable income** increases purchasing power. Such a change is likely to alter the pattern of expenditure. For example, it may result in a fall in demand for bus travel but a rise in demand for car travel.
- the price of related products. A fall in the price of tea may result in a decrease in demand for coffee (a substitute) whilst it may increase demand for milk (a complement).
- tastes and fashion. For example, hairstyles go in and out of fashion. Advertising and healthcare reports can, in turn, influence tastes and fashions. Some firms spend a large amount of money in an effort to encourage people to buy their products and to build up brand loyalty. A report indicating, for example, that eating almonds may improve health may increase demand for almonds.
- population size. An increase in population size will increase demand for most products.
- age structure. An ageing population is likely to increase demand for healthcare.

TERM

Disposable income: the amount individuals have left after they have paid direct taxes.

Progress check A

Explain three factors that influence demand for air travel.

Movements along and shifts in demand curves

A movement along a demand curve can only be caused by a change in the price of the product itself. A rise in price will cause a contraction in demand. This movement can also be referred to as a decrease in quantity demanded. A fall in price will cause an extension in demand. This movement can also be called an increase in quantity demanded (see Figure 2.01).

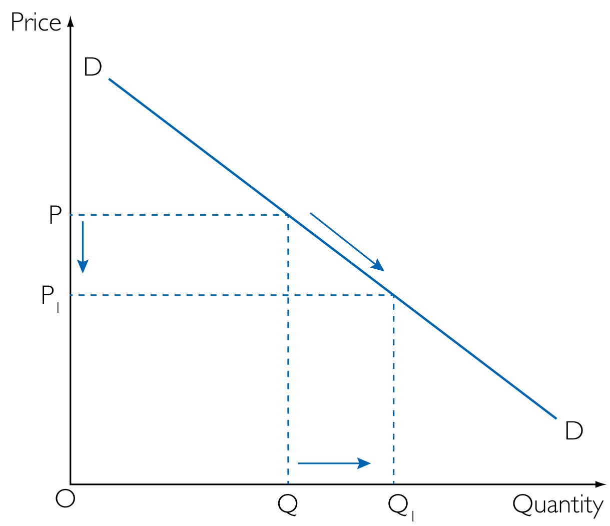


Figure 2.01

A change in any influence on demand for a product, other than its own price, will result in new quantities being demanded at each and every price. As a result, the demand curve will shift its position. A shift to the right of the demand curve is called an increase in demand, with higher quantities being demanded at each and every price.

A decrease in demand will lower quantities being demanded at each and every price and is illustrated by a shift to the left of the demand curve (as shown in Figure 2.02).

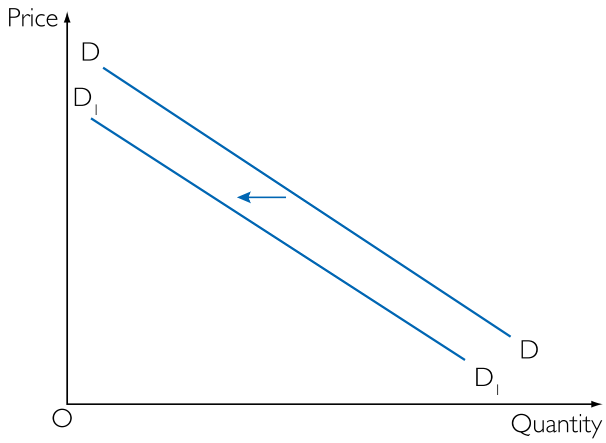


Figure 2.02

TIP

Fully label any diagrams you draw and explain what they are showing in the text of your answers. Use them as part of your analysis rather than just as an illustration.

Progress check B

What is the difference between a contraction in demand for ice cream and a decrease in demand for ice cream?

2.02 Price elasticity of demand

Definition

Price elasticity of demand (PED) is a measure of the responsiveness of demand to a change in price. It is calculated by using the following formula:

$$\text{PED} = \frac{\text{percentage change in quantity demand}}{\text{percentage change in price}}$$

This can be abbreviated to: PED = %ΔQD/%ΔP.

TERM

Price elasticity of demand (PED): measure of responsiveness of demand to a change in price.

Range of price elasticities of demand

As price and demand are usually inversely related, PED is normally a minus figure. A PED figure (ignoring the sign) greater than one and less than infinity means that demand is elastic, with a change in price causing a greater percentage change in quantity demanded.

A PED figure (ignoring the sign) of less than one and greater than zero means that demand is inelastic. In this case, demand is not very responsive to a change in price, with a change in price resulting in a smaller percentage change in quantity demanded.

The three other degrees of PED are:

- perfectly inelastic demand
- unitary elasticity of demand
- perfectly elastic demand

Perfectly inelastic demand means that demand remains unchanged when price alters. In this case, PED is zero.

Unitary elasticity of demand occurs when a change in price causes an equal percentage change in quantity demanded, giving a PED figure of –1.

Perfectly elastic demand means that a change in price will cause an infinite change in quantity demanded, giving a PED of infinity.

Unitary price elasticity of demand is illustrated by a rectangular hyperbola, perfectly inelastic demand by a straight vertical line and perfectly elastic demand by a straight horizontal line (see Figure 2.03).

TIP

Some candidates write that elastic demand occurs when a change in price causes a greater change in demand. Remember, however, that PED is concerned with comparing percentage changes and not absolute changes. For example, price may change from \$2 to \$3 causing demand to change from 100 to 120. The price has changed by only \$1 while demand has changed by 20. PED, however, is not elastic as the 50% change in price has caused a smaller percentage change in demand of 20%. PED is –0.4 and so demand is price inelastic.

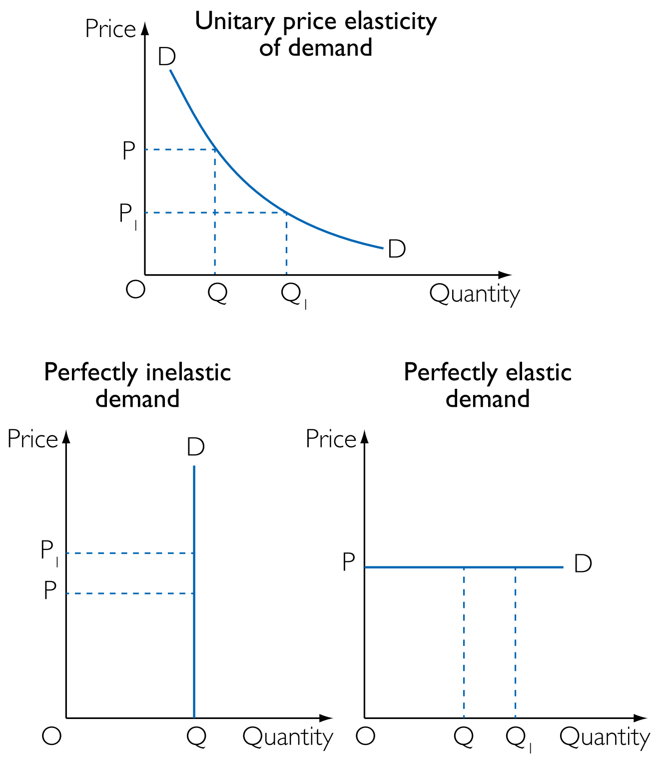


Figure 2.03

TERMS

Perfectly inelastic demand: demand remains unchanged when price alters.

Unitary elastic demand: change in price causes equal percentage change in demand.

Perfectly elastic demand: change in price causes infinite change in demand.

Factors affecting PED

- Availability of close substitutes – This is the main factor which influences the degree of PED. The existence of very similar products at a similar price would make demand elastic.
- The proportion of disposable income spent on the product – If the price of a product takes up a small proportion of income, demand is likely to be price inelastic. This is because a relatively large rise in price would not have much of an impact and so demand would be expected to fall by a smaller percentage.
- Whether the product is habit forming – If a product is habit forming, it will be relatively insensitive to price changes.
- Whether it is a luxury or a necessity – A luxury is likely to have elastic demand whereas a necessity is likely to have inelastic demand.
- Whether its purchase can be postponed or not – If its purchase cannot be delayed, demand will be inelastic.
- Time period – Demand tends to be more elastic over time as consumers have longer to recognise the price change and to find alternatives.

PED for the same products can vary between countries with, for instance, what is viewed as a necessity in one country being viewed as a luxury in another country and the availability of substitutes varying between countries.

Progress check C

Explain two factors that could make demand for a product more price inelastic.

Implications of PED for revenue and business decisions

If demand is inelastic, a rise in price will cause a rise in revenue and a fall in price will cause a fall in revenue.

In contrast, if demand is elastic, price and revenue will move in opposite directions.

Discovering that demand for its product is elastic, would usually indicate to a firm that close substitutes are available. This knowledge may make the firm reluctant to raise its price, as it will expect to lose a significant proportion of its sales. It may, however, be tempted to lower its price, as it may be able to capture more of the market.

Firms may try to make their products seem unique through, for instance, advertising and brand names. If successful, this would make demand more inelastic, giving firms greater market power.

Firms may estimate PED figures by examining past changes in price and demand and by carrying out market research. In basing their business decisions on PED estimates, however, firms have to take care. This is because the figures are only estimates and PED can change over time.

2.03 Income elasticity of demand

Definition

Income elasticity of demand (YED) is a measure of the responsiveness of demand to a change in income. It is calculated using the following formula:

$$\text{YED} = \frac{\text{percentage change in quantity demanded}}{\text{percentage change in income}}$$

This can be abbreviated to: YED = %ΔQD/%ΔY.

TERM

Income elasticity of demand (YED): measure of the responsiveness of demand to a change in income.

Range of income elasticities of demand

If YED is greater than one, demand is income elastic. This means that a change in income will cause a greater percentage change in demand. A YED of less than one, in contrast, means demand is income inelastic. In this case, a change in income will result in a smaller percentage change in demand. If YED is zero, a change in income will have no impact on demand.

Positive, negative and zero YED

Most products have positive income elasticity of demand. This means that a rise in income will result in an increase in demand and a fall in income will cause a fall in demand (see Figure 2.04). So common is this positive relationship, that products which exhibit it are known as normal goods. One category of normal goods is superior or luxury goods. These products have positive YED greater than one.

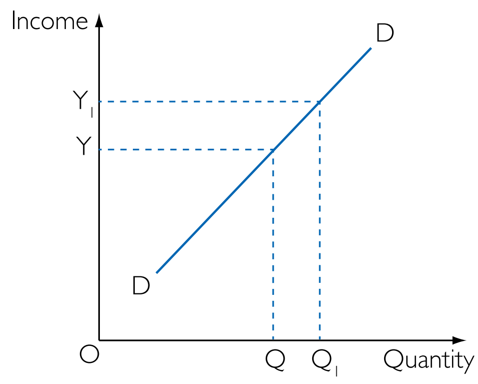


Figure 2.04

Products which have negative YED are called inferior goods. In the case of these products, income and demand are inversely related – an increase in income will cause a decrease in demand and a decrease in income will cause an increase in demand (see Figure 2.05) as shown below.

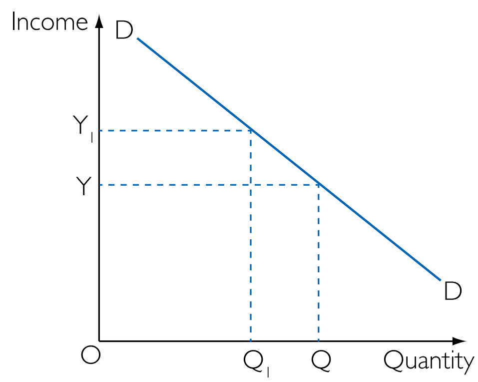


Figure 2.05

Over a certain income range, income elasticity of demand may be zero. For example, if a person's income rises from $30,000 to $35,000, she may not buy any more toothpaste than before.

Factors affecting YED

Products which have substitutes of a higher quality and a higher price are likely to be inferior goods. Expensive and desirable products may have positive income elasticity greater than one.

Progress check D

In most countries, services have an income elasticity of demand which is both positive and greater than one. Explain what this means.

Implications of YED for revenue and business decisions

As income usually rises, firms are likely to want to produce mainly normal goods. Producing a few inferior goods may protect firms from the risk of a recession; but usually the fear of the consumer finding out that they are making inferior goods will either stop the firms from producing them or will result in them trying to change their nature. To achieve the latter, firms may try to convince consumers that the products have, for instance, health benefits.

2.04 Cross elasticity of demand

Definition

Cross elasticity of demand (XED) is a measure of the responsiveness of demand for one product to a change in the price of another product. It is calculated using the following formula:

$$\text{XED} = \frac{\text{percentage change in the quantity demanded for another product}}{\text{percentage change in the price of one product}}$$

This can be abbreviated to:
XED = %ΔQD of Product A/%ΔP of Product B.

TERM

Cross elasticity of demand (XED): measure of the responsiveness of demand for one product to a change in the price of another product.

Positive, negative and zero cross elasticities of demand

Positive cross elasticity of demand means that a rise in the price of one product will result in an increase in demand for the other product. Similarly, a fall in the price of one product will cause demand for the other product to decrease. This is the case with substitutes (see Figure 2.06).

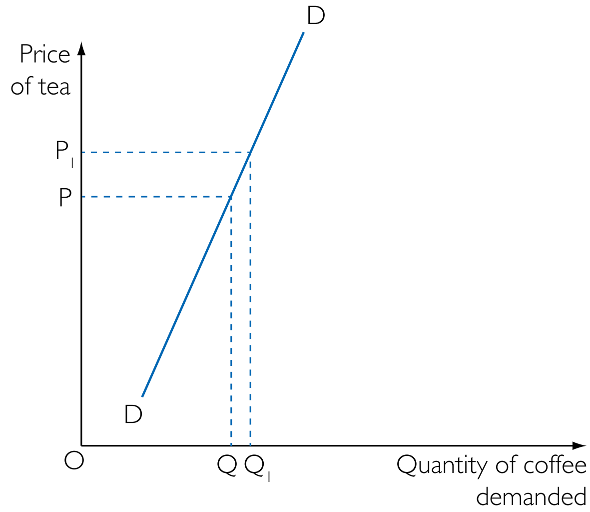


Figure 2.06

Negative cross elasticity of demand occurs when the change in the price of one product results in a change in the opposite direction of demand for the other product. Complements have negative XED. For instance, a rise in the price of PCs may result in a decrease in demand for printers, which are bought to be used with PCs (see Figure 2.07).

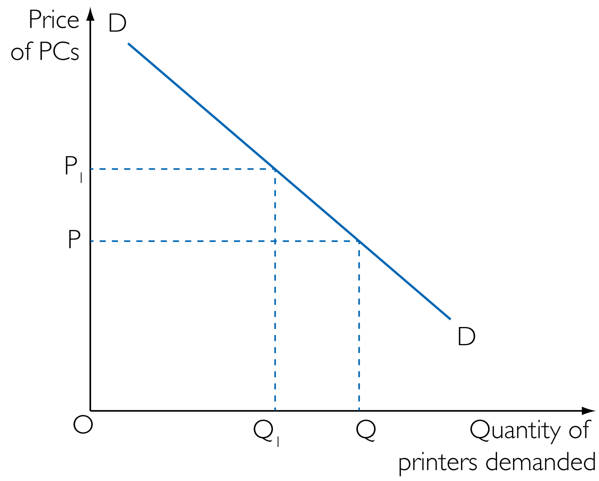


Figure 2.07

Zero cross elasticity of demand means that a change in the price of one product has no influence on demand for the other product. In this case the products are independent of each other.

Factors affecting XED

- The closer two products are as substitutes, the higher the positive XED figure will be.
- The higher the negative XED figure is, the closer the two products are as complements.

Progress check E

How does the cross elasticity of demand between models of car and petrol differ from the cross elasticity of demand between one model and another model of cars?

Implications of XED for revenue and business decisions

Firms have to be aware of the extent to which their products have close substitutes. The existence of close substitutes provides both a threat and a challenge for a firm. It has to be aware that raising its price may lose some of its customers. It may, however, be able to attract customers away from rivals by lowering price.

Knowledge about the existence of complements can help a firm to increase its revenue. A firm may offer one product at a lower price if it is purchased with a more expensive complement. For instance, a firm may seek to sell more TVs by offering to sell a CD player at a reduced price with every TV purchased.

Revision activity A

Data on a firm producing wrapping paper	
Luxury wrapping paper	Standard wrapping paper
PED = –0.5	PED = –2.0
YED = 2.5	YED = 0.5
XED in relation to rival brand = 0.2	XED in relation to rival brand = 1.5
XED in relation to own brand of luxury gift tags = –0.1	XED in relation to own brand of standard gift tags = –2.0

a Why might the PED figures seem to be wrong, but why might they be right?

b What should the firm do to the price of each of its products to raise revenue?

c What should the firm do to the price of each type of gift tags?

d In the long run, which type of wrapping paper should the firm specialise in?

2.05 Supply

Definition

Supply is the ability and willingness to sell a product.

Supply is not the same thing as production. A firm may, for example, produce 8,000 cars in a month but if the price has fallen, it may only offer 5,000 for sale. It may store the other 3,000 waiting for the price to rise.

Individual and market supply

Individual supply is the amount a firm is willing and able to sell at each and every price. A supply curve can be plotted to show how much an individual firm would be prepared to sell at different prices. A supply curve is drawn from a supply schedule. Price and supply are directly related.

A **market supply** curve shows the total supply for a product. The market supply is found by adding up the amount supplied by individual firms at different prices.

TERMS

Individual supply: the amount a firm is willing to sell at each and every price.

Market supply: the total supply of a product.

Factors that affect supply

Among the factors that affect supply are:

- price – As mentioned above a rise in price would be expected to cause a rise in supply. The higher price will provide a greater incentive to produce the product and will provide revenue to cover the extra costs involved in producing more.
- costs of production – An increase in costs of production, such as wages, will cause a decrease in supply.
- advances in technology – These are likely to increase the speed and ease of production. They are also likely to lower costs of production and so result in a higher supply.
- indirect taxes – The imposition of indirect taxes adds an extra cost on firms and so reduce supply.

- subsidies – A subsidy given to a producer is the equivalent of a fall in the cost of production and causes an increase in supply.
- weather conditions and diseases – A period of bad weather or a disease may cause a decrease in the supply of agricultural products.

Progress check F

Explain three factors that could increase the supply of rice in a country.

Movements along and shifts in supply curves

A movement along a supply curve can only be caused by a change in the price of the product itself. A rise in price will cause an extension in supply. This movement can also be referred to as a decrease in quantity supplied (see Figure 2.08).

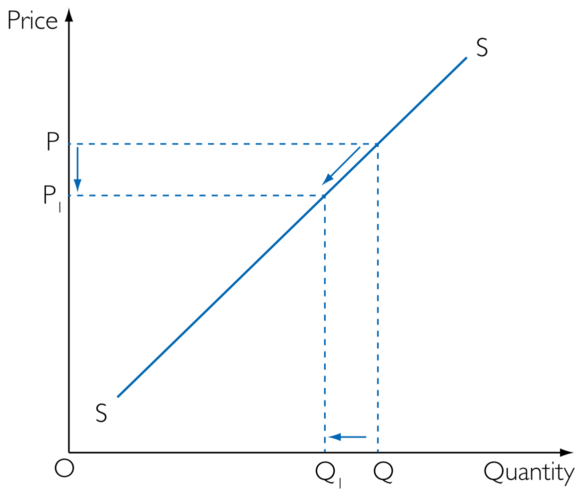


Figure 2.08

A change in any influence on the supply of a product other than its own price will result in new quantities being supplied at each and every price. As a result, the supply curve will shift its position. A shift to the right of the supply curve is called an increase in supply. Higher quantities are supplied at each and every price (see Figure 2.09).

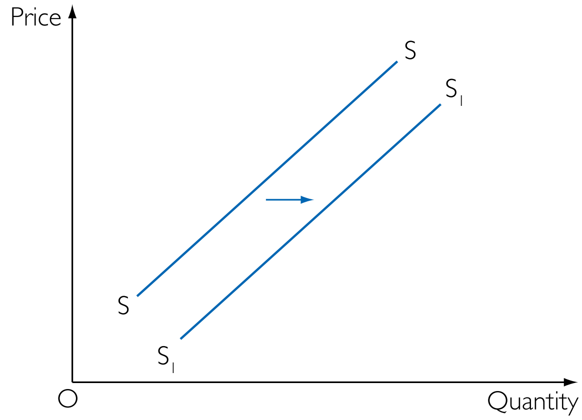


Figure 2.09

A decrease in supply with lower quantities being supplied at each and every price is illustrated by a shift to the left of the supply curve.

2.06 Price elasticity of supply

Definition

Price elasticity of supply (PES) is a measure of the responsiveness of supply to a change in the price of the product. It is calculated by using the formula below:

$$PES = \frac{\text{percentage change in quantity supplied}}{\text{percentage change in price}}$$

This can be abbreviated to: PED = %ΔQS/%ΔP.

TERM

Price elasticity of supply (PES): measure of the responsiveness of supply to a change in the price of a product.

Range of price elasticities of supply

As price and supply are directly related, PES is a positive figure. A PES figure greater than one and less than infinity means that supply is elastic, with a change in price causing a greater percentage change in quantity supplied.

A PES figure of less than one and greater than zero indicates inelastic supply. In this case, supply is not very responsive to a change in price, with a change in price resulting in a smaller percentage change in quantity supplied.

Supply may also be perfectly inelastic, unitary elastic and perfectly elastic. Perfectly inelastic supply means that a change in price has no effect on the quantity supplied. Unitary elasticity occurs when a change in price causes an equal percentage change in supply. Perfectly elastic supply means that a change in price will cause an infinite change in quantity supplied (see Figure 2.10).

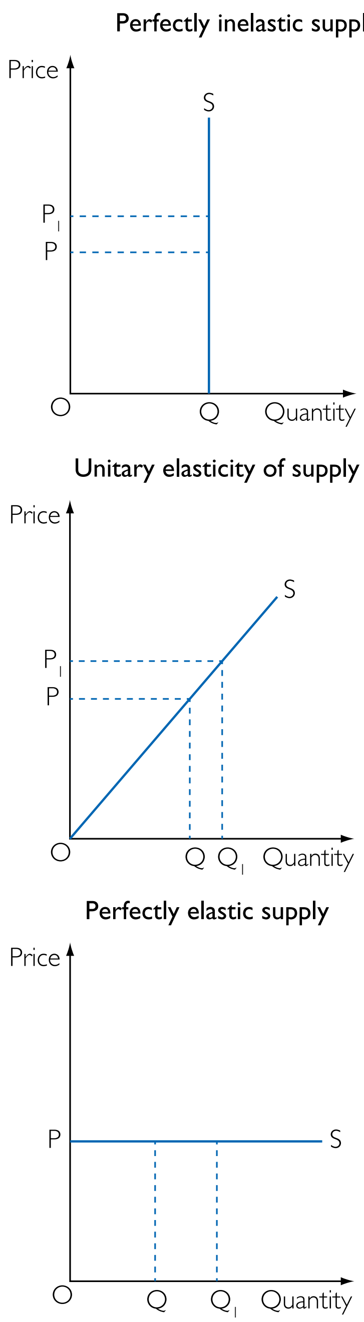


Figure 2.10

Factors that influence PES

The main factors that influence PES are whether the product can be stored, the time it takes to produce it and time itself. A product will have an elastic supply if it is non-perishable, can be stored at low cost, and is quick to produce. In this case, supply can be easily adjusted to changes in price.

Over time the supply of most products becomes more elastic as there is more opportunity to make adjustments to the factors of production being employed.

The supply of manufactured products is usually more elastic than agricultural products. Plants take time to grow and livestock to mature.

Firms benefit from making the supply more elastic. Their profits are likely to be higher if they can easily and quickly raise the quality supplied when the price rises and can easily withdraw supplies from the market when price falls.

Revision activity B

A rise in the price of a particular model of car from $12,000 to $15,000 results in an extension in supply from 500 to 600 a week.

a Calculate the price elasticity of supply.

b Is supply elastic or inelastic?

c Would the car firm want to change its price elasticity supply?

d If the car firm does want to change its PES, how could it achieve this?

TIP

In calculating any type of elasticity, remember that it is the variable that is causing the change that is at the bottom of the equation (the denominator) and the variable that is being influenced that appears on the top (the numerator).

2.07 Demand and supply analysis

Equilibrium price and disequilibrium

A market is in equilibrium when demand and supply are equal. In this situation, there will be no reason for price or quantity to change. The market will clear, with no surplus or shortage as shown in Figure 2.11.

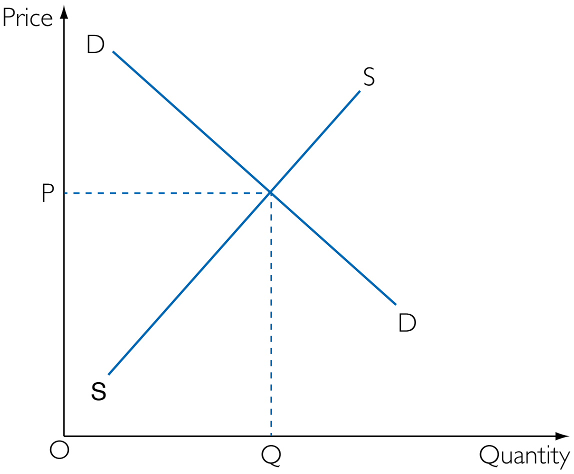


Figure 2.11

Disequilibrium occurs when demand and supply are not equal. If demand exceeds supply, a shortage will occur. This shortage is likely to result in price rising until demand and supply are again equal (see Figure 2.12).

In contrast, if supply is greater than demand, a surplus will result. The surplus will put downward pressure on price until equilibrium is restored, as shown in Figure 2.13.

TERMS

Equilibrium: when demand and supply are equal.

Disequilibrium: when demand and supply are not equal.

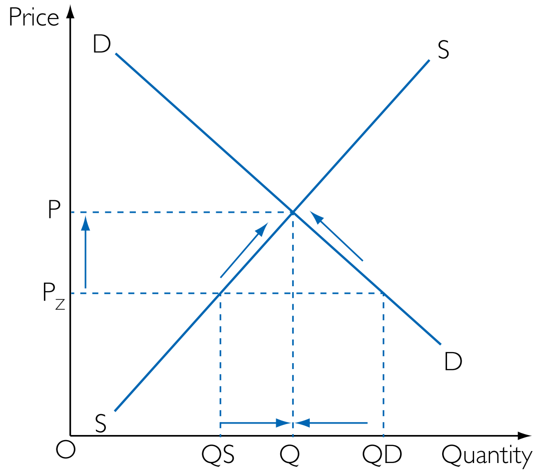


Figure 2.12

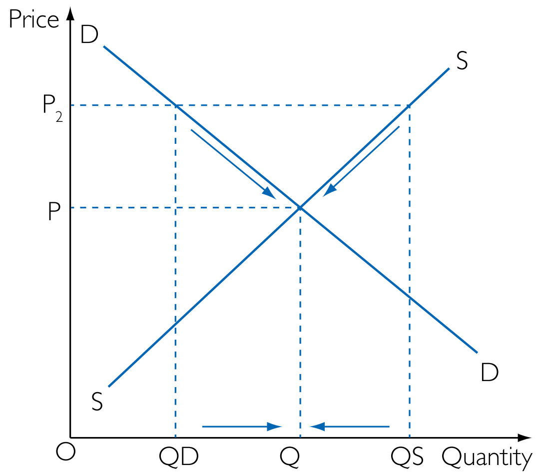


Figure 2.13

Effects of changes in supply and demand on equilibrium price and quantity

An increase in demand will result in a rise in price and an extension in supply. A decrease in demand will cause a fall in price and a contraction in supply.

An increase in supply will result in a fall in price and an extension in demand. A decrease in supply will push up the price which, in turn, will cause a contraction in demand.

Revision activity C

In each of the following four cases, draw a demand and supply diagram and explain the effect on the market for newspapers of:

a an increase in the cost of paper.

b a decrease in the quality of internet news websites.

c free gifts provided by newspapers.

d the introduction of a more efficient printing process.

Applications of demand and supply

Demand and supply analysis enables economists to make predictions about changes in market conditions.

Governments apply demand and supply analysis to consider the effects of taxes and subsidies. For instance, the imposition of an indirect tax effectively increases firms' costs of production. This will cause supply to decrease. The decrease in supply will cause price to rise and demand to contract. How much the price rises and the quantity bought and sold falls, will be influenced by the size of the tax and PED and PES.

Firms use demand and supply analysis to decide on their production and prices.

TIP

In analysing changes in demand and supply, it is important to get the order of events correct. Explain whether it is a change in demand or in supply that has started the move away from the initial equilibrium. Then explain what happened to price and finally how demand or supply has responded to the change in price.

Demand and supply relationships

Complements are said to be in joint demand. The two products are bought to be used together.

Substitutes are sometimes said to be in alternative demand. A person may switch from one product to a rival product.

Some products are in joint supply. This means that they are produced together e.g. lamb and wool. Most products are, however, in competitive supply. This means that if a firm produces more of one product, it will produce less of another.

Progress check G

A firm produces both blankets and duvets. Explain what effect a fall in the price of blankets is likely to have on its supply of blankets and duvets.

2.08 The role of the price mechanism

Prices allow consumers to transmit their preferences to producers. They signal to producers changes in their demand. If consumers want more of a product and are prepared to pay for it, the price of the product will rise. A higher price will provide an incentive for firms to respond by supplying more of the product.

Changes in prices reallocate resources away from producing products that are falling in demand towards those that are increasing in demand. If demand exceeds supply, price will rise and the products will be sold to those who can afford the higher price. Changes in price should ensure that the market clears with no products being unsold and no consumers who are willing and able to pay the market price, unable to purchase it.

Progress check H

How does the price mechanism ration products?

2.09 Consumer surplus and producer surplus

Definition

Consumer surplus is the difference between what consumers are willing to pay for a product and the amount they actually do. For instance, one person may be prepared to pay $20, another person $18, a third

$15 and a fourth $11. If the actual price charged is $11, the first person would enjoy $9 consumer surplus, the second person $7, the third $4 and the fourth zero. On a diagram, consumer surplus is the area above the price line and below the demand curve (see Figure 2.14).

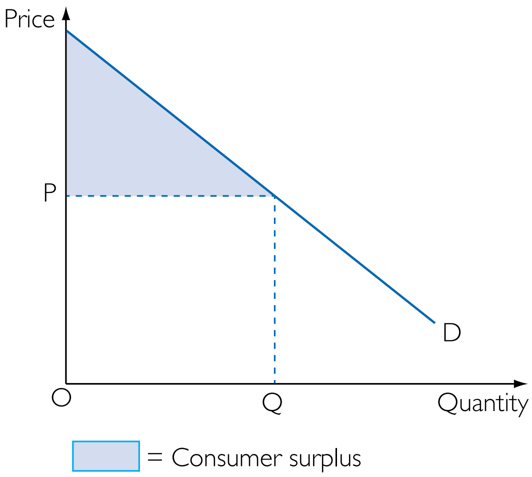


Figure 2.14

Producer surplus is the difference between what firms are willing and able to sell a product for and what they are actually paid. For instance, a firm may have been prepared to accept $9 for a product but if it is paid $12, it will have received $3 in producer surplus. On a diagram, producer surplus is the area above the supply curve and below the price line (see Figure 2.15).

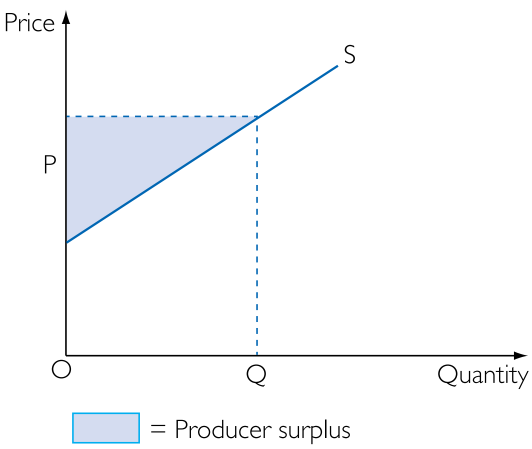


Figure 2.15

The significance of consumer surplus and producer surplus

Consumer surplus plus producer surplus (total surplus) is maximised when a market is in equilibrium as shown in Figure 2.16. The equilibrium outcome is an efficient outcome.

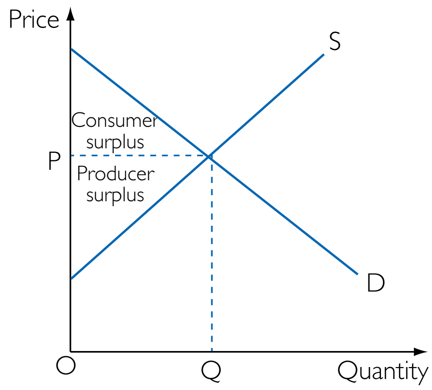


Figure 2.16

If the market is in disequilibrium total surplus will not be maximised. Figure 2.17 shows that at the disequilibrium price of PW total surplus is PWABC. Raising price to PX and increasing the quantity traded to QX would increase total surplus by BCD.

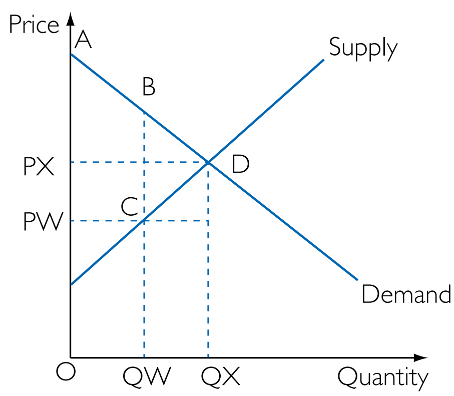


Figure 2.17

Progress check 1

Why does the amount of consumer surplus received from the purchase of a product differ between consumers?

TERMS

Consumer surplus: the difference between the price consumers are willing to pay for a product and the price they actually pay.

Producer surplus: the difference between the price firms are willing to accept for a product and the price they actually receive.

The effect on consumer surplus and producer surplus of changes in equilibrium price and quantity

An increase in supply will reduce price, increase the quantity traded and increase consumer surplus and producer surplus.

An increase in demand will raise price, increase the quantity traded and increase consumer surplus and producer surplus.

More mutually beneficial transactions make society better off and so increases total surplus.

A decrease in supply will raise price, reduce the quantity traded and decrease consumer surplus and producer surplus.

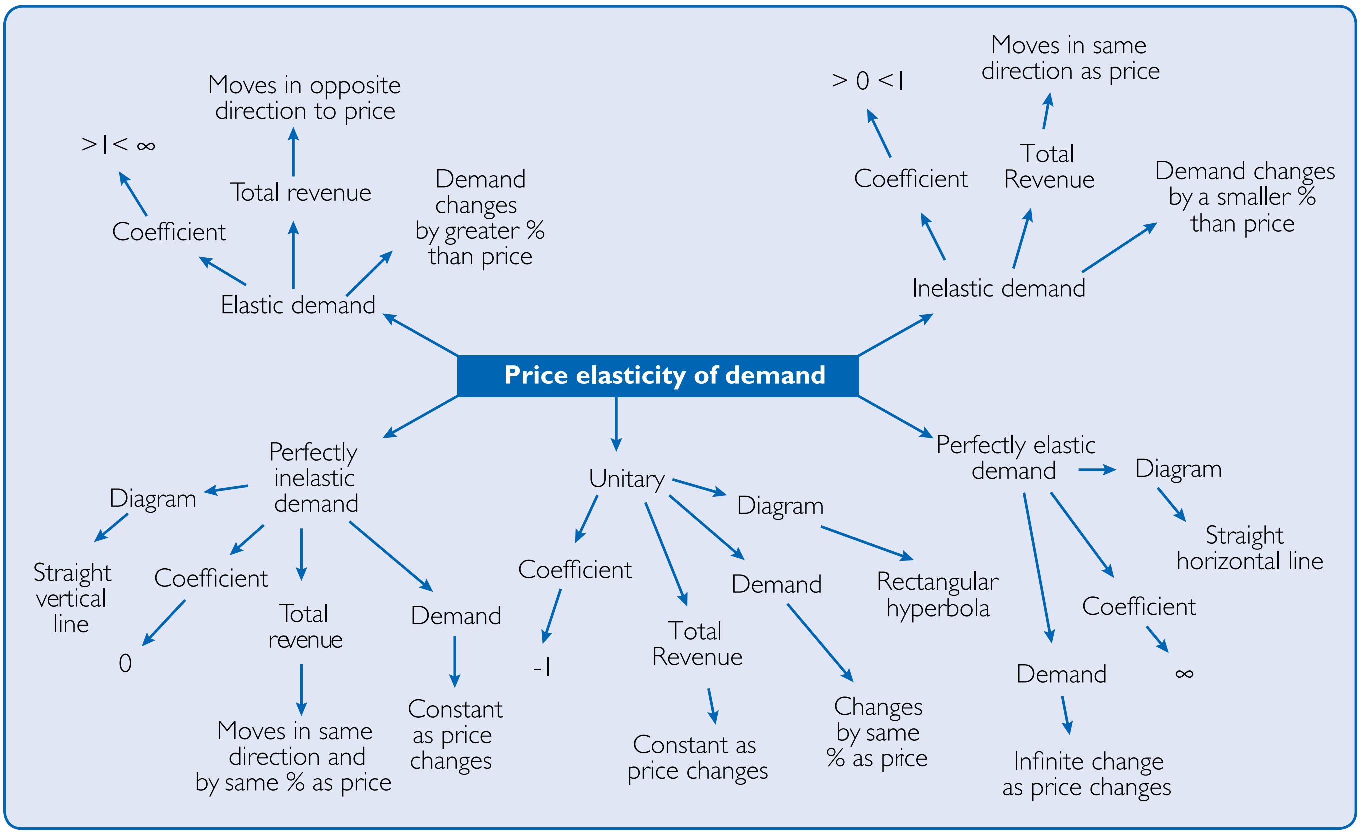
A decrease in demand will reduce price, lower the quantity traded and decrease consumer surplus and producer surplus.

A decrease in the quantity traded lowers total surplus.

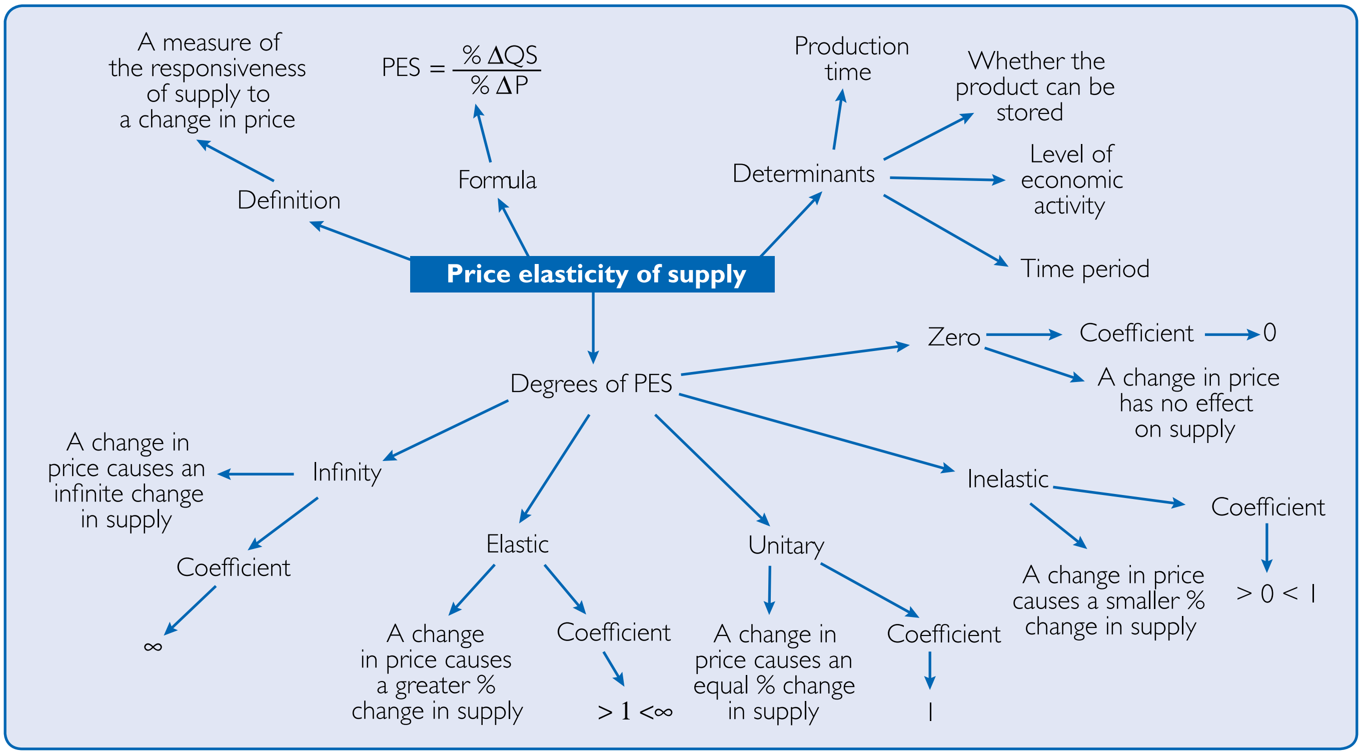
TIP

The concepts of consumer surplus and producer surplus can be used to assess the impact of changes in markets on economic welfare and to compare the performance of different market structures.

Mind maps



Mind map 2.01: Price elasticity of demand



Mind map 2.02: Price elasticity of supply

Exam-style Questions

Multiple Choice Questions

1 What would cause the demand curve for cinema tickets to shift to the right?

- **A** A fall in the price of cinema tickets
- **B** A rise in the price of transport to cinemas
- **C** The removal of a tax on cinema tickets
- **D** The release of a number of very popular films

2 A product falls in price by 8% and total expenditure remains unchanged. What type of price elasticity of demand does the product possess?

- **A** Elastic
- **B** Perfectly elastic
- **C** Perfectly inelastic
- **D** Unitary

3 The price of a product is initially $10 and 200 units are sold per day. The price elasticity of demand for the product is –0.8. By how much would the price have to fall to raise sales by 80 units?

A $1 **B** $3.2 **C** $5 **D** $8

4 Demand for a product is price inelastic. What effect will a rise in price have on demand and total revenue?

	Demand	Total revenue
A	Contract	Decrease
B	Contract	Increase
C	Remain unchanged	Decrease
D	Remain unchanged	Increase

5 What is likely to cause a high price elasticity of demand for a product?

- **A** The product is habit forming.
- **B** Expenditure on the product forms a small proportion of total spending.
- **C** The product is considered to be a necessity.
- **D** There are close substitutes to the product.

6

Price of Product X ($)	Quantity demanded of Product X	Quantity demanded of Product Y
10	200	500
15	180	600
20	120	800

Table 2.01

What is the cross elasticity of demand for Product Y when the price of Product X rises from $10 to $15?

A 0.2 B 0.4 C 0.6 D 0.8

7 What does a cross elasticity of demand figure of –0.2 indicate about the relationship between two products?

A Close complements

B Distant complements

C Close substitutes

D Distant substitutes

8 The price elasticity of supply of a product is 0.8. Initially the price of the product is $20 and the quantity sold is 2,000. The price then rises to $30. What will now be the firm's revenue?

A $36,000 C $84,000

B $40,000 D $108,000

9 Figure 2.18 shows the demand and supply curves of laptops. The initial equilibrium position is X.

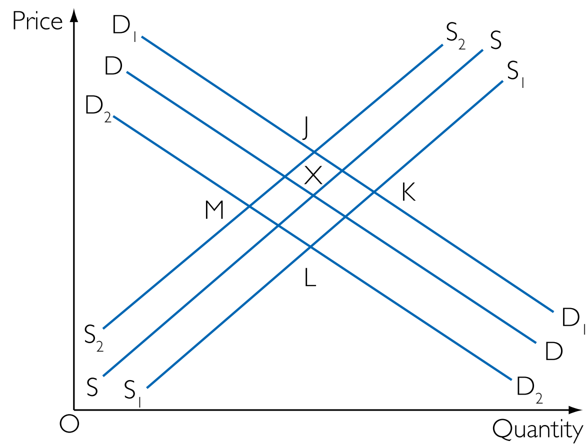


Figure 2.18

What will be the new equilibrium position if incomes rise and advances in technology reduce the cost of producing laptops?

A J B K C L D M

10 Figure 2.19 shows the initial demand and supply curves of a product. The supply curve then shifts to SI. What is the change in consumer surplus?

A XYZ C PP_1XZ

B PWZ D Q_1YZQ

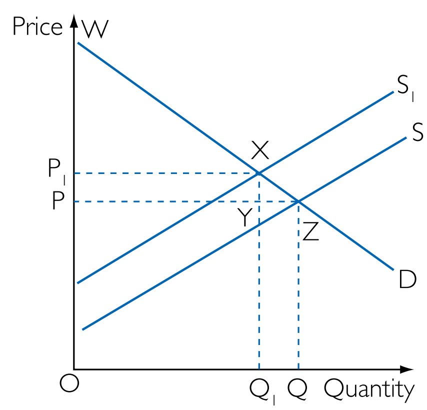


Figure 2.19

Data Response Question

Fluctuations in agricultural markets

Prices of agricultural products can fluctuate significantly. Two recent examples are changes in the prices of cotton and spices.

In 2015 the price of cotton fluctuated. It fell in the middle of the year. This was due to a bumper harvest in India caused by good weather conditions and due to China selling some of its stockpile of cotton. The price started to rise towards the end of the year.

Output of cotton in 2015 (millions of bales)	
China	30
India	30
USA	16
Pakistan	11
Brazil	7
World	120

Table 2.02

Spices are also produced by a number of countries that produce cotton. Pakistan, for instance, is a major producer of onions, garlic, chillies and coriander. The price of spices rose in 2015 because an increasing number of people, not only in Asia but also in the US and Europe, were buying spices to use in their cooking. Demand for spices also rose because of their increased use of spices in health products and in natural colouring.

The higher prices in 2016 were encouraging more farmers to devote more of their land to spices but it was expected that it would take some time for this to increase the quantity supplied. For instance, it takes five years to grow nutmeg.

a What was Pakistan's share of the global cotton market in 2015? [1]

b What might cause a fall in the price of cotton? [2]

c What effect would the rise in the price of spices have on the price of natural colouring? [2]

d Does the information suggest that the supply of spices is elastic or inelastic? Explain your answer. [3]

e Analyse, with a demand and supply diagram, why the price of spices rose in 2015. [6]

f Discuss whether farmers always benefit from a rise in the price of their products. [6]

Essay Questions

1 a Explain what cross elasticity of demand figures indicate about the relationship between products. [8]

b Discuss whether a fall in the price of a product will always be accompanied by a reduction in the quantity traded of that product. [12]

2 a Explain why price moves towards equilibrium in a free market and why the equilibrium price may change over time. [8]

b Discuss whether all firms in a country will welcome a change in people's income. [12]

REVISION TIP

Remember the main purpose of revision in economics is not to learn facts. It is to develop your skills, including your ability to make links between causes and effects, problems and policies, theory and real world examples. For instance, you should recognise that a rise in aggregate demand would be expected to raise real GDP and lower unemployment. You also need to develop the ability to think critically about the sequence of events and to question the extent to which the events will happen and, indeed, whether they will happen at all. If you start to think like an economist, you will enjoy the subject more and you will perform better in examinations.

Chapter 3

Government microeconomic intervention

Learning summary

After you have studied this chapter, you should be able to:

- define maximum price and minimum price
- analyse the effect of a maximum and minimum price on the market
- explain price stabilisation
- analyse the impact and incidence of taxes
- distinguish between specific and ad valorem taxes
- explain average and marginal rates of taxes
- distinguish between proportional, progressive and regressive taxes
- explain average and marginal rates of taxation
- outline the canons of taxation
- analyse the impact and incidence of subsidies
- define transfer payments
- explain the impact of transfer payments on the market
- describe how direct provision influences a market
- define nationalisation and privatisation
- analyse the effects of nationalisation and privatisation on the market

3.01 Price controls

Maximum price controls

A maximum price is a price ceiling. The price is not allowed to go above this limit, although it can be below it.

To have any effect, a maximum price has to be set below the equilibrium price.

A government may impose a maximum price on a product for a number of reasons. These include:

- encouraging consumption
- to make it more affordable for the poor
- to counterbalance the power of monopolies

A maximum price can result in shortages as shown in Figure 3.01. Demand exceeds supply, giving rise to a shortage. Some willing buyers will be unable to purchase the product.

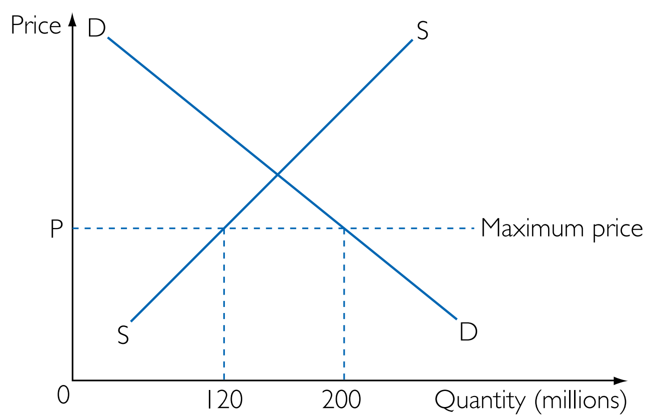


Figure 3.01

A rationing system may have to be introduced with a maximum price. There is a risk that a maximum price will result in a shadow market developing with producers selling the product illegally at higher prices.

TERM

Price control: setting a maximum and minimum price for a good.

Minimum price controls

A minimum price is a price floor. The price is not allowed to go below this limit, although it can be above it.

A government may set a minimum price to discourage consumption of a product or to increase the income of producers.

To have any effect, a minimum price must be set above the equilibrium price.

Among the disadvantages of a minimum price are that a surplus will be created as shown in Figure 3.02. Some of the supply will be unsold.

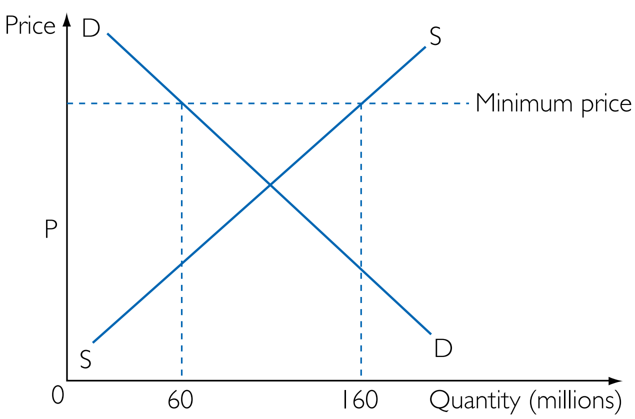


Figure 3.02

There will be costs involved in buying up the surplus to maintain the price and in storing the surplus. The higher price will make it less accessible to the poor.

TIP

Remember that to have any impact, a maximum price must be set below the market equilibrium price and a minimum price must be set above the market price.

3.02 Price stabilisation

A government may operate a buffer stock to stabilise the price of a metal, mineral or an agricultural product that is non-perishable. A buffer stock is a store of a commodity.

Buffer stock managers buy the commodity when market prices are threatening to push the price below the lower limit and sell it when market prices are threatening to raise the price above the upper limit. To ensure that buffer stock managers do not have to spend large amounts on storing the product, or run out of money buying the product, the price limits have to be set close to the long run equilibrium price.

Price stabilisation can encourage producers to plan ahead and invest in new production methods.

TERM

Price stabilisation: a policy measure designed to keep the price of a product at a constant level.

Progress check A

Operators of buffer stocks buy a commodity more often than they sell it. What does this indicate about where the intervention upper and lower price limits are set?

3.03 Taxes

Types of taxes

Taxes may be categorised in a number of ways:

- Direct and indirect taxes. Direct taxes are paid directly by the tax payers to the tax authorities. Direct taxes are taxes on income and wealth e.g. corporation tax, income tax and inheritance tax. Governments impose direct taxes to raise revenue, influence total demand and affect the distribution of income. Indirect taxes are paid to the tax authorities, not directly by consumers but by the firms and sellers of the products. They are taxes on spending such as VAT (value added tax) and GST (goods and services tax or general sales tax) and excise duty. Governments impose indirect taxes to raise revenue and to influence the products consumed and produced. A tax may be used to reduce consumption of a demerit good.

- **Progressive, proportional and regressive tax.** A progressive tax takes a higher percentage of the income of the rich, a proportional tax takes the same percentage and a regressive tax takes a smaller percentage.

TERMS

Direct tax: a tax on income and wealth e.g. income tax.

Indirect tax: taxes added onto the cost of goods and paid by sellers of the product, e.g. fuel, alcohol and cigarettes.

Progressive tax: a tax which takes a larger percentage of the income of the rich.

Proportional tax: taxes the same percentage of income as tax for all individuals.

Regressive tax: a tax which takes a larger percentage of the income of the poor.

Taxes: money paid by individuals to governments through spending (VAT, GST) and income (corporation tax, income tax, inheritance tax).

TIP

In assessing whether a tax is progressive, proportional or regressive – remember it is not the amount of the tax paid but the percentage of income paid in tax that is the determinant.

Average and marginal rates of tax

- The average tax rate is the percentage of a person's income paid in tax. It is tax paid/income: T/Y.
- The marginal tax rate is the percentage of extra income paid in tax. It is $\Delta T/\Delta Y$.
- In the case of a progressive tax, the marginal rate of tax is lower than the average tax rate when the tax is regressive. The marginal and average tax rates are the same in the case of a proportional tax.

Revision activity A

A country's income tax system allows a person to earn \$8,000 free of tax. Her income between \$8,000 and \$20,000 is taxed at 15%, her income between \$20,000 and \$40,000 is taxed at 30% and her income above \$40,000 is taxed at 50%. The woman earns \$54,000.

a How much taxable income does the woman have?

b How much tax does the woman pay?

c What is her average tax rate?

d What is her marginal tax rate?

e Is this tax system progressive, proportional or regressive?

The impact and incidence of taxes

The impact of a tax is concerned with how a tax affects a market and/or the economy. The imposition of an indirect tax on a product will add an additional cost to producers. Higher cost of production will cause a shift of the supply curve to the left. The decrease in supply will cause a rise in price and a contraction in demand. An increase in income tax may reduce consumer expenditure and output.

The incidence of a tax is concerned with who bears the burden of the tax. Some or all of an indirect tax may be passed from the producers on to the consumers. Consumers bear most of the tax the more price inelastic demand is and the more price elastic supply is. In this case, producers can pass most of the tax on in the form of a higher price, knowing that demand will not contract significantly. Producers bear more of the tax the more price elastic demand is and the more price inelastic supply is.

Specific and ad valorem taxes

A specific tax is the same charge whatever the price of the product. The imposition of a specific tax will cause a parallel shift of the supply curve to the left as shown in Figure 3.03.

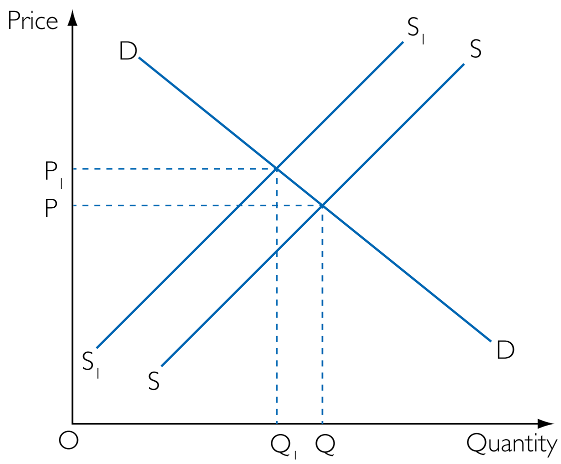


Figure 3.03

An ad valorem, that is percentage tax, will mean that the higher the total amount charged in tax the higher the price. An ad valorem tax will cause a non-parallel shift in the supply curve as shown in Figure 3.04.

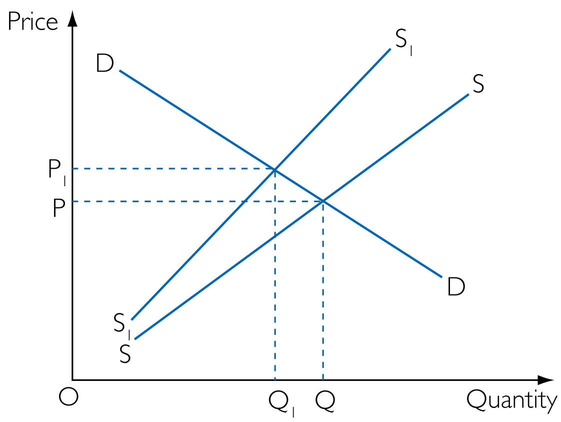


Figure 3.04

A tax may be placed on demerit goods which governments consider are over-consumed and over-produced. Taxing such products will raise the price and so reduce the quantity traded. This change in market activity may increase welfare. A tax will raise revenue and it works with the market, allowing the market to clear.

As it is difficult to measure the harmful effects of demerit goods, a tax may be set too high or too low. Among the other possible disadvantages of a tax are that it may make a domestic industry less competitive, may fall more heavily on the poor, may be politically unpopular, will be less effective when demand is inelastic, there is cost involved in collecting taxes and they may be inflationary.

Progress check B

In what way is the shift in the supply curve caused by the imposition of a specific tax and one caused by the imposition of an ad valorem tax the same and in what way is it different?

TIP

It is useful to give examples of taxes in your own country in assessing the effects of taxation.

Canons of taxation

The canons of taxation are the characteristics of a good tax. Adam Smith identified four qualities (certainty, convenience, economy and equity) and more have been added since his time. Among the qualities are:

- certainty – This means that taxpayers should know how much they have to pay and when, how and where they have to pay the tax.
- convenience – The tax should be easy and straightforward to pay and collect.
- economy – The tax should be cheap to administer and collect.
- equity – This is the idea that the tax should be fair. Economists have developed this criterion by distinguishing between horizontal and vertical equity. Horizontal equity involves people in the same circumstances paying the same amount of tax. Vertical equity involves the greatest burden being placed on those who are most able to pay the tax. Some economists also refer to equity based on the benefit principle. This is the idea that the amount of tax people should pay should be based on the benefits they receive from government spending.
- difficult to evade and avoid – It should be hard for people and firms to reduce their tax burdens by not declaring their taxable income or by other ways of tax avoidance.
- flexibility – The tax should be simple to change and should be adaptable to changing economic circumstances.

- avoidance or minimisation of disincentive effects – In practice, it is difficult to determine if increases in income tax will reduce the incentive to work. This is because whilst some workers may cut back their hours, others may work longer to maintain their net pay and a relatively high number may not be able to change the hours they work.

Progress check C

What is the difference between the tax base and the tax burden?

Subsidies

A subsidy is a payment by the government to consumers or producers to encourage the consumption and production of a product. A subsidy to consumers would be expected to increase demand, shifting the demand curve to the right. Subsidies to producers are more common than subsidies to consumers.

A subsidy to producers will shift the supply curve to the right, lower price and cause supply to extend. A specific subsidy will cause a parallel shift of the supply curve to the right whereas an ad valorem subsidy will cause a non-parallel shift. Figure 3.05 shows the effect of a specific subsidy.

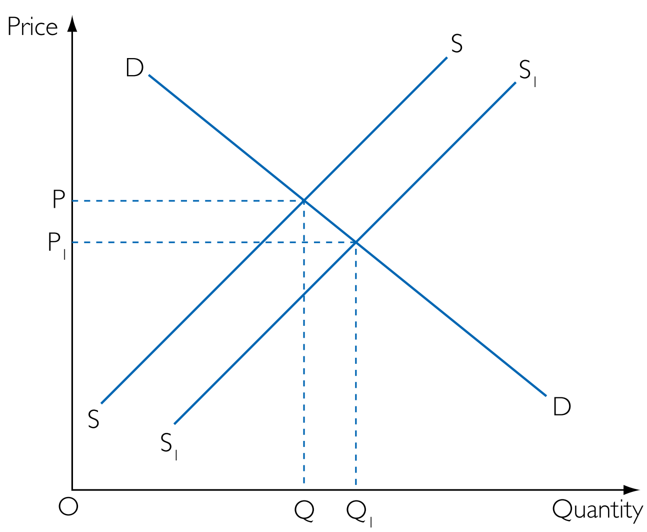


Figure 3.05

A subsidy may result in the quantity traded moving towards a level which benefits society more. For example, it may increase the amount of a merit good which is bought and sold. A subsidy works with the market and should lead to market clearing.

There is a risk that a subsidy may be set too low or too high. There is also a chance that not much of the subsidy may be passed on to consumers in the form of a lower price. The subsidy will be less effective if demand is inelastic, there may be a time lag involved before producers can alter supply and it will involve an opportunity cost as the government spending could have been used for another purpose.

TERM

Subsidies: payments by the government to consumers or producers to encourage production and consumption.

TIP

Demand and supply diagrams are a very useful tool in assessing and evaluating the impact of taxes and subsidies. They can enable you to explore the impact on price, quantity traded and how consumers, producers and the government are affected.

Transfer payments

Transfer payments are payments made by one person or group to another person or group not in return for a good or service. The most common form of transfer payments is money transferred by the government from taxpayers to the recipients of state benefits such as retirement pensions and unemployment benefits.

Transfer payments are, in effect, negative taxes. They add to some people's income without them producing goods or services in return.

Transfer payments redistribute purchasing power usually from the rich to the poor. Some state benefits increase the ability of the poor to buy basic necessities.

Revision activity B

Categorise the following into those that are transfer payments and those that are not transfer payments:

1. State scholarships
2. Pay of teachers
3. Pay of public sector workers
4. Child benefit
5. Housing benefit
6. Charitable donations
7. Pay of actors
8. Dividend payments.

Direct provision of goods and services

A government may provide both public and merit goods. In the case of public goods, a government has to finance their production. It may produce them through state owned enterprises, also called nationalised industries. It may also pay private sector firms to produce them. Merit goods may be provided free or at low prices to consumers to encourage their consumption and to make them accessible to all.

The quantity of goods and services which a government provides is influenced by two key factors. One is the extent to which it considers that free market forces will fail to produce an outcome that will benefit society. The other is its ability to raise tax revenue.

Progress check D

Explain three reasons why a government may provide free primary school education.

TERMS

Transfer payments: payments made by one person/group to another person/group which isn't in return for a good or service, e.g. benefits.

Direct provision: the government supplying a product to consumers.

Privatisation

Privatisation involves the transfer of assets and activities from the public sector to the private sector. It may take the form of denationalising an industry, the sale of government shares in private sector firms and contracting out services.

If a government is concerned that there is a risk that privatising an industry may not increase efficiency or may cause inequity, it may decide to regulate the industry. This may involve placing restrictions on price rises. For instance, a government may pass a law which limits price rises to a figure equivalent to a rise in the price level minus one or two percentage points. It may also seek to stop the firm or firms from using their market power to prevent the entry of new firms.

Arguments in favour of privatisation include increasing efficiency by reducing bureaucracy, increasing the profit motive and possibly increasing competition. Other arguments are to raise government revenue in the short term, to widen share ownership and to reduce government expenditure in the case of loss making state owned enterprises.

Arguments against privatisation include long term loss of government revenue in the case of profitable state owned enterprises, the possibility of abuse of market power if the industry becomes a private sector monopoly, private sector firms not taking into account costs and benefits to third parties and a general loss of government control over the economy.

TERM

Privatisation: transferring assets and activities from the public sector to the private sector.

Progress check E

What is the connection between privatisation and different economic systems?

Nationalisation

Nationalisation involves a government taking firms and industries into public ownership.

A government may operate the industry in the public interest with the aim being to maximise welfare rather than profits and with decisions being based on the full effects of consumption and production on society. It may, for instance, charge low prices for essential products.

Some industries may be more efficient with one producer (a natural monopoly). If such industries are in the private sector, the producers may exploit their market power by charging high prices.

Operating some industries may make it easier for a government to achieve its macroeconomic objectives, such as full employment and price stability.

A government may operate what are called strategic industries. These are industries that the government considers to be essential for the development and survival of the country, for example, the defence industry.

There are a number of arguments against nationalisation. The lack of a profit motive and lack of competition may result in a state owned enterprise becoming complacent. This, in turn, may lead to lower quality and a slower response to changes in consumer demand. State officials may lack business expertise and political interference may reduce efficiency.

TERM

Nationalisation: transferring assets and activities from the private sector to the public sector and placing them under government control.

TIP

It is useful to give examples of privatised and nationalised industries from your own country, and the extent and effect privatisation has had in your country, when assessing and evaluating privatisation and nationalisation.

Revision activity C

Identify, in each case, a government policy measure that could be used to correct the following examples of market failure.

a Price instability in the rice market

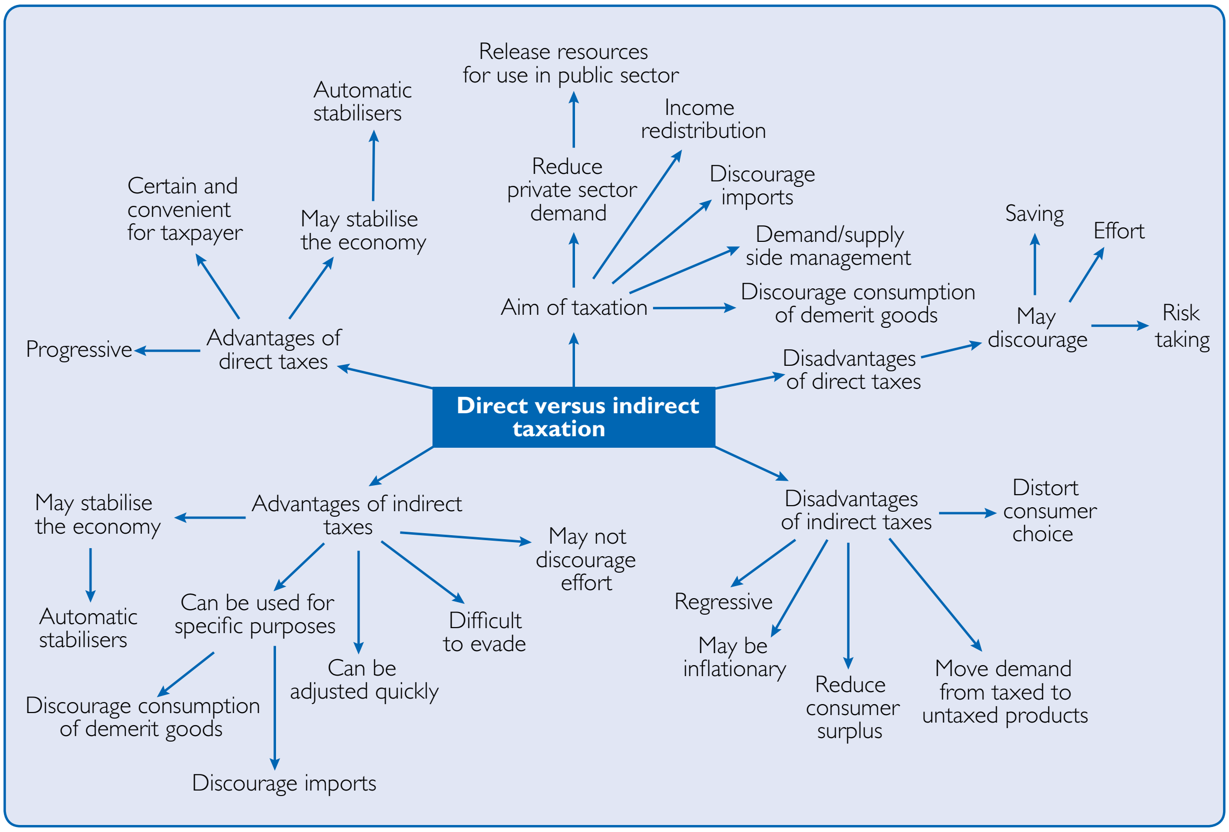
b The smoking of cigarettes causing health problems for non-smokers

c Old people not being able to afford a healthy diet

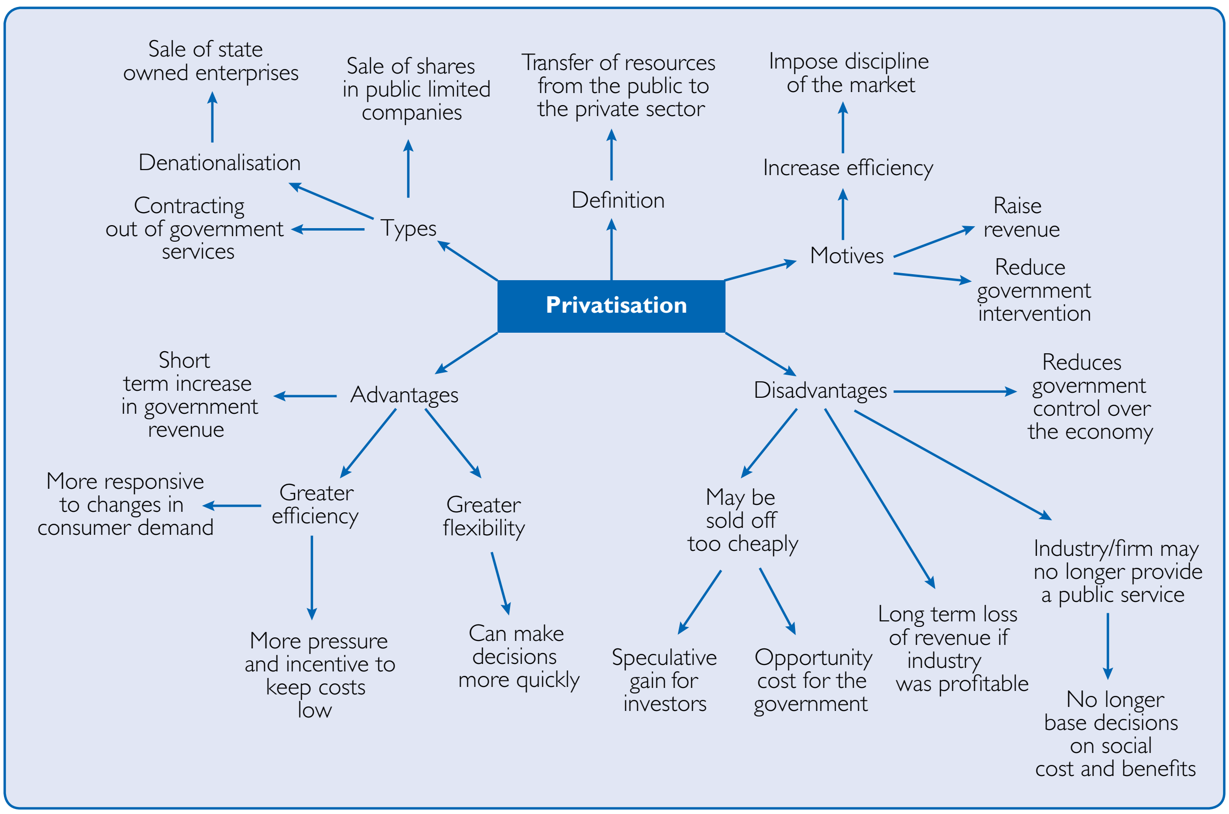
d A lack of provision of street lighting

e Under-consumption of dental treatment

Mind maps



Mind map 3.01: Direct versus indirect taxes



Mind map 3.02: Privatisation

Exam-style Questions

Multiple Choice Questions

1 The demand and supply schedule for a product is shown below.

Price ($)	Quantity demanded per week	Quantity supplied per week
1	3,000	1,800
2	2,800	2,100
3	2,500	2,500
4	2,100	3,200
5	1,500	4,000
6	700	5,000

The government sets a maximum price of $4 per unit. What will be the shortage of the product after four weeks?

A 0 B 1,100 C 2,500 D 4,400

2 A government decides that product X is a demerit good and product Y is a public good. Which policy measures is it likely to adopt in relation to the two products?

	Product X	Product Y
A	Tax	Directly provides
B	Subsidise	Impose a maximum price
C	Directly provides	Subsidise
D	Impose a maximum price	Tax

3 Figure 3.06 shows the market for an agricultural product. The government maintains a price of P_F by intervention buying. Which area shows the amount that government spends?

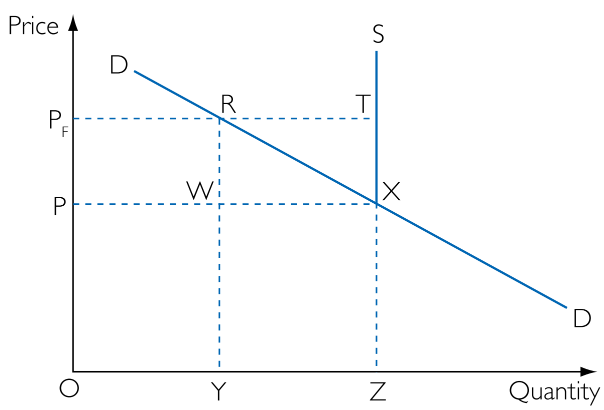


Figure 3.06

A RTX C OPFRY

B YRTZ D PPFTX

4 Figure 3.07 shows that the imposition of an indirect tax shifts the supply curve to the left. What is the total tax revenue received by the government?

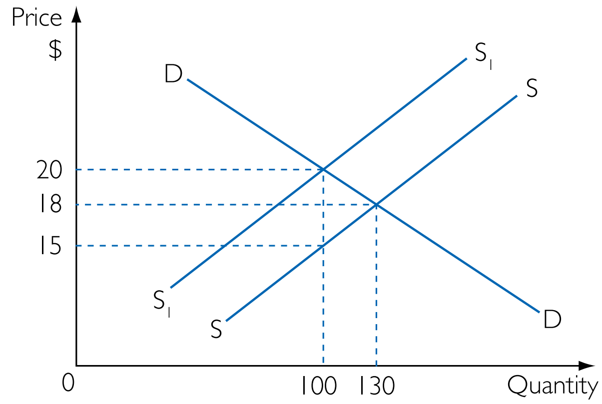


Figure 3.07

A $200 C $500

B $300 D $650

5 A government intervenes in a market and as a result the demand curve shifts to the right. Which government measure could cause this effect?

A A subsidy granted to consumers of the product

B A subsidy granted to producers of the product

C The imposition of a direct tax

D The imposition of an indirect tax

6 Which of the following is not a canon of taxation?

A Certainty

B Convenience

C Equity

D General acceptability

7 Which government policy measure would reduce the price of a product and increase the quantity traded in the market?

A The granting of a subsidy

B The imposition of a tax

C The setting of a maximum price

D The setting of a minimum price