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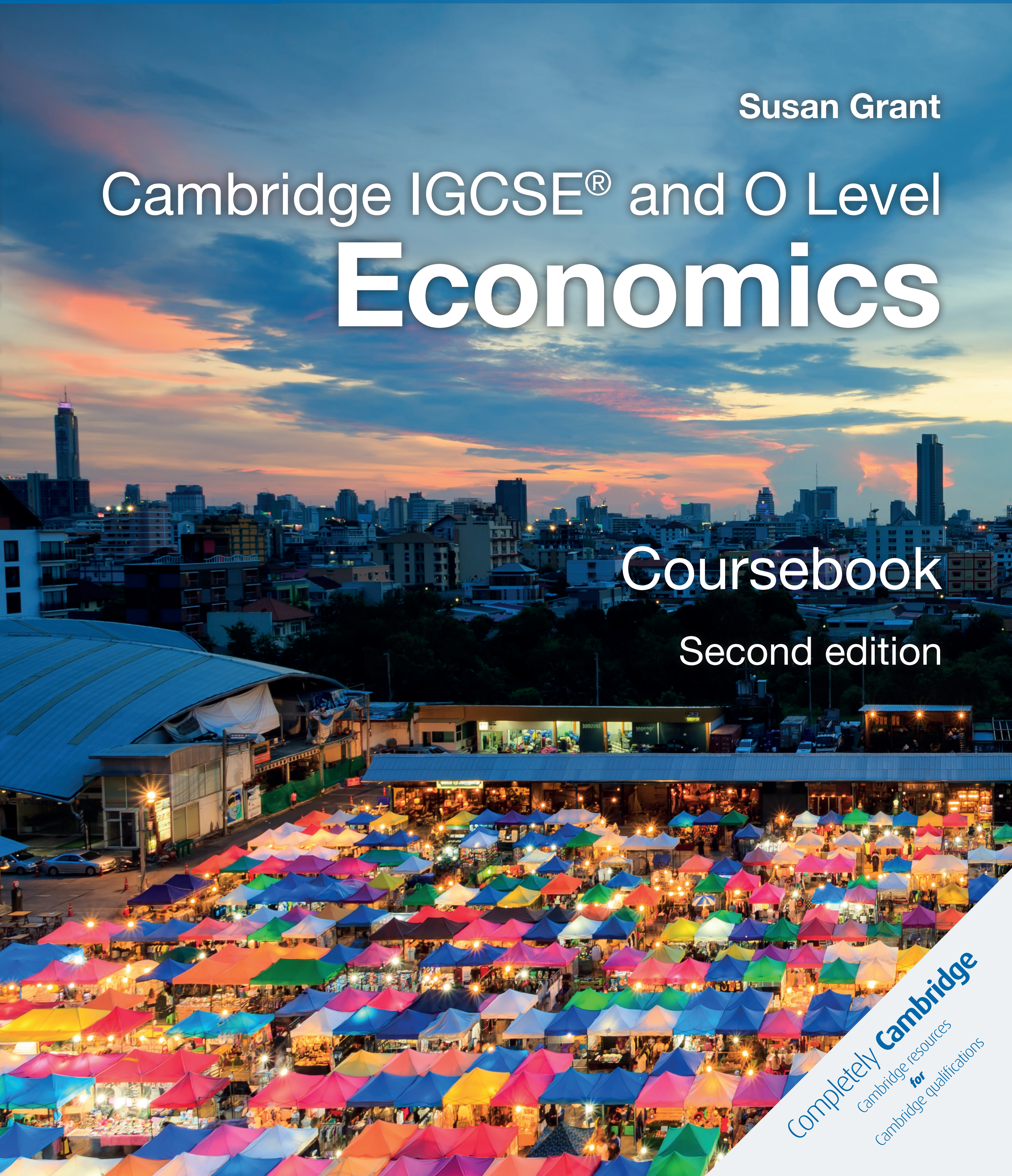

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Cambridge IGCSE® and O Level Economics

Coursebook

Second edition

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Contents

Chapter 15
Mixed economic system

Learning objectives

By the end of this chapter you will be able to:

- define a mixed economic system
- explore the effects of imposing maximum and minimum prices in product and labour and markets
- explain how a range of policy measures including indirect taxation, subsidies, regulation, privatisation, nationalisation and direct provision may be used by the government to correct market failure
- discuss how effective government intervention is in overcoming the drawbacks of a market economic system
- compare expenditures by public and private sectors

Introducing the topic

Why do governments in every country intervene in the economy and why do they do this to a different extent? Can a government actually improve the performance of an economy? Do you think the measures it can take will be successful?

KEY TERM

Mixed economic system: an economy in which both the private and public sectors play an important role.

15.1 A mixed economy

Governments intervene in a mixed economic system. A **mixed economic system** has a combination of the features of a planned and a market economic system. Some firms are privately owned (in the private sector) and some are government owned (in the public sector). Some prices are determined by the market forces of demand and supply, and some are set by the government. In this type of economic system, both consumers and the government influence what is produced.

A mixed economy seeks to gain the advantages of both a market and a planned economy, whilst avoiding their disadvantages. Having some products produced by the private sector may generate choice, increase efficiency and create incentives. Benefits may also be gained as a result of state intervention. They may include:

- The government should take into account all the costs and benefits that will arise from their decisions. This should mean, for example, that even if a railway line and station would not make a profit in the private sector, they would be maintained by the state if the benefit to society is greater than the cost.
- Government can also encourage the consumption of products that are more beneficial for consumers and others than they realise by granting subsidies, providing information or passing legislation.
- Government can discourage the consumption of products that are more harmful for consumers and others than they appreciate by imposing taxes on such products, providing information or passing legislation.
- Government can finance the production of products that cannot be charged for directly, for example, defence.
- Government can seek to prevent private sector firms from exploiting consumers by charging high prices.
- Government is likely to seek to make maximum use of resources, including labour, and hence try to ensure that those people willing and able to work can find jobs.
- There is a possibility that the government will plan ahead to a greater extent than private sector firms and hence may devote more of its resources to capital goods.
- Government can help vulnerable groups, ensuring that they have access to basic necessities. It can also create a more even distribution of income, by taxing the rich at a high rate.

The government in a mixed economy may encourage a healthy diet

TIP

Be careful not to confuse a market economic system and a mixed economic system. In a market economic system, it is the price mechanism which allocates resources. In a mixed economic system, it is both the price mechanism and the government which decide the use of resources.

There are, nevertheless, risks attached even to a mixed economic system and there is no guarantee that it will perform better than the other two types of systems. Market failure can occur and government intervention may make the situation worse.

15.2 Maximum and minimum prices

A government may limit firms' ability to set their own prices by imposing price controls. A government may set a maximum ceiling on the price in order to enable the poor to afford basic necessities. To have any impact, a maximum price has to be set below the equilibrium price. Figure 15.1 shows a maximum price being set at P_x below the equilibrium price of P. Some people will now be able to purchase the product at a lower price. The problem is, however, that a shortage will be created as at this lower price the quantity demanded exceeds the quantity supplied. To prevent the development of an illegal market in the product, some method of its allocation will have to be introduced. This might be through queuing, **rationing** or even a **lottery**.

KEY TERMS

Rationing: a limit on the amount that can be consumed.

Lottery: the drawing of tickets to decide who will get the products.

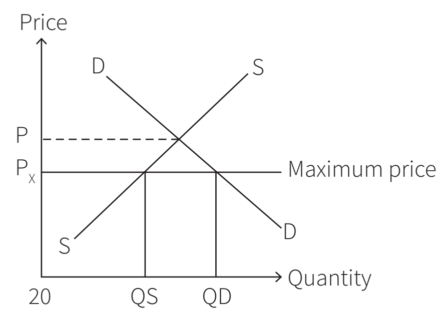


Fig. 15.1: The effect of setting a maximum price

To encourage production of a product a government may set a minimum price (P_x). This is a price floor, as it represents the lowest price producers are allowed to charge. To have an impact on a market, this will have to be set above the equilibrium price as shown in Figure 15.2. This time the problem created is a surplus, with the quantity supplied being greater than the quantity demanded. To prevent the price being driven down, the surplus will have to be bought up by the government or some other official body.

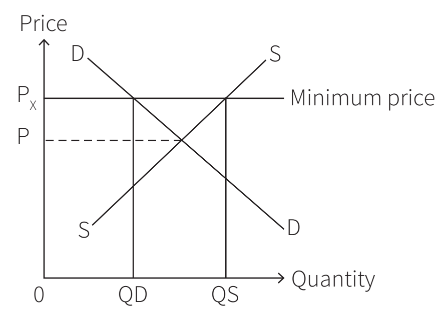


Fig. 15.2: The effect of setting a minimum price

LINK

Chapter 18.2 Wage determination and the reasons for differences in earnings (Government policies)

Chapter 33.3 Possible government policy measures to reduce poverty

Chapter 38.1 A foreign exchange rate (A fixed exchange rate)

A minimum price may also be set on the price of labour in the form of a minimum wage. The motives for such a move and its impact are discussed in Chapter 18. Minimum and maximum prices can also be used in exchange rate systems.

INDIVIDUAL ACTIVITY 1

China has recently removed price controls on most consumer goods. Their prices are now determined by the market. The prices of a number of services, however, remain under the control of the National Development Reform Commission – the chief economic planning body in the country. These include, water, oil, power, cable TV fees and parking fees for cars. The price controls are designed to protect people against monopolies and to keep inflation low. There is some evidence, however, that price controls are distorting the market and damaging the economy. Petrol stations in Southern China, for example, run out of oil quite regularly.

a How are prices determined by the market?

b How do price controls distort the market?

c Does the passage suggest that the Chinese National Development Reform Commission sets maximum or minimum prices on the products mentioned? Explain your answer.

15.3 Government measures to address market failure

Subsidies and indirect taxes

A government may subsidise a number of the country's firms. In contrast, all firms are likely to be affected by taxes in some way. Government tax firms' profits, which has an impact on the ability and willingness of firms to invest. Indirect taxes raise firms' costs of production, whilst income tax lowers consumers' disposable income, and as a result demand for firms' products.

LINK

Chapter 8.4 Conditions of supply (Causes of changes in supply)

The effect of a subsidy given to producers is influenced by the size of the subsidy and the price elasticity of demand. As explained in Chapter 8, a subsidy being an extra payment to producers, shifts the supply curve to the right. The larger the subsidy, the more increase there is in supply.

On a diagram, the size of the subsidy is represented by the distance between the two supply curves. In Figure 15.3, the subsidy per unit is SY. If all the subsidy is passed on to consumers, prices would fall to P_2. As demand is inelastic, producers have to pass on most of the subsidy to encourage an extension in demand. Price actually falls to P_1 with consumers receiving most of the benefit ($PSXP_1$) and the producers keeping the rest (P_1XYP_2).

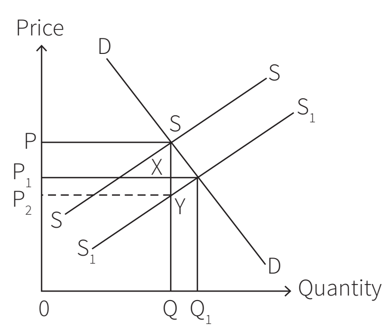


Fig. 15.3: The effect of a subsidy in the case of inelastic demand

If demand is elastic, a subsidy will have more impact on the quantity sold and less on the price. In this case, the producers can keep more of the subsidy as shown in Figure 15.4. In deciding whether to grant a subsidy, a government has to consider the opportunity cost as the money which could have been used for another purpose.

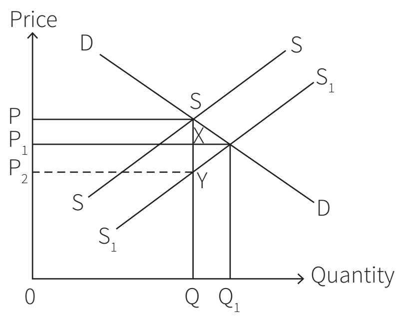


Fig. 15.4: The effect of a subsidy in the case of elastic demand

The impact of a tax is again influenced by the size of the tax and the price elasticity of demand. The higher the tax, the greater is its impact. A tax on a product with inelastic demand would have a greater effect on price than the quantity sold. In the case of a product with elastic demand, it is the other way round.

If a government wants to raise revenue, it should tax products with inelastic demand. This is because the quantity sold will not fall by much. For example, a tax of $2 per product may be placed on a product that initially has sales of 2000 a day. If the tax causes sales to fall to 1800, the government will receive $3600 in revenue. However, if the demand had been elastic and sales had fallen to 900, the government tax revenue would have been only $1800.

In contrast, if the government's aim is to discourage the consumption of a product (in particular a demerit good) it will be more successful if demand is elastic. This is one of the problems in using taxation to discourage smoking, as demand for tobacco products is inelastic.

LINK

Chapter 11.4 Elastic and inelastic demand
Chapter 12.4 Elastic and inelastic supply

TIP

In answering questions on subsidies, check whether the question is asking about subsidies to producers (which would shift the supply curve) or subsidies to consumers (which would shift the demand curve). If the question just refers to a subsidy, presume it is a *subsidy to a producer* as this is the most common form of subsidy.

INDIVIDUAL ACTIVITY 2

Emissions of carbon dioxide from the aviation industry more than doubled between 1990 and 2016 and are forecast to double again by 2030. Under international law, aviation fuel for international flights is exempt from taxation. Environmentalists argue that airlines should be taxed for the pollution they cause.

a Identify two external costs caused by air travel.

b What impact is a tax on air travel likely to have on the number of flights?

c Explain one external benefit that could arise from the operation of a new airport.

Competition policy

Competition policy seeks to promote competitive pressures and prevent firms from abusing their market power. There are a number of ways a government might be able to do this, including prevention of mergers that it thinks will not be in the interest of consumers, removal of barriers to entry and exit into markets, regulation of monopolies and prohibition of uncompetitive practices. Uncompetitive practices may include, for example, predatory pricing and limit pricing. Predatory pricing involves a firm charging a price below the cost to drive a rival firm (or firms) out of the market. Limit pricing is setting the price low enough to discourage the entry of new firms into the market.

Environmental policies

Firms can be affected by a range of policies designed to improve environmental conditions. A government may place restrictions on the amount of pollutants emitted by firms into the air, sea and rivers. It may then fine any firms which exceed these limits.

Another policy, which has become more popular in recent years, is tradable permits. This involves a government issuing permits to firms, allowing them to pollute up to a certain limit and to sell part of their allocated limit, if they pollute less. The idea is that the cleanest firms will be able to sell most of their permits, whilst those who pollute the most will have to buy more of other firms' permits. This will reduce the costs of the cleanest firms, whilst raising the costs of the worst polluting firms. As a result, the cleanest firms should capture a higher market share and consequently, pollution should fall.

INDIVIDUAL ACTIVITY 3

The European Union, an economic bloc of European countries, runs an emissions trading scheme. Companies in certain energy-intensive sectors are issued with permits to produce a certain tonnage of carbon dioxide. If they produce less than their allowance, they can sell the excess.

a What is meant by an energy-intensive sector?

b Explain how an emissions trading scheme may reduce pollution.

Regulation

Regulation includes rules and laws which place restrictions on the activities of firms. Besides setting price controls, outlawing uncompetitive behaviour and limiting the amount of pollution emitted by a firm, a government may regulate the target audience for the product, the quality of products and mode of staff management by firms. For example a government may pass a law banning the sale of cigarettes to children. It may also require firms to ensure that the products produced by them meet certain standards and that they allow their workers a specified number of regular holidays. In addition, it may place restrictions on timing for opening/closing of shops and control the routes that buses must follow.

As a measure to correct market failure, regulations have the advantages of being backed up by law and easily understood. The government does, however, have to check that the rules and laws are being followed and this may be difficult and expensive. Also, a regulation works only if most people agree with it. For example, it would be difficult to enforce a law that everyone wears a safety helmet when riding a motorcycle if such a move is opposed by most of the riders. This is because too much time and money would need to be spent on prosecuting the offenders and the government may become very unpopular.

There are a number of other problems with imposing regulations, for example they do not directly compensate those who suffer as a result of market failure and regulations may be too restrictive – reducing market flexibility and creating barriers to entry.

Nationalisation and privatisation

To benefit the public and to improve economic performance, a government may set up an industry or **nationalise** a private sector industry. Industries owned by the government are known as state-owned enterprises, **public corporations**, and nationalised industries. The chairman and board of managers are appointed by the government. They are responsible for the day-to-day management, but are accountable to the government. There are no shareholders in state-owned enterprises. The funds come from the government, from government approved loans and from the private sector. State-owned enterprises do not always seek to make a profit. Their prime aim is to work in the public interest.

There are a number of advantages that can be claimed for state-owned enterprises. Some of them are as follows:

- State-owned enterprises base their decisions on the full costs and benefits involved.
- They can be used to influence economic activity. To boost the country's output, public corporations can be directly encouraged to increase their output.
- In cases where it is practical to have only one firm in the industry, such as rail infrastructure, a state-owned enterprise would not abuse its market power.
- Ownership of a whole industry by the government makes planning and coordination easier. For example, if the state runs the train system, it can ensure that train timetables are coordinated.
- It is important to ensure that basic industries, such as electricity and transport, survive, charge low prices and produce good quality, as other domestic industries depend on them.

There are, however, a number of disadvantages associated with state-owned enterprises.

- They can be difficult to manage and control. The large size of the organisations may mean that time has to be spent on meetings and communicating with staff, slowing down decision making.
- They may become inefficient, produce low quality products and charge relatively high prices, due to a lack of competition and the knowledge that they cannot go bankrupt.
- They will need to be subsidised if they are loss making. The use of tax revenue to support them has an opportunity cost – it could be used to spend on, say, training more teachers and nurses.

Concern about the performance of state-owned enterprises and increased confidence in market forces has led a number of countries to sell their state-owned enterprises, or part of their state-owned enterprises, to the private sector. Those supporting this move argue that private sector firms are likely to produce the products desired by consumers, at a low cost and offer them at low prices. This is because market forces provide an incentive for firms to be efficient in the form of profit and a threat of bankruptcy if they are inefficient. Besides low prices and high quality, privatisation may result in greater choice. Freedom from government regulation may reduce administration costs and enable managers to respond more quickly to changing conditions. There may, also, be less risk of under-investment in the private sector. The funds available to a public sector firm for investment will depend on the profits it earns and its ability to convince shareholders and lenders of its success. Public corporations may be kept short of funds for investment, however successful they are, if the government wants to spend the money elsewhere.

KEY TERMS

Nationalisation: moving the ownership and control of an industry from the private sector to the government.

Public corporation: a business organisation owned by the government which is designed to act in the public interest.

LINK

Chapter 13.1 The market economic system

TIP

Be careful with the word 'public'. Sometimes, it refers to the government as in 'public expenditure' and 'public sector'. It can, however, also refer to people as a whole as in the 'general public' or open to all people, as in a 'public limited company'.

LINK

Chapter 13.1 The market economic system (Private and public sectors)

Privatisation, however, is itself criticised. There is no guarantee that private sector firms will face the full pressure of market forces. Some private sector firms may not face competition – they may be monopolies (i.e. the only firm selling the product). In this case, they can be inefficient, charge high prices and produce low quality products without compromising on profits. They may not take into account the total costs and benefits to the society due to their actions. For example, they may cause pollution. Privatisation also reduces a government's control of the economy.

INDIVIDUAL ACTIVITY 4

Copy and complete the table, which compares a state-owned enterprise and a private sector firm.

	State-owned enterprise	Private sector firm
Ownership	The government	
Sector		Private
Aim	Acts in the public interest	

A comparison of a public corporation and a public limited company

Direct provision

Most governments produce at least some goods and services that they think are essential. In some countries, governments provide affordable housing to rent. Housing, education and healthcare are seen as essential services, and some governments produce them and provide them to people free of cost or at subsidised prices. Besides being essential products, education and healthcare are also merit goods.

Education is a merit good

LINK

Chapter 26.2 The reasons for government spending

Chapter 14.4 Merit goods

Chapter 14.6 Public and private goods

Chapter 13.3 The disadvantages of a market economic system

As explained in Chapter 14, a merit good is one whose benefit to consumers and others is undervalued by them. As a result, they would under-consume it and so private sector firms would under-produce it. This is why some governments produce educational and healthcare services and other merit goods such as library services. To stimulate the consumption of merit goods, governments also pay private sector firms to produce them, provide information about their benefits and, in some cases, make their consumption compulsory.

There are some products that private sector firms have no incentive to produce. This is not because people do not want them, but because they know that if they are provided, they can consume them without paying. For example, it is not possible to exclude someone from enjoying the benefits of street lighting even if they are not prepared to pay for them directly. This is why governments produce them, or pay private sector firms to make them, and raise finance through taxation. It is also interesting to note that public goods are non-rival. This means that a person enjoying the product does not reduce someone else's enjoyment. An additional family moving into a town protected by sea defences, does not reduce the defence experienced by other families.

Unfairness

Besides intervening in a market economy to correct market failure, governments also intervene on grounds of equity – that is, fairness. As mentioned in Chapter 13, income distribution can become very uneven if it is solely determined by market forces. Some people will be very rich, but some will be very poor. Private sector firms will only produce those products that people are willing to buy and able to pay for. This may mean that they will not produce products needed by the poor.

A government is likely to try and ensure that everyone in the country has access to basic necessities including housing, education and healthcare. To achieve this, it can give financial assistance to the poor and provide some essential products free to consumers. In fact, in a number of countries, state education and healthcare is provided free, not only because they are merit goods, but also to make them accessible to the poor. Such free state services are financed by taxation. Taxation and benefits may also be used to reduce income and wealth inequality.

A big difference in the income and wealth of the rich and poor, besides being unfair, can be socially divisive and can result in some workers being less productive. Some people in the country, including the elderly and the sick, may be unable to earn incomes. There may be social unrest if there is considerable income inequality. Also, if people are poor they may be less healthy, less well educated and consequently less productive.

Effectiveness of government intervention

As suggested above, government intervention can reduce market failure. There is a risk, however, that government failure may occur. It may overestimate the extent of the private benefits offered to the people by consuming merit goods and it may find it difficult to calculate the most efficient quantity of public goods to supply.

Governments can take time to make decisions and those decisions may be influenced by political factors and, in some cases, corruption. For example, a government may decide not to raise the tax on petrol, despite concerns about the environment, because it may be politically unpopular and may lose it votes.

Government intervention may also reduce economic efficiency by reducing incentives. If taxes on earned income and unemployment benefits are high, some people may be discouraged from working. High taxes on firms' profits can reduce entrepreneurs' willingness and ability to invest.

A development of effectiveness of government intervention

There is some debate as to whether public or private sector expenditure leads to a more efficient allocation of resources. Do households and firms make better decisions than the government? In practice, there are advantages and disadvantages of both private and public sector expenditure. A new airport, for example, could be built by the private or public sector. There may be a number of advantages in it being built by a private sector firm. The profit incentive and force of competition may imply that it will build a high quality airport at low cost and in less time.

There is a risk, however, that a private sector firm may be a monopoly and hence may not be forced to keep its costs down. Thus, it may charge a high price for building the airport. Also, a private sector firm will take only private costs and benefits into account.

Using public expenditure to build an airport may also have its own drawbacks. Knowing that the state is paying, a state-owned enterprise, or private sector firm hired by the government, may not keep its costs down. A state-owned enterprise may lack the commercial expertise to complete the project on time. There may also be delays in decision making by the government to go ahead with the project. A major benefit, however, of a major investment project being undertaken by government is that it will base its decision (as to whether to proceed with it) on the consideration of all factors involved, that is social impact, costs and benefits. It is likely to carry out a **cost benefit analysis (CBA)** in the first place. This involves measuring all the private costs and benefits involved. In the case of an airport, the private costs will involve the cost of the land, the cost of the labour employed to build and run the airport, and the cost of the building material and maintenance. The major private benefit is the revenue that will be earned.

KEY TERMS

Cost benefit analysis (CBA): a method of assessing investment projects which takes into account, social costs and benefits.

Multinational companies (MNCs): companies which produce in more than one country.

After measuring the private costs and benefits, the economists carrying out a CBA, then seek to place a value on external costs and benefits. This is not an easy process. The external costs may include operation of the airport, damage to the environment, noise due to risk of accidents and traffic congestion near the airport. The external benefits may include employment in the area due to tourism and making it a more attractive as a site for domestic firms and **multinational companies (MNCs)**.

When all the calculations have been made, the social costs and benefits are compared. If social costs exceed social benefits, the government will not proceed with the project. If social benefits exceed social costs, it will go ahead (if the net social benefit is greater than that on rival projects). There will still be a debate, however, on whether it is the best use of government money. Government expenditure on one item always involves a significant opportunity cost. The money could have been spent on, for example, education.

GROUP ACTIVITY 1

The private sector in China is responsible for a growing amount of output and employment. Some economists argue that private sector firms are more profitable and efficient than the state sector.

In your group, discuss the questions below.

a How may the government benefit from private sector firms being more profitable?

b Why may private sector firms be more efficient than state-owned enterprises?

Summary

You should know:

- In a mixed economy, resources are allocated by means both of the price mechanism and government decision.
- Subsidies and taxes influence firms' output and the price they charge for their products.
- The impact of a subsidy/tax depends on its size and price elasticity of demand.
- Other types of policies which influence private sector firms are industrial, competition and environmental policies.

- Maximum prices are set below the equilibrium price. They lower prices, but lead to shortages.
- Minimum prices are set above the equilibrium price. They can help producers, but lead to surpluses.
- Regulations are backed up by law, but it can be expensive to implement them and difficult to check their violation by people. Their effectiveness is influenced by their acceptance by the people.
- Besides correcting market failures, governments intervene in economies to protect vulnerable groups and to ensure an even distribution of income and wealth.
- Expenditure by the private sector on an investment project may ensure efficiency, but a private sector firm considers only private costs and benefits.

Multiple choice questions

1 The production of which of types of goods, given below, has to be financed by the government?

A Capital **B** Consumer
C Merit **D** Public

2 A government decides to subsidise rail travel. What will be an external benefit of this move?

A A rise in government expenditure **B** Increased crowding on trains
C Lower fares for train passengers **D** Reduced congestion on roads

3 A firm, concerned about its reputation, decides to install new equipment in order to reduce the pollution created by it. What impact will this have, on private and external costs?

	Private costs	External costs
A	fall	fall
B	fall	rise
C	rise	fall
D	rise	rise

4 What is an argument for state intervention in an economy?

A To encourage the consumption of harmful products
B To increase the role of the price mechanism in allocating resources
C To make the distribution of income more uneven
D To prevent private sector firms from overcharging consumers

Four-part question

a Define a *minimum price*. **(2)**
b Explain how a maximum price will affect a market. **(4)**
c Analyse **three** ways a government could encourage consumption of a merit good. **(6)**
d Discuss whether or not consumers benefit more from a market economic system or a mixed economic system. **(8)**

Exam-style questions

Multiple choice questions

1 Who decides what is produced in a market economy?

A consumers
B managers
C shareholders
D the government

2 The table shows demand and supply schedules for bread.

Price of a loaf of bread ($)	Number of loaves demanded per week	Number of loaves supplied per week
0.80	500	180
1.00	400	240
1.20	320	320
1.40	240	500

What will be the equilibrium price for a loaf of bread?

A $0.80
B $1.00
C $1.20
D $1.40

3 Price is initially set above equilibrium. Market forces then move it towards equilibrium. As price falls, what will happen to demand and supply?

	Demand	**Supply**
A	contracts	contracts
B	contracts	extends
C	extends	extends
D	extends	contracts

4 Which of the following is likely to cause the price of the lamb to decrease?

A an decrease in the number of sheep farmers
B an increase in the price of beef
C a subsidy given to sheep farmers
D a successful advertising campaign for lamb

5 What effect is an increase in advertising expenditure likely to have, on the demand and supply curves of a product in the short term?

	Demand	**Supply**
A	decreases	decreases
B	decreases	increases
C	increases	increases
D	increases	decreases

6 The table shows the demand and supply of a book published by a Japanese firm.

Price per book ($)	Quantity demanded per week	Quantity supplied per week
10	5000	2000
15	4000	3000
20	3000	4000
25	2000	5000

When the price rises from $10 to $15 per book, what is the price elasticity of demand for the book?

A –0.4

B –0.8

C –1.0

D –2.5

7 What could make demand for a product become more elastic?

A a fall in its price

B a fall in the proportion of income spent on the product

C a decrease in the time period under consideration

D an increase in the number of close substitutes

8 What is meant by inelastic supply?

A when a fall in price causes a greater percentage fall in supply

B when a fall in price causes a smaller percentage fall in supply

C when a rise in price causes a fall in supply

D when a rise in price causes no change in supply

9 Which profit-making enterprise will not harm the environment?

A intensive farming using chemical fertilisers

B recycling waste paper into newspapers

C steel manufacturing, which generates the emission of carbon dioxide

D deforestation in tropical rainforests to obtain timber for furniture production

10 Which government measure is designed to increase external benefits?

A A decision to reduce spending on education

B A subsidy given to bus companies

C A reduction in the tax on alcohol

D The removal of fines on companies that pollute

Data response questions

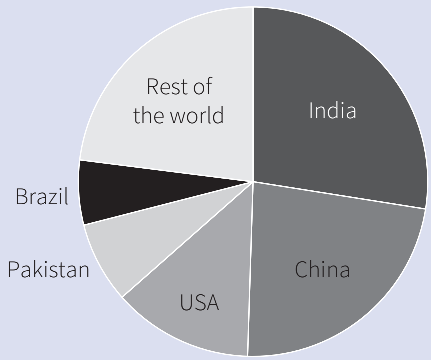
Study the source material for each question carefully and then answer Questions 1 and 2.

Source material: Transport and cotton production

There is not much traffic on the motorway between Islamabad and Lahore. This first motorway built in Pakistan was opened in 1997. It cost $1.2 billion to construct. One reason for the lack of traffic on the motorway is the existence of a rival road, the Grand Trunk Road, which is shorter and toll-free.

Improvements in road infrastructure can bring a number of benefits to an economy. These include reducing costs of production faced by a number of industries including construction materials, cotton and paper products.

Some economists, however, argue that less tax revenue should be spent by the government on roads and more on education. Higher spending on education can increase labour productivity which, in turn, can reduce unemployment and increase productive potential. Labour productivity, for example, is higher in the USA in the cotton industry than in the other major cotton producers. The pie chart shows the share of the global output of cotton (96.5 million bales) in the five largest producers in 2016.



Percentage share of global cotton production

One of the reasons for the greater productivity in the USA is that workers work with more advanced farm machinery.

India is seeking to raise its labour productivity by a range of ways. These include reducing congestion on its roads. Between 2000 and 2015, the number of cars on India's roads tripled. The higher volume of traffic is causing considerable pollution. In 2016 India's capital city, Delhi, was named by the World Health Organisation (WHO) as the world's most polluted city. The government has introduced new regulation including stricter emissions standards for new vehicles and has stopped subsidising diesel fuel in an attempt to reduce pollution. It is also increasing its investment to modernise and expand the country's train service.

1 Referring to the source material in your responses, complete all parts of Question 1.

a Identify **one** example of a capital good. **(1)**

b Explain **one** external cost. **(2)**

c Explain a possible opportunity cost of the Pakistan government building more roads. **(2)**

d Analyse the effect of improvements in road infrastructure on the market for cotton. **(5)**

e Analyse, using a production possibility curve diagram, the effect of the change in labour productivity on the economy. **(5)**

f Explain the pattern of cotton production. **(4)**

g Discuss whether or not train travel is a close substitute to road travel in a city. **(6)**

h Discuss whether or not regulation, in the form of stricter emission standards for new cars, is likely to reduce pollution. **(6)**

Source material: Jordan's search for new sources of energy

Jordan is currently trying to find new sources of energy for the country's firms, farms and households to use. It is exploring the possibility of nuclear power generation and has started to produce solar energy. The country benefits from long hours of sunshine and the solar energy industry converts sunshine into power.

Jordan is not the only country to be developing a solar energy industry. Other countries include China, Dubai, India, Italy, the UAE and the UK. Indeed, 2016 was the first year in which the world invested more in the industry than in coal and gas-fired power generation. Solar power is seen as a cleaner and more environmentally friendly source of energy. With advances in technology, the price of solar panels is falling. This is reducing the cost of producing solar energy and its price to customers, increasing its price competitiveness. In a number of countries the price of coal is rising which is reducing the sales of coal.

Jordan's agricultural industry needs a boost. The country lacks water and some of its land is not very fertile. It does produce a range of agricultural products including citrus fruits, tomatoes, cucumbers and olives. The country has benefited from an increased preference for fruit. In 2016, shortages of lemons pushed up their price and increased imports. The country could not take full advantage of this change as the price elasticity of supply was only 0.25. The table shows how the price of lemons rose throughout one month in 2016 and how this affected demand.

Price of 1 kilogram of lemons (Jordanian dinars)	Daily demand for lemons (tonnes)
1.00	200
1.20	180
1.50	144
2.00	32

The price and demand for lemons in one month in Jordan in 2016

Agriculture is a small industry in the country. It only accounted for 4% of the country's output and employed only 2% of its workers in 2016. Most of the country's workers are employed in the public sector where wages are higher. For example, in 2016 25 000 people were employed in the police force. This position is, however, changing. A number of the country's industries have been privatised and market forces are playing an increasing role in the economy.

2 Referring to the source material in your responses, complete all parts of Question 2.

a Explain why sunshine is a free good. **(2)**

b Explain why demand for coal is likely to become more elastic in the future. **(2)**

c Calculate the effect that an 8% rise in the price of lemons would have on the demand for lemons. **(2)**

d Analyse, using a demand and supply diagram, the effect of an increased preference for fruit on the market for fruit. **(5)**

e Analyse how changes in the price of lemons affected the price elasticity of demand for lemons. **(4)**

f Explain whether Jordan operates a market economic system or a mixed economic system. **(3)**

g Discuss whether or not a rise in the price of a product, such as coal, will always be accompanied by a fall in sales. **(6)**

h Discuss whether or not governments have to produce public goods such as the police service. **(6)**

Four-part questions

1 Air-India is a state-owned airline. Most airlines are, however, in the private sector and the prices they charge move between equilibrium and disequilibrium as a result of changes in market forces. The price elasticity of demand for air travel differs from other forms of transport.

a What is meant by market forces? **(2)**

b Explain the difference between an equilibrium price and a disequilibrium price. **(4)**

c Analyse why different products have different price elasticities. **(6)**

d Discuss how useful knowledge of price elasticity is to an airline company. **(8)**

2 Gym membership is a normal good. More people throughout the world are joining gyms in a bid to get fitter. This change in demand is also affecting the demand for substitutes and complements to gym membership. In some countries gym membership is taxed. Some economists argue that rather than taxing gym membership, governments should subsidise it.

a Define a *normal good*. **(2)**

b Explain the difference between a complement and a substitute. **(4)**

c Analyse, using a demand and supply diagram, the effect of introducing a tax on gym membership. **(6)**

d Discuss whether or not governments should subsidise gym membership. **(8)**

Chapter 31
Inflation and deflation

Learning objectives

By the end of this chapter you will be able to:

- define inflation and deflation
- describe how inflation and deflation are measured
- analyse the causes of inflation
- discuss the consequences of inflation
- discuss the effectiveness of policies available to control inflation
- analyse the causes of deflation
- discuss the consequences of deflation
- discuss the effectiveness of policies available to counter deflation
- explain possible policy conflicts

Introducing the topic

Do you find that the money you are spending is buying you more goods and services or fewer goods and services? Do you know how the prices of the products you buy compare with the prices of those products ten, twenty, thirty years ago? For example, the price of a basket of foodstuffs in the UK was \$0.31 in 1914. The price of the same basket increased to \$1.12 in 1964, \$21.93 in 2017 and is forecast to rise to \$88.79 in 2064. What causes the prices of goods and services to change, what effect do changes have and can a government and/or a central bank control these changes?

31.1 The definition of inflation and deflation

While inflation is a rise in the prices of goods and services, deflation is a fall in the prices of goods and services. **Deflation** is, in effect, negative inflation. The rate at which the prices of goods and services rise or fall changes over time. An increase in the rate of inflation means that prices are increasing more rapidly. A fall in the inflation rate from, for example, 10% to 7%, can be described as **disinflation**.

KEY TERMS

Deflation: a sustained fall in the prices of goods and services.

Disinflation: a fall in the rate of inflation.

TIP

Remember that if inflation falls, for example from 8% to 6%, the general price level is still rising.

31.2 Measurement of inflation and deflation

To measure rises and falls in the price level, governments construct price indices (also referred to as price indexes). These show the change in general price level in percentage terms over time. One of the main price indices used is the **consumer prices index (CPI)**.

KEY TERM

Consumer prices index (CPI): a measure of the weighted average of the prices of a representative basket of goods and services.

Constructing a price index

There are a number of stages in constructing a price index. These include selecting a base year, finding out how households spend their money, attaching weights to items of expenditure, finding out price changes from a range of trade outlets and then constructing a weighted price index.

Selecting a base year

Government statisticians try to select a relatively standard year in which there were no dramatic changes, as a base year. The base year is then given a figure of 100 and the price levels in other years are compared to this figure. For example, if the base year is 2015, it would mean that if the price index in 2018 was 123, the general price level had risen by 23% between 2015 and 2018.

Finding out how households spend their money

In calculating the average rise in prices, it is important to know how people spend their money. This is because a price change in an item on which people spend a large proportion of their total expenditure will have more impact on the cost of living than an item on which they spend a relatively small proportion. If, for example, the price of water rose, it would hit the pockets of most of the population much more than a rise in the price of a trip in an air balloon, something most people will not buy and those who do, will buy infrequently.

To find out the spending patterns of people, government officials carry out surveys of household expenditure. In New Zealand, a sample of approximately 3000 households is used. These households are asked to keep a record of their expenditures. From the information collected, government officials work out the main commodities being bought by the households. This enables them to decide which items to include in the price index and what weights to attach to each of them. If people stop buying a product or their expenditure on it falls to a very small figure, it will be removed from the index. The weights reflect the proportion spent on the items. For example, if on an average, households spend \$120 of their total expenditure of \$600 on food – food will be given a weightage of 1/5 or 20%. Table 31.1 shows the categories of products in the UK's CPI and their respective weights with, for example, 10.3% of UK households' expenditure going on food and soft drinks.

	Category	Weight (%)
a	Food and non-alcoholic beverages	10.3
b	Alcohol and tobacco	4.2
c	Clothing and footwear	7.1
d	Housing and household services	12.0
e	Furniture and household goods	5.9
f	Health	2.8
g	Transport	15.3
h	Communication	3.2
i	Recreation and culture	14.8
j	Education	2.5
k	Restaurants and hotels	12.3
l	Miscellaneous goods and services	9.6

Table 31.1: The weights in the UK's CPI in 2016

Source: based on Office for National Statistics Consumer Price Inflation: 2016 Weights https://www.ons.gov.uk/file 3rd March)

Household spending patterns are reviewed each year with new family expenditure surveys. If these reveal, for example, that people are spending a greater percentage on recreation and culture, and a lower percentage on food and non-alcoholic beverages, the weights of these items in price index will be altered to reflect these changes.

Finding out price changes

Each month government officials find out information about prices. In the UK, about 130 000 price quotations are found for 650 different items. These are obtained from shops, post offices, power companies, train companies and a range of other outlets. From this information, the government estimates the change in prices.

GROUP ACTIVITY 1

India's CPI covers 260 items. It draws on about 160 000 price quotes from more than 16 500 outlets and selected markets. Most price quotes are collected every week. In the case of products which experience a change in price less frequently, the price quotes are collected every month or every six months.

a What does a CPI measure?

b How will the Indian government select the 260 items included in its CPI?

Constructing a weighted price index

Having assigned weights to different items included in the index and measured the change in their prices over time, the final stage is to multiply the weights by the new price index for each category of products and to calculate the change in general price level. For example, consumers may spend $40 on food, $10 on housing, $25 on transport and $25 on entertainment. This gives a total expenditure of $100. The price of food may have risen by 10%, the price of housing may have fallen by 5%, the price of transport may not have changed and entertainment may have risen in price by 8%. The information would then be used to perform the calculation shown in Table 31.2.

Category	Weight		Price index		Weighted price index
Food	4/10	×	110	=	44.0
Housing	1/10	×	95	=	9.5
Transport	1/4	×	100	=	25.0
Entertainment	1/4	×	108	=	27.0
					105.5

Table 31.2: Weighted price index

The price index has risen by 5.5%. The change in the price level could also have been calculated rather more directly, as shown in Table 31.3.

Category	Weight		Price change (%)		Weighted price change (%)
Food	4/10	×	10	=	4
Housing	1/10	×	–5	=	–0.5
Transport	1/4	×	0	=	0
Entertainment	1/4	×	8	=	2
					5.5

Table 31.3: Weighted price change

INDIVIDUAL ACTIVITY 1

In each case, calculate the inflation rate using the information given.

a Consumers spend \$20 on food, \$20 on clothing, \$10 on heating and \$50 on entertainment. The price of food rises by 5%, the price of clothing falls by 10%, the price of heating rises by 30% and the price of entertainment rises by 20%.

b Consumers spend \$50 on food, \$20 on clothing, \$60 on transport and \$70 on leisure goods and services. The price of food rises by 8%, the price of clothing rises by 10%, the price of transport falls by 10% and the price of leisure goods rises by 5%.

Different impact of price changes

A consumer prices index measures the price of goods and services consumed by the average household. Of course, the expenditure of particular households is likely to differ from the average, in some way. For example, families with young children will experience lower inflation than other households, due to lower bills for healthcare and no expenditure on university fees, if the price of healthcare and university fees increase at a greater rate than the inflation rate.

TIP

In explaining the idea of a consumer prices index, it is often useful to give a numerical example.

31.3 The causes of inflation

KEY TERMS

Cost-push inflation: rises in the price level caused by higher costs of production.

Demand-pull inflation: rises in the price level caused by excess demand.

Wage-price spiral: wage rises leading to higher prices which, in turn, lead to further wage claims and price rises.

Inflation is not a one-off increase in the general price level. While examining the causes of inflation, therefore, it is necessary to consider the reasons for a rise in the price level over a period of time. Economists divide the causes into two main categories. These are **cost-push inflation** and **demand-pull inflation**.

Cost-push inflation

Cost-push inflation occurs when the price level is pushed up by increases in the costs of production. If firms face higher costs, they will usually raise their prices to maintain their profit margins.

There are a number of reasons for an increase in costs. One is wages increasing more than labour productivity. This will increase labour costs. As labour costs form the highest proportion of total costs in many firms, such a rise can have a significant impact on the price level. It will also not be a one-off increase. The initial rise in the price level is likely to cause workers to press for even higher wages, leading to a **wage-price spiral**.

Another important reason is increase in the cost of raw materials. Some raw materials, most notably oil, can change in price by large amounts. Other causes of cost-push inflation are increases in indirect taxes, higher cost of capital goods and increase in profit margins by firms.

Cost-push inflation can be illustrated on an aggregate demand and aggregate supply diagram. Higher costs of production shift the AS curve to the left and this movement forces up the price level, as shown in Figure 31.1.

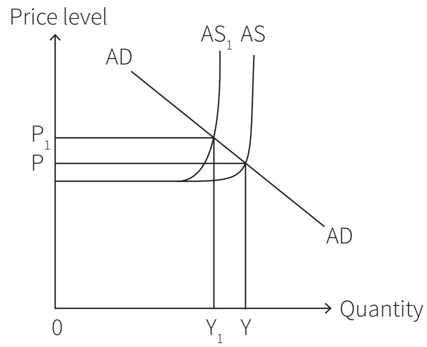


Fig. 31.1: Cost-push inflation

Demand-pull inflation

Demand-pull inflation occurs when the price level is pulled up by an excess demand. Aggregate demand can increase due to higher consumption, higher investment, higher government expenditure or higher net exports. Such an increase in aggregate demand will not necessarily cause inflation, if aggregate supply can extend to match it. When the economy has plenty of spare capacity, with unemployed workers and unused machines, higher aggregate demand will result in higher output but no increase in the price level. If, however, the economy is experiencing a shortage of some resources, for example skilled workers, then aggregate supply may not be able to rise in line with aggregate demand and inflation occurs. In a situation of full employment of resources it would not be possible to produce any more output. As a result, any rise in demand will be purely inflationary as shown in Figure 31.2.

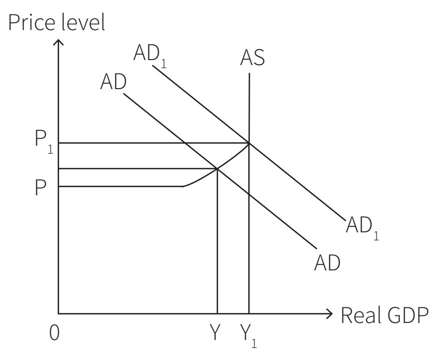


Fig. 31.2: Demand-pull inflation

Monetary inflation is a form of demand-pull inflation. In this case, excess demand is created by an excessive growth of the money supply. A group of economists, appropriately called **monetarists**, believe that the only cause of inflation is the money supply increasing faster than output. They argue that if the money supply increases, people will spend more and this will lead to an increase in prices.

INDIVIDUAL ACTIVITY 2

India's inflation rate fell in both 2015 and 2016. These falls were thought to have been caused by good harvests, smaller increases in the price of oil and appropriate monetary policy. Some economists were, however, predicting a more rapid rise in consumer expenditure in the next five years.

a What is meant by a fall in the rate of inflation?

b Explain how smaller increases in the price of oil rises may reduce inflation.

c Why may a rise in consumer expenditure cause inflation?

TIP

It is a common mistake to say that inflation is caused by a rise in prices. This shows confused thinking. Inflation *is* a rise in prices. So the reasons for the rise in the general price level need to be considered.

KEY TERMS

Monetary inflation: rises in the price level caused by an excessive growth of the money supply.

Monetarists: a group of economists who think that inflation is caused by the money supply growing more rapidly than output.

31.4 The consequences of inflation

Most of the consequences of inflation are thought to be harmful but some may actually prove to be beneficial. The impact that inflation has, depends on a number of factors. The key ones are the rate of inflation, stability of this rate, its rate relative to the inflation rates of other countries and the reaction of the government.

The harmful effects of inflation

- **Inflation causes a fall in the value of money.** If prices are rising, each unit of money (for example, each dollar) will buy fewer products. The higher the inflation rate, the greater will be the fall in the purchasing power of money. In a situation of **hyperinflation**, the value of money may be falling so rapidly that people may lose confidence in using the country's currency as money. 50% is usually taken to be the minimum rate to qualify as hyperinflation.
- **Inflation redistributes income in an unplanned way.** Some people gain from it, while others lose. Workers with strong bargaining power tend to gain, as their income usually rises more than the inflation rate. Normally borrowers also benefit. If the rate of interest is below the inflation rate, borrowers pay back less in real terms than what they borrowed. For example, a woman may borrow $100. If the inflation rate is 12%, she would have to repay $112 for the lender to just gain back the same amount of purchasing power. If the rate of interest is 8%, she will repay only $108, which has less purchasing power than what she borrowed. Whilst borrowers are likely to benefit, savers are likely to lose, as they may be repaid less in real terms than what they lent. Workers with low bargaining power and those with fixed incomes also suffer during a period of inflation. The government can seek to protect some vulnerable groups from inflation by **index-linking** state benefit payments and interest rates on government securities.
- **The existence of inflation imposes extra costs on firms.** Some additional staff time will be taken up, estimating future costs of raw material. There will also be **menu** and **shoe-leather costs**. Menu costs are the costs involved in changing prices in catalogues, price lists and slot machines etc. Shoe-leather costs arise because money paid to firms will be losing its value as soon as it is received. Even if the firms plan to pay out the money relatively soon, for example on wages or raw materials, it would need to protect its value by placing it in a bank or other financial institution, which will pay a rate of interest above the inflation rate. Seeking out good financial returns will involve the time and effort of firms.
- **Inflation creates uncertainty.** It can make it hard for households and firms to judge the right price to be paid for products now. It can also make it difficult to plan ahead, as households and firms will be uncertain about future prices. This is a particularly grave problem with a high, fluctuating inflation rate. In such an unstable situation, firms may be discouraged from investing which will be harmful for the economy.
- **Inflation can harm the country's balance of payments position.** If a country's inflation rate is above that of its rivals, its products will become less price competitive. This may result in a fall in export revenue and a rise in import expenditure. Such an effect would cause a deterioration in the current account balance. The fall in demand for the country's products may also result in a rise in unemployment.

KEY TERMS

Hyperinflation: a very rapid and large rise in the price level.

Index-linking: changing payments in line with changes in the inflation rate.

Menu costs: costs involved in having to change prices as a result of inflation.

Shoe-leather costs: costs involved in moving money around to gain high interest rates.

- **Inflation can cause fiscal drag.** This occurs when governments do not adjust tax brackets in line with inflation. As a result, people's incomes are dragged into higher tax brackets and they are left with lower real disposable income.

GROUP ACTIVITY 2

Explain in each case, which type of inflation is likely to impose more costs on an economy.

a A high and fluctuating rate or a low and stable rate.

b A 5% rate with other countries averaging 3%, or a 5.2% rate with other countries averaging 6%.

The beneficial effects of inflation

You might be surprised to learn that inflation can have beneficial effects also. These effects are more likely to occur if the inflation is of a demand-pull, low and stable nature and is below that of rival countries.

- Inflation may encourage firms to expand. A low and stable level of demand-pull inflation may make entrepreneurs optimistic about future sales.
- Inflation reduces the real burden of any debt that households and firms have built up. This may mean that some households and firms will avoid going bankrupt.
- Inflation can prevent some workers being made redundant in a declining industry or region. This is because whilst workers are likely to resist any cut in their money wages, they may accept their money wages rising by less than inflation. In such a case, firms' real wage costs will fall without resorting to a retrenchment of workers.

INDIVIDUAL ACTIVITY 3

China's inflation rose to 2% in 2016 from 1.4% in 2015. The price level was driven up mainly by rising energy prices, transport prices and wages. Economists were forecasting that wages would rise 4.7% points above inflation in 2017 and that if inflation were to rise even higher, it could have a harmful effect on the country's exports and savings.

a Was China suffering mainly from cost-push or demand-pull inflation in 2016?

b What effect may inflation have on the country's exports and imports?

c Explain one other cost imposed by inflation on an economy.

INDIVIDUAL ACTIVITY 4

In 2008, Zimbabwe experienced an inflation rate of 23 million%. At the start of that year a loaf of bread was priced at Z$10 million and a bunch of bananas was sold for Z$100 million. A year later prices rose even higher. Supermarkets were changing the price of some products daily. With money having less worth each day, a bartering system was developing. For example, some farm workers were paid in food and people in cities swapped a range of goods for food. At this time, the Zimbabwean government was printing a huge number of extra bank notes to ensure that it could pay the soldiers, police and civil servants and meet other commitments of government spending. In 2014, the Zimbabwe central bank announced that a range of foreign currencies, including the US dollar, Pound Sterling and Indian rupee, would all be accepted as legal currency in the country.

a What is meant by barter?

b Explain one cost of inflation that has been touched on in the information.

c From the information given, decide the cause of inflation in Zimbabwe, in 2006.

31.5 Policies available to control inflation

A measure that is becoming increasingly used throughout the world is the setting by a government of an inflation rate target for its central bank to achieve. The intentions behind an inflation rate target are to make the central bank accountable and to influence the behaviour of households and firms. If a central bank does not achieve its target, it has to explain why and what measures it is going to take to get the inflation rate back on target. If a central bank can convince households and firms that there will be price stability, they may behave in a way that reduces the chance of significant movements in the price level. Households will not rush to buy products expecting them to be much more expensive in the future and firms will not raise their prices just to cover expected increases in costs of production.

LINK

Chapter 26.8 The effects of fiscal policy on government macroeconomic aims

Chapter 27.3 The effects of monetary policy on government macroeconomic aims

Chapter 28.2 Effects of supply-side policy on government macroeconomic aims

If the country is experiencing demand-pull inflation, the appropriate policy approach would be to use contractionary fiscal and/or monetary policy. Aggregate demand could be reduced by increasing tax rates, lowering government spending, raising the rate of interest and/or reducing the money supply. The effectiveness of such measures will be influenced by how households and firms react. If they are very confident about future economic prospects, they may continue to spend increasing amounts despite these measures. They may also react in a way that turns demand-pull inflation into cost-push inflation. For example, workers may respond to higher income rates by demanding higher wages or they may opt out of the labour force. Contracting fiscal and monetary policy measures can have a number of adverse side effects, including reducing economic growth and possibly causing unemployment.

To reduce cost-push inflation, a government will use supply-side policy measures such as improved education and training and privatisation. These measures may be effective but, as noted before, they make take some time. They may also be relatively costly and may, at least in the short run, add to aggregate demand. In addition, rises in firms' costs of production are not just influenced by what is happening in the domestic economy. Rises in the price of imported raw materials and fuel may put significant upward pressure on prices. In this case, a government may try to lower inflation by subsidising firms but this might need relatively large amounts of government revenue and so a high opportunity cost.

31.6 The causes of deflation

Deflation may result from the supply-side or the demand-side of the economy. The price level may be reduced as a result of advances in technology and increases in labour productivity. This is likely to be beneficial as it will mean that consumers can enjoy more goods and services and the economy may become more internationally competitive.

In contrast, deflation resulting from a decline in aggregate demand is likely to be harmful. This is because it can lead to a downward spiral in economic activity. Consumers expecting prices to be lower in the future, may postpone their purchase. With lower demand for their products, firms are likely to reduce their output and the number of workers they employ. The reduction in employment will push down aggregate demand further.

31.7 The consequences of deflation

The effect of deflation will be influenced by whether it is 'good' deflation (caused by an increase in aggregate supply) or 'bad' deflation (caused by a decrease in aggregate demand). Good deflation may reduce a current account deficit or increase a current account surplus if demand for exports and imports is elastic and if the fall in the price level is not offset by a rise the exchange rate. Good deflation can be associated with increases in output and employment.

Bad deflation, however, is likely to cause a rise in unemployment and lower output. It is also likely to discourage investment which will reduce productive capacity and endanger future economic growth. Both bad and good deflation increase the purchasing power of those whose income remains unchanged. It does, however, raise the burden of debt. Any household or firm which has taken out a loan will have to pay back more in real terms. In this situation, borrowers will lose and lenders will gain.

31.8 Policies available to control deflation

A government will not be concerned about good deflation, but it will be anxious to avoid bad deflation or to correct it should it occur. If there is a risk of bad deflation or if it is occurring, it is likely that the government will use expansionary fiscal policy and a central bank will use expansionary monetary policy. Bad deflation, however, can be difficult to reverse. If it has lasted some time, interest rates may be very low and there may be little room to cut them further. Confidence may be very low and the burden of debt high, so that cuts in income and corporation tax rates, for example, may not encourage households to spend and firms to invest.

GROUP ACTIVITY 3

Greece experienced deflation over most of the period 2013–16. During this time, wages and pensions were cut and the economy experienced a recession. Some economists warned that the cut in wages could result in a long run deflation.

a Does the information suggest Greece suffered from bad deflation or good deflation?

b How may a reduction in wages result in a deflationary spiral?

31.9 Policy conflicts

Some of the policy measures designed to reduce unemployment may increase inflation. For example, an increase in government spending on pensions would raise consumer expenditure. This rise would encourage firms to expand their output and take on more workers. The higher aggregate demand may, however, raise the price level.

Policy measures to reduce expenditure on imports may reduce economic growth. A rise in income tax, designed to reduce households' expenditure on imports, would also reduce spending on domestically produced products. This fall in demand will reduce the country's output or at least slow down the economic growth.

Unemployment and economic growth both tend to benefit from expansionary fiscal and monetary policies. In contrast, contractionary fiscal and monetary policies are more likely to be used to reduce inflation and expenditure on imports.

Summary

You should know:

- The consumer prices index (CPI) is a weighted measure of consumer prices.
- A rise in a consumer prices index indicates inflation.
- Surveys are done of the products bought by households. On the basis of this information, weights are attached to products. The greater the percentage of an average household's total expenditure devoted to a product, the higher its weightage.
- Information on price changes is found from a range of outlets.
- A weighted price index is constructed by multiplying weights by a price index for each category.
- A weighted price change can be found by multiplying weights with price changes.
- Inflation may be caused by increases in the costs of production (cost-push), excess demand (demand-pull) or the faster growth of money supply relative to output (monetary).
- Among the causes of cost-push inflation are rises in wages and raw material costs.
- Demand-pull inflation is more likely to occur when the economy is at or approaching full employment.
- The effects of inflation will depend on its rate, stability of price rises, its rate relative to other countries and response of the government.
- Inflation will cause a fall in the purchasing power of money. Among the other possible harmful effects are an unplanned redistribution of income, menu costs, shoe leather costs, uncertainty and a worsened position of the balance of payments.
- The possible beneficial effects of inflation include a stimulus to production, a reduction in debt and reduction of unemployment.
- The effects of deflation are influenced by whether it is 'good' deflation or 'bad' deflation.
- Economic growth and employment are likely to benefit from measures designed to increase aggregate demand but these measures may result in higher inflation and a rise in imports.

Multiple choice questions

1 The price of a product rises by 8% in 2016 and its weighted price change is 2%. In 2017, its rise in price falls to 5%, but its weighted price change increases to 2½%. What was the weight of the product in 2016 and 2017?

	2016	2017
A	¼	½
B	½	¼
C	4	2
D	2	4

2 Who, among the following, is most likely to benefit during a period of rapid inflation?

A Borrowers

B Pensioners

C Savers

D Workers in strong unions

3 Which of the following is a possible cause of demand-pull inflation?

A An increase in government expenditure, not matched by a rise in taxation

B An increase in the price of oil, not matched by a fall in the price of other raw materials

C A rise in wages, not matched by an increase in productivity

D A rise in imports, not matched by a rise in exports

4 Which of the following must happen as a result of inflation?

A A decline in uncertainty

B A fall in the value of money

C An improvement in the balance of payments

D An increase in savings

Four-part question

a Define *inflation*. **(2)**

b Explain how a consumer boom could cause inflation. **(4)**

c Analyse how inflation is measured. **(6)**

d Discuss whether or not workers suffer as a result of inflation. **(8)**

Exam-style questions

Multiple choice questions

1 In 2016, output in Indonesia rose by 5%. Which of the government objectives does this meet?

A balance of payments stability
B economic growth
C full employment
D price stability

2 Which government policy measure would be most likely to reduce unemployment?

A an increase in income tax
B an increase in interest rates
C a decrease in government expenditure
D a decrease in VAT

3 A government wants to redistribute income from the rich to the poor. Which combination of policy measures would achieve this?

	Progressive taxes	Welfare payments
A	increase	increase
B	increase	reduce
C	reduce	reduce
D	reduce	increase

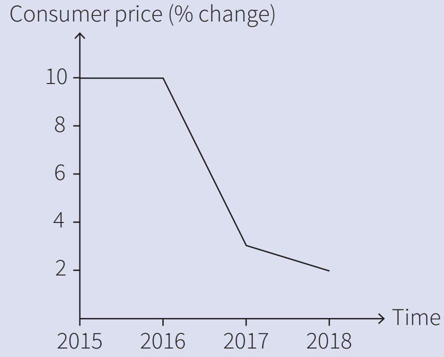
4 Which government policy measure is most likely to benefit people on a high income?

A increasing housing benefit
B increasing unemployment benefit
C reducing government expenditure on higher education
D reducing income tax

5 'A tax levied on the profit made on selling assets such as second homes and shares' – what type of tax is this?

A capital gains
B corporation
C income
D sales

6 The graph shows a change in consumer prices for a country.



What can be concluded from this information?

A Consumer prices remained unchanged between 2015 and 2016

B Consumer prices fell from 2016 to 2017

C Consumer prices were higher in 2017 than 2016

D Consumer prices were lower in 2016 than in 2015

7 India's economy grew by approximately 7% in 2016. What must have increased in India in 2016?

A gross domestic product

B labour productivity

C the government's budget deficit

D the rate of inflation

8 Which of the following is a cause of cost-push inflation?

A an increase in the money supply

B an increase in government expenditure on pensions

C a rise in the price of housing

D a rise in the cost of transporting goods

9 What is a possible disadvantage of economic growth?

A a depletion of non-renewable resources

B an increase in unemployment

C a reduction in the government's ability to reduce poverty

D a reduction in the productive capacity of the economy

10 The occupational mobility of labour increases. Which types of unemployment is this likely to reduce?

A cyclical and frictional

B frictional and structural

C structural and cyclical

D cyclical, frictional and structural

Data response questions

Carefully study the source material for each question and then answer Questions 1 and 2.

Source material: The Brazilian government seeks to reform the economy

Brazil, the world's seventh largest economy, experienced its second successive year of recession in 2016. Its GDP fell to $1755 billion in 2015 and then fell by a further 3.5% in 2016. In 2015, with a budget deficit equivalent to 10% of GDP, the government had introduced spending cuts and tax increases amounting to $16.9bn. There were, for example, cuts in government spending on healthcare, housing, infrastructure projects and the pay of public sector workers. In 2016, the government introduced another round of spending cuts and tax increases, this time amounting to $15bn.

The country's central bank lowered the interest rate from 14.25% in 2015 to 14% in 2016. This was a relatively small change in an interest rate which remained high relative to other major economies. Although in historical terms (Brazil experienced hyperinflation in the 1990s), inflation was relatively low at 8.5% in 2016, this was high again compared to other major economies. Prices were being driven up due to higher electricity and raw material costs, largely resulting from a fall in the country's foreign exchange rate.

In 2016 the government increased the pay of high-ranking government officials, but in recent years the pay and employment of public sector workers has declined relative to those in the private sector. There have also been a number of other changes in the country's labour market. The proportion of informal workers has declined, while the proportion of workers employed in jobs requiring university degrees has changed. Proposed government reforms are likely to make further changes.

The reasons behind these reforms are to reduce unemployment, restore economic growth and to increase Brazil's exports compared to its imports. One of the influences on the value of goods and services that a country imports, is the size of the economy. The table shows the GDP and import expenditure of the seven largest economies in terms of output in 2015.

Country	GDP ($bn)	Import expenditure ($bn)
USA	18 560	2200
China	12 000	1440
Japan	4730	630
Germany	3500	990
UK	2650	582
France	2500	525
Brazil	1775	144

GDP and import expenditure of the seven largest economies 2015

1 Referring to the source material in your responses, complete all parts of Question 1.

a Calculate Brazil's budget deficit in US$s in 2015. **(1)**

b Explain what type of fiscal policy was operating in Brazil in 2015 and 2016. **(2)**

c Explain the type of inflation experienced in Brazil in 2016. **(2)**

d Explain **two** ways in which the pattern of employment has changed in Brazil. **(4)**

e Analyse the likely effect of the supply-side policy measures taken by the Brazilian government on the country's output. **(5)**

f Analyse the relationship between a country's GDP and import expenditure. **(4)**

g Discuss whether or not an increase in the rate of income tax will reduce a budget deficit. **(6)**

h Discuss whether or not all households suffer from inflation. **(6)**

Source material: The government of Bangladesh tackles inflation

Bangladesh's inflation rate fell from 6.4% in 2015 to 5.9% in 2016. The government of the country of 156m people had set an inflation rate target of 6.2%, an economic growth rate target of 7.2% and a money supply growth rate of 15.5%. Although there were pay rises for public sector workers, food prices rose more slowly largely due to good harvests. The weight given to food and non-alcoholic drinks varies from country to country as shown in the table.

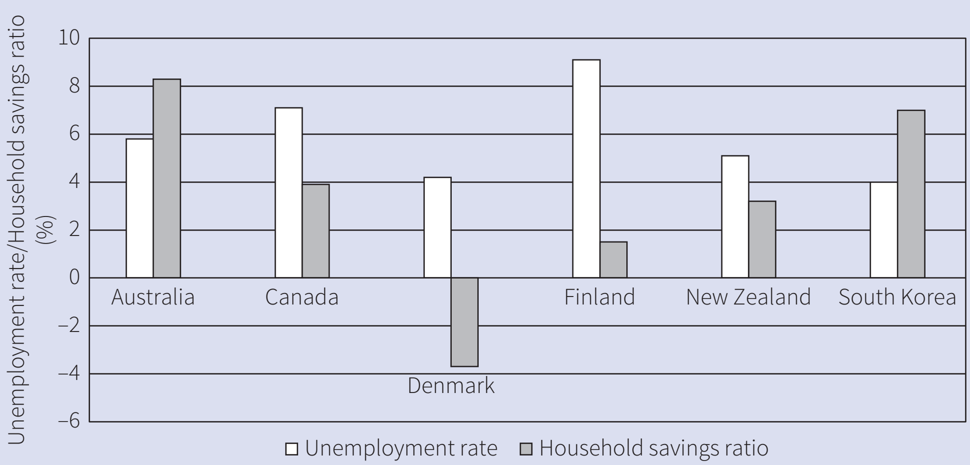
Country	Weight given to food and non-alcoholic drinks (%)	GDP per head ($)
Bangladesh	56.0	3700
India	46.0	6300
South Africa	18.2	13400
Turkey	23.7	20700
UK	10.3	42000
USA	8.4	56800

The weight given to food and non-alcoholic drinks and GDP per head in selected countries in 2015

As well as falling inflation, Bangladesh experienced a falling unemployment rate in 2016. Youth unemployment nevertheless remained high and there was considerable underemployment. This was despite a high rate of job vacancies. Employers said they could not fill these because the job applicants lacked the appropriate skills.

To stimulate investment, the government cut the rate of corporation tax. The central bank of Bangladesh decided that it would keep the rate of interest stable, but some economists suggested that it too needed to be cut to stimulate investment.

Changes in the rate of interest also influence a country's household savings ratio. Another influence on saving is a country's unemployment rate. The chart shows the unemployment rate and household savings ratio for six countries.



Unemployment rate and household savings ratio for selected countries, 2016

2 Referring to the source material in your responses, answer all parts of Question 2.

a Identify **one** fiscal policy measure. **(1)**

b Calculate Bangladesh's GDP in 2016. **(2)**

c Explain what happened to the price level in Bangladesh in 2016. **(2)**

d Explain what type of unemployment Bangladesh was experiencing in 2016. **(4)**

e Analyse the relationship between the weight given to food and non-alcoholic drinks, and GDP per head. **(5)**

f Analyse the relationship shown between the unemployment rate and the household savings ratio. **(4)**

g Discuss whether or not setting an inflation rate target will reduce the inflation rate. **(6)**

h Discuss whether or not a cut in the rate of interest will increase investment. **(6)**

Four-part questions

1 In 2016 the Greek economy returned to economic growth after experiencing a period of recession. It was hoped that the economic growth would reduce the country's high rate of unemployment, restore confidence in the country's economic prospects, and revenue from direct and indirect taxation.

a Define a *direct tax*. **(2)**

b Explain how changes in resources affect economic growth. **(4)**

c Analyse how a fall in confidence in the economic prospects of a country could cause that country to experience a recession. **(6)**

d Discuss whether or not economic growth will always result in lower unemployment. **(8)**

2 The unemployment rate in Sri Lanka fell between 2015 and 2016 while its inflation rate rose. Government spending increased over the period and it introduced a number of policy measures designed to increase the incentive to work.

a Identify **two** measures of unemployment. **(2)**

b Explain how a government could increase the incentive to work. **(4)**

c Analyse why a fall in unemployment may be accompanied by a rise in inflation. **(6)**

d Discuss whether or not an increase in government spending will cause inflation. **(8)**