

3

Government intervention in the price system

Core

On completion of this core section you should know:

- why governments may find it necessary to intervene in the workings of the price mechanism
- why such situations are seen by economists as cases of market failure
- what is meant by an externality and why situations where there are negative and positive externalities signal market failure
- the meaning and significance of private costs, external costs and social costs; the meaning and significance of private benefits, external benefits and social benefits
- what is meant by a cost–benefit approach and how a cost–benefit analysis can be used as an aid for decision making
- what is meant by merit goods and demerit goods, private goods and public goods
- how various forms of government intervention can be used to correct market failure; these include maximum price controls, taxes, subsidies and direct provision of goods and services.

Meaning of market failure

It is stating the obvious to say that **market failure** exists when a market fails. However, the question needs to be asked: 'Fail at what?' The answer is: 'Fail at delivering economic efficiency'. Market failure exists whenever a free market, left to its own devices and totally free from any form of government intervention, fails to make the optimum use of scarce resources. Using earlier terminology, it is when the interaction of supply and demand in a market does not lead to productive and/or allocative efficiency. There are though reasons why this may not be the case.

Look at the following different reasons why markets fail:

- where there are externalities in the market
- the cases of merit and demerit goods
- the cases of public and quasi-public goods
- information failure
- adverse selection or moral hazard
- where monopolistic elements operate in a market (supplement)
- where there are concerns about the distribution of income and wealth (supplement).

Externalities (negative and positive)

Defining externality

If the market system is to work well and lead to economic efficiency, it is important that those people who make economic decisions are those who are affected by those decisions. A transaction between a supplier and a consumer for a product needs only to affect the particular supplier and particular consumer involved. As long as this is the case, then both sides will act only so long as both feel that they will benefit from any action – all is well in the market. However, a problem could clearly arise if someone else not party to the economic decision is affected by that decision. This is the concept known as **externality**.

An externality is said to arise if a third party (someone not directly involved) is affected by the decisions and actions of others. For example, if you decide to play your radio in public, then others (third parties) not involved in making that decision are affected by the noise that is being made.

Private and social costs

Another way of understanding the same concept is to define an externality as any divergence between

private and social costs or benefits. The **social costs** of any action are all of the related costs associated with that action. The **private costs** are those costs involved in an action that accrue to the decision-maker. The difference between the two is **external costs**.

Therefore, social costs equals private costs plus external costs.

Negative externalities

It is quite possible that these private and social costs are the same: all of the costs of an action accrue to the decision-maker and there are no further costs. If this is the case, then there are no externalities. However, it is possible that there will be a difference: private and social costs may not be equal to each other. For example, if you make a decision to take a journey in my car, you consider only the costs of the petrol and the time taken. However, you do not consider the further costs that you may be imposing on others in terms of your contribution to road congestion, to atmospheric pollution and to possible car accidents. In this situation, a **negative externality** exists, the cost of which is an external cost. The situation is illustrated in Figure 3.1. Here, private costs are part of the social costs involved in a decision. However, they do not represent all of the social costs. The difference shown between the

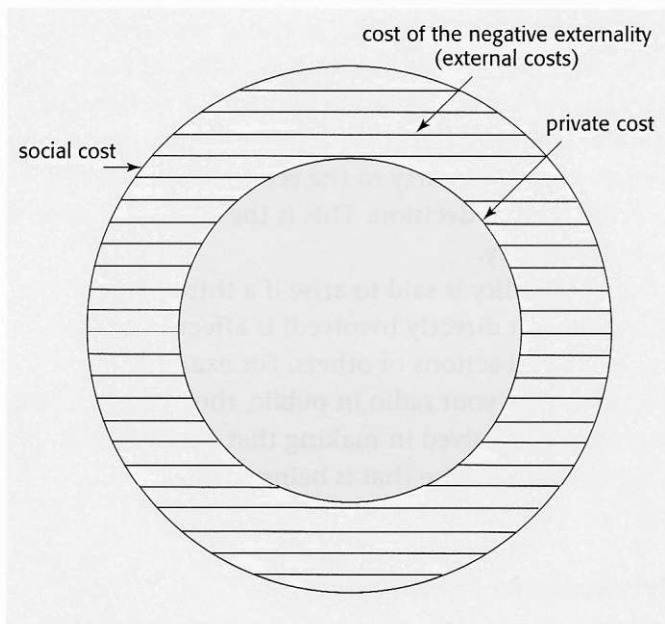


Figure 3.1 A difference between private and social costs

two is the external cost or the cost of the negative externality.

Private and social benefits

A similar situation can also exist with benefits rather than costs. The social benefits of a decision are all of the benefits that accrue from that decision. The **private benefits** are those that accrue solely to the decision-maker. Again, these may or may not be the same. Any difference between them is the **external benefits**.

Positive externalities

It is possible that the social benefits of a decision may exceed the private benefits. If this is the case, then a positive externality, or external benefit, is said to exist. For example, if you make a decision to go to the doctor to be inoculated against a particular disease, then clearly you receive the private benefit of not catching that particular disease. However, you may not be the only one to benefit. The fact that you do not get the disease has some possible benefit to all others with whom you come into contact, who will now not catch the disease from you.

The problem created by externalities

The main problem created by externalities is that where they are present they will lead to an inappropriate amount being produced: the free market will lead either to too much or too little production.

Consider a firm that produces a chemical. There are costs that the firm will have to meet in producing a certain quantity of this chemical. These would include such things as:

- raw material costs
- labour costs
- energy costs.

All such costs would be termed private costs: they have to be paid for by the decision maker (the firm). These costs form part of social costs. However, there are further costs likely to be involved as well. These might include the cost of dumping the chemical waste, perhaps in a local river, which in turn creates clean-up costs for a third party. In addition, any atmospheric pollution created might cause ill health and there is likely to be additional road congestion

arising from the transportation of the chemicals. These are all negative externalities. The problem is that only the private costs of producing the chemical will be taken into account by the firm when making its pricing decision. The external costs, which are *real costs to society*, will not be taken into account. This will mean that the price will be lower than if all social costs were recognised and taken into account. Consequently demand and production will be higher than if full social costs had been considered. Thus, a negative externality will lead to too much of a product being produced. The situation can be seen in Figure 3.2.

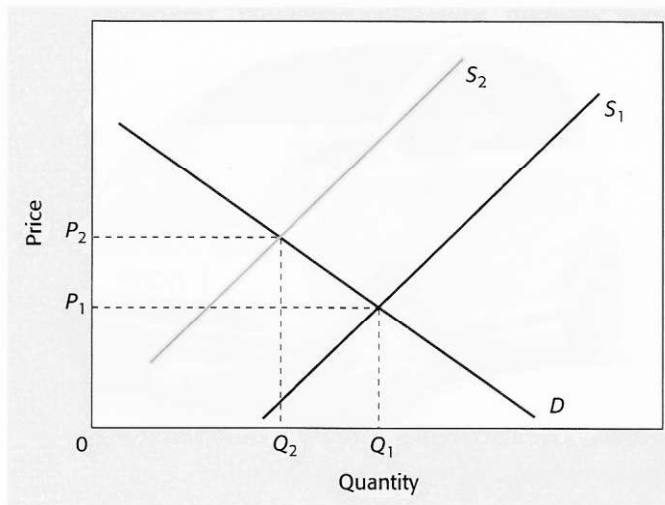


Figure 3.2 Overproduction caused by a negative externality

The price that will occur in the market will be P_1 where the supply schedule that takes account of the private costs, S_1 , is equal to demand. This price is associated with production of Q_1 . However, if the supply schedule took into account the social costs, S_2 , which are greater than the private costs, then this would result in a price of P_2 . This price is associated with a lower production of Q_2 . Thus, the negative externality has led to $Q_1 - Q_2$, overproduction. Too many scarce resources are being devoted to the production of this product. The market has failed.

The opposite problem is true of a positive externality. Here, the problem is that too little of the product is being produced. If only the private benefits, and not the social benefits, are considered, then there will be underproduction. This is illustrated in Figure 3.3.

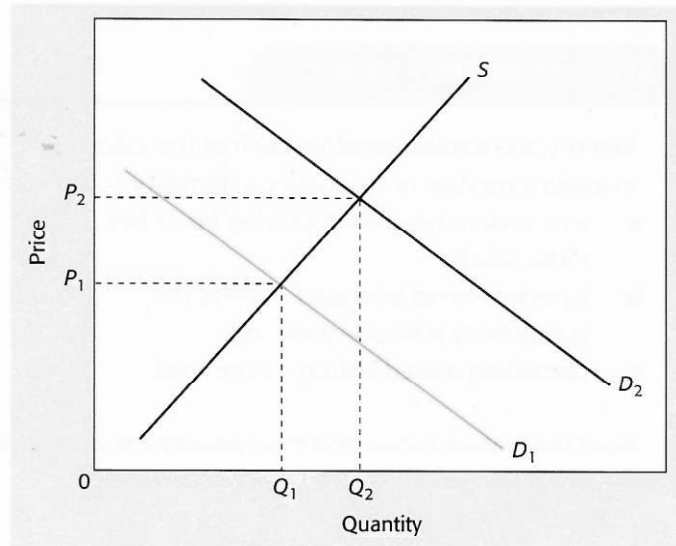


Figure 3.3 Underproduction caused by a positive externality

This time, the problem is with demand. If only the private benefits are registered, then demand is represented by the demand schedule D_1 . This leads to a price of P_1 and an associated production of Q_1 . However, if the further extra benefits to society were registered (which they will not be by the private decision-maker involved), then demand would be greater at D_2 . This would lead to a price of P_2 and a production of Q_2 . Thus there is an underproduction of $Q_2 - Q_1$ associated with the positive externality. Insufficient scarce resources are being devoted to the production of this good or service. The market has again failed.

Externalities are therefore a source of market failure as resources are not allocated in the ideal way: too few or too many resources are likely to be directed to the production of certain products.

Decision making using cost-benefit analysis

So far we have seen that there is market failure where there is a divergence between private and social benefits and costs. It is in such circumstances that **cost-benefit analysis** (CBA) has been used by economists as a means of decision making, not least to ensure that the right choice of action is being made. Here we are often concerned with situations where major economic projects produce substantial and often controversial side effects, in particular where there are costs and benefits which fall upon people and communities who have no direct

SELF-ASSESSMENT TASK 3.1

- 1 Identify and explain whether each of the following involves a positive or a negative externality:
 - a a next-door neighbour playing his or her music loudly
 - b a person being educated beyond the compulsory school leaving age
 - c discarding a used battery in the road
 - d smoking in a public place
 - e a new, well-designed and pleasant public building
 - f the use of pesticides in agricultural production.
- 2 Read the feature below and then answer the questions that follow.

India reveals world's cheapest car – but what are the bigger costs?

The world's cheapest car was unveiled by India's Tata Motors yesterday with a US\$2500 price tag that brings car ownership into the reach of tens of millions of people, prompting fears about its environmental impact.

Critics say the Tata Nano will lead to millions more cars hitting the already clogged up roads in the country's teeming cities. They are concerned that this explosion will add to mounting air and noise pollution problems.

Company chairman, Ratan Tata, believes that the Nano will be the least polluting car in India and claims that it meets stringent EU emission standards. He also believes that this so-called 'People's Car' will provide India's growing middle classes with the personal mobility and



The Tata Nano – the world's cheapest car

status symbol they long for. For the masses though widespread poverty will limit car ownership. For a rickshaw driver in Delhi, earning just over US\$2 a day, the so-called People's Car amounts to more than three years' earnings.

Source: Associated Press/Reuters, South China Morning Post, 11 January 2008 (adapted)

- a Identify and explain:
 - i a private benefit and an external benefit
 - ii a private cost and an external cost arising out of Tata's production of the Nano.
- b Discuss whether the production of the Nano is a case of market failure.

in situations of market failure. Any cost–benefit study or application should therefore be seen in these terms.

To conclude, it is relevant to recognise that in practice cost–benefit analysis is fraught with many difficulties. Some have already been stated such as:

- which costs and benefits should be included
- how to put monetary values on them.

Additionally, there are others, particularly when it comes to the acceptance of the outcome by the community as a whole. For example:

- CBA does not always satisfactorily reflect the distributional consequences of certain decisions, particularly where public sector investment is involved. In the case of a new retail development, external costs are likely to

be highly localised whilst external benefits, in terms of employment creation for instance, are likely to be more widely spread.

- Many public sector projects can be very controversial and subject to much local aggravation from pressure groups. It may be the case that the outcome of the CBA is rejected for local political reasons, with the consequence that the most expedient decision may not be the one recommended by economists. Where this happens, it is easy to dismiss the technique of CBA as irrelevant. This is not a fair conclusion, not least as CBA has at least brought out the issues involved so that a decision can be taken on the basis of all of the information available. CBA is an aid and not a replacement for decision making.

SELF-ASSESSMENT TASK 3.2

- 1 Read the feature below and then answer the questions that follow.

Traffic problems in Bangkok

Bangkok, the capital of Thailand, is one of Asia's megacities. For its citizens, and those who visit as tourists or for business reasons, one thing that no one can get away from is its horrendous traffic congestion. The population is increasing at a massive 2% per annum and, as in all parts of Asia, vehicle ownership levels are increasing at a substantial rate as a consequence of economic advancement. This situation means increasing stress levels, deterioration in the quality of life and increasing health problems for its teeming population.

A recent government report has estimated that:

- the typical resident spends 44 working days a year stuck in traffic
- peak vehicle speeds have fallen to 6 km per hour
- lost production due to congestion is estimated to be 10% of Thailand's GDP
- much of the energy used to move vehicles is wasted because of the congestion
- one million people a year suffer from diagnosed respiratory diseases linked to the air pollution quality which has 18 times more CO₂ emissions than the WHO maximum guideline



Morning rush hour in Bangkok

- there is a high incidence of lung cancer amongst the adult population and children have unacceptable levels of lead in their blood
- thousands of people a year suffer strain and stress-related illness directly accountable to the severe congestion

- school children leave home for school at 5 a.m. to beat the congestion.

Unlike its 'neighbours' such as Kuala Lumpur, Singapore and Hong Kong, Bangkok does not have a rapid transit system, although one has been planned for at least 30 years. The time has surely come when this has to be authorised.

Suppose you have been asked by the authorities in Bangkok to produce a cost-benefit analysis for a new rapid transit system for the city.

a Using the above information as a guide, what costs and benefits would you include in your analysis?

b On what theoretical basis might you:

- recommend that a new rapid transit system be constructed?
- recommend that there is no case for a new rapid transit system?

c In each case, comment upon how confident you might be of your recommendations.

2 The following is an adaptation of an A level question set by UCLES. Read the feature and then answer the questions that follow.

Cavalier Pet Products

Cavalier Pet Products is a large privately owned manufacturer of canned pet foods based in Bolton, Lancashire, UK. The company, which employs 300 people, is long-established and has been on its present site since it was founded by its owners, the Fazackerley family, in 1906. It is a market leader, producing own-branded products, which are widely advertised and well known.

Because of the nature of its manufacturing processes, the company is a polluter of the local environment. The nauseating smells from the factory, particularly in hot weather, are the main source of complaint. The firm also creates noise disturbance and quite recently was successfully prosecuted for discharging effluent into a local stream running alongside the factory. There is increasing local pressure from residents for something to be done about the whole question of the firm and its operations.

The obvious answer is for the firm to move to another location. The Managing Director of Cavalier Pet Products, Basil Fazackerley, favours such a move but is quite adamant that, 'We will not pay the full cost. If the local council want us to move, then they will have to help us to do so.'

The decision to relocate the factory has long-term implications both for its owners and for the community. In particular, new jobs will be created as the firm increases output and the environment within the vicinity of the present site will experience environmental gain.

The local council has agreed to contribute to the relocation as it can see a benefit to the community. Cavalier Pet Products remains concerned that it should only pay a realistic contribution to the cost of relocation.

In order to sort out these difficulties, a local university was asked to carry out a cost-benefit analysis of the proposed relocation. A summary of its findings is given in Table 3.1.

Costs		Benefits	
Private costs of the relocation	1300	Private benefits	1500
Contribution from local authority	300	External benefits	1200
External costs	400		
Total costs	2000	Total benefits	2700

Table 3.1 Estimated discounted¹ costs and benefits of the relocation of Cavalier Pet Products (£000)

Note: ¹Discounting is a procedure whereby a present value is given to costs and benefits that will occur some time in the future.

- What is the specific purpose of the cost–benefit analysis in this case study?
- With reference to the proposed relocation, give an example of:
 - a private benefit
 - an external benefit arising from the proposed relocation. Explain your choice.
- Use the information in Table 3.1 to state what conclusions you could draw from the cost–benefit analysis.
- You are asked to plan an investigation to estimate the various external costs and benefits of the proposed relocation. Explain how you might do this and comment upon some of the problems you might face.

Economic appraisal of Crossrail

Crossrail is a hugely ambitious rail project that will provide a much needed west–east rail link through from Heathrow Airport to East London. At an estimated cost of £16 billion, it will involve extensive tunnelling work in central London. The case for Crossrail, like any major new transport infrastructure

project, has to be justified through an economic appraisal. This is based on cost–benefit analysis.

The projected user benefits of Crossrail are:

- Value of time savings for current public transport users and motorists. The rationale for this benefit is that once the new Crossrail link opens, many



The Crossrail Heathrow East-London link

users will experience reduced travel times. The opportunity cost of these travel time savings is a benefit to such groups.

- A reduction in crowding and improved journey quality. This benefit will take the form of improved comfort for users transferring to Crossrail from other congested transport modes.
- Reduced operating costs for road users and a reduction in accidents. These benefits will accrue to road users who continue to make their journeys by road whilst a reduction in accidents will also generate some benefits to the local community and to health services.
- Benefits to mobility impaired passengers using Crossrail.

The costs of Crossrail are easier to identify and consist of:

- capital costs of construction
- maintenance costs
- operating costs.

Table 3.2 summarises the estimated monetary values of these benefits and costs. The benefits are split between trips made in the course of work and those made for leisure and commuting purposes.

User benefits		Costs	
	£m		£m
Leisure/commuting trips		Capital costs	10 626
– time savings	7 985	Maintenance costs	1 606
– improved quality	2 889	Operating costs	1 670
– other	355		
Business trips			
– time savings	4 847		
– other	17		
Total benefits	16 093	Total costs	13 902

Table 3.2 Projected user benefits and costs of Crossrail (present value)

Source: Cross London Rail Links, 2005

As Table 3.2 shows, Crossrail is expected to generate over £16 billion of user benefits, with about one-third accruing for business trips that carry the highest

value of time savings per hour of travel time saved. Interestingly, the user benefit is the same as the projected construction costs in 2007.

So far this summary of the cost–benefit analysis has followed the normal methodology. In planning Crossrail, one of the objectives has been to facilitate the continuing development of London’s Finance and Business Services sector. This is a spillover effect arising from Crossrail. Such effects are by no means easy to identify or quantify. Having said this, Cross London Rail Links (CLRL) has estimated likely job creation and moves to more productive jobs in central London. They believe that around 5000 new central area jobs will be created by 2016, rising to 33000 by 2026. Some workers will be able to move to better jobs, representing a benefit to themselves and to the economy through higher tax revenues.

The overall value of the wider economic benefits is estimated at £7.2 billion. Table 3.3 summarises all of the respective benefits and costs.

	£m
Total costs	13 902
Less: Public transport revenue	– 6 149
Plus: Indirect tax reductions	1 207
Net cost to government	8 960
Transport user benefits	16 093
Wider economic benefits	7 161
Total benefits	23 254
Total benefits : net costs	2.60 : 1

Table 3.3 Overall costs and benefits of Crossrail (present value)

Source: CLRL, 2005

SELF-ASSESSMENT TASK 3.3

With reference to the cost–benefit analysis of Crossrail:

- 1 Explain why the valuation of travel time savings is an important item in this cost–benefit analysis.
- 2 Comment on why the cost–benefit analysis is an ‘aid’ rather than a clear mandate for Crossrail to be constructed.

Merit goods, demerit goods and information failure

Another way in which markets may fail is due to the existence of **merit goods** and **demerit goods**.

Sometimes, merit and demerit goods are simply seen as an extension of the idea of externalities as discussed above. A merit good may be described as a good that has positive externalities associated with it. Thus, an inoculation against a contagious disease might be seen as a merit good. This is because others who may not now catch the disease from the inoculated person also benefit. A demerit good is seen as any product that has negative externalities associated with it. Thus, cigarettes can be seen as a demerit good because secondary or passive smoking can be viewed as a possible cause of ill health (a clear negative externality). If this is all there is to merit and demerit goods, then they cannot be seen as a separate category of market failure from externalities.

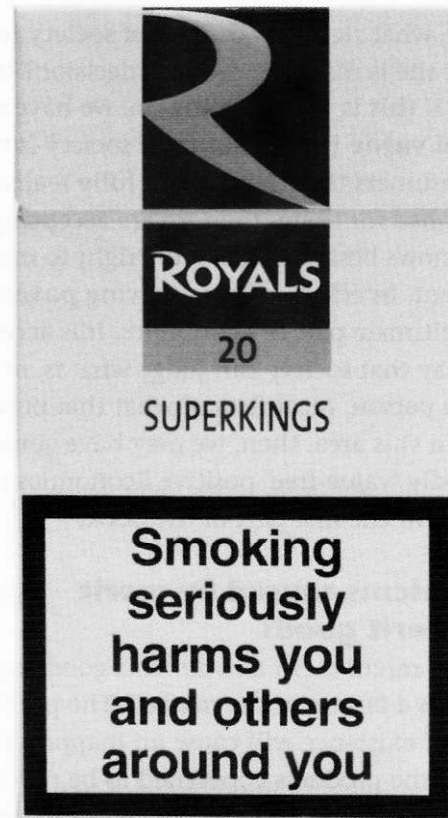
However, merit and demerit goods can (and indeed should) be defined in a different way which makes them different from externalities. The essence of merit and demerit goods in this definition is to do with an **information failure** to the consumer. This arises because consumers do not perceive quite how good or bad a particular product is for them: either they do not have the right information or they simply lack some relevant information. This is why demerit goods are provided by the government for those who are deemed to need them.

Merit goods

With this idea of a failure of information, a merit good is defined as a good that is better for a person than the person who may consume the good realises. Given this definition, education is often defined as a merit good. The individuals who make decisions about how much education to receive (or how much to allow their children to receive) do not fully appreciate quite how much benefit will be received through being well educated. We do not appreciate how good education is for us. We do not perceive its full benefits at the time of making the decision about how much education to receive.

Demerit goods

Demerit goods, on the other hand, are those products that are worse for the individual consumer than the



A packet of cigarettes may be classed as demerit goods

individual realises. Cigarettes are taken to be a good example here. It is suggested that when a person makes a decision to smoke a cigarette, he or she is not fully in possession of all of the information concerning the harmful effects of smoking. If he or she were in possession of such information, then there would be a greater reluctance to smoke.

It is interesting to note that the example of a demerit good given here, namely smoking, is the same as the example of a product that can be seen as having negative externalities associated with it. However, the reason for identifying the product is different. Here, it is not due to the damage done to others that the issue arises, but rather due to the unperceived damage done to the person consuming the product. Hence, information failure.

Merit goods, demerit goods and value judgements

It may have been noticed in the above definitions that a significant question poses itself with regard to merit and demerit goods. Who is to say what is 'good' or 'bad' for a person? If an individual consumer makes a presumably rational decision to consume

a product, what right has the rest of society to say that he or she is making a 'wrong' decision? It seems clear that if this is what is going on, we have entered the area of **value judgements**. If society is able to say to consumers that they do not fully realise what is good or bad for them, then we are accepting that 'society knows best' and has some right to make such a judgement. In effect, we are allowing **paternalism** to be a legitimate part of Economics. It is acceptable for us to say that society can judge what is, or is not, good for a person, regardless of what that person believes. In this area, then, we may have gone beyond our allegedly 'value-free' positive Economics that was introduced in the first part of the book.

The problems caused by merit and demerit goods

Why, then, might merit and demerit goods be identified as a failure of the market? The problem is that their existence will cause an inappropriate amount of the products concerned to be produced.

Merit goods will be underproduced in a free market situation. Insufficient scarce resources will be devoted to their production. The problem is that the lack of information about how good the product is for individuals will result in insufficient demand being registered for the product in the market. This is shown in Figure 3.5. Here, the 'correct' level of demand, if consumers appreciated the true value of the product to themselves, would be D_1 . This would lead to a market price of P_1 where D_1 is equal to the supply of product, S . This price would be associated with a level of production and consumption of Q_1 , the ideal quantity of the good. However, because consumers undervalue the product, demand is only registered as D_2 . This leads to a market price of P_2 (where D_2 is equal to supply, S) which is associated with production and consumption of Q_2 . This is below the optimum level: the market has failed.

Figure 3.6 shows the problem of a demerit good. Here, the 'correct' demand should be at D_1 which will lead to a price of P_1 and a production and consumption of Q_1 . As consumers over-value the product, demand is registered at the higher level of D_2 . This leads to a market price of P_2 and a production and consumption of Q_2 . The market has failed: too many scarce resources are devoted to the production of this demerit good.

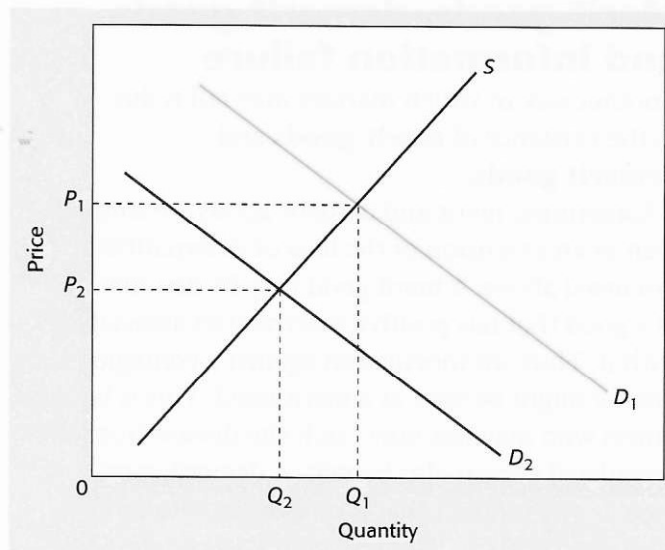


Figure 3.5 The under-provision of a merit good by the market

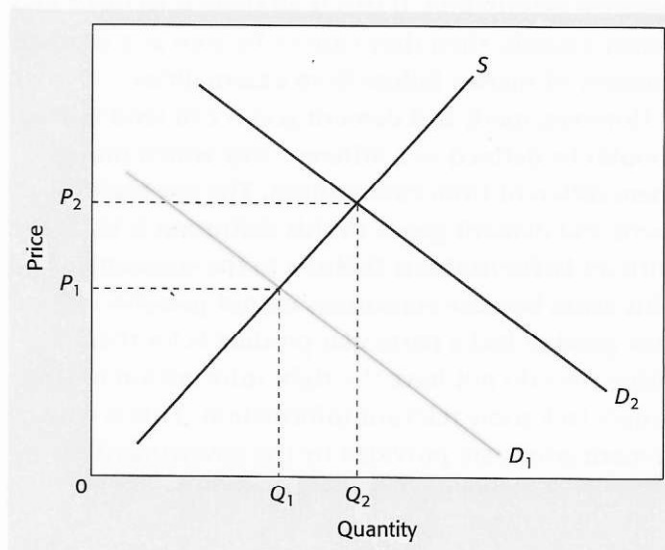


Figure 3.6 The over-provision of a demerit good by the market

Moral hazard and adverse selection

There are numerous other examples of market failure arising from information failure. In welfare Economics two types of situation can be recognised: **moral hazard** and **adverse selection**.

Moral hazard can best be explained in the context of the health care market. Why does anyone go to a doctor? The most usual reason is because we are not sure how to deal with a health problem, whether this be something trivial like a sore throat or something more serious. We visit the doctor to get information –

in doing this we recognise that the doctor is better informed than we are and that the whole point about making this visit is to accept the advice that is given. Moral hazard is when some person in the market (in this case the doctor) is better informed than those seeking advice. However, if the advice is wrong, we shall have made an undesirable choice of treatment. This will be a misallocation of resources and hence, market failure.

Adverse selection is rather different. In this case, the information failure is reversed because information may well be withheld or be inaccurate when it emanates from, say, someone requiring health insurance. This puts the insurer in a position where not all the necessary information is provided for risk to be established. If this happens, then the cost of the health premium will be too low. If this person then requires treatment for an undisclosed problem, the premiums for healthy people will have to rise. In the worst case, if premiums become too expensive, healthy people may no longer seek health insurance as it has become too expensive. This is not good news for the insurer who could be left only with 'bad risk' customers. It might even lead to the collapse of the market through the enforced withdrawal of insurers. Again, there is a misallocation of resources and hence, market failure.

SELF-ASSESSMENT TASK 3.4



Discuss whether each of the following is a merit or a demerit good:

- a compulsory secondary education
- b wearing a seat belt
- c chewing gum
- d visiting a museum
- e playing loud music and shouting at a cricket match.

Public goods

A different type of good from a merit or demerit that may cause the market to fail is referred to as a **public good**. Here, it is not a matter of too much or too little provision of the good in question, but rather whether the product will be provided at all.

There are two specific characteristics that a good must possess if it is to be classified as a public good:

- 1 It must be **non-excludable**. This means that once the good has been provided for one consumer, it is impossible to stop all other consumers from benefiting from the good.
- 2 It must be **non-rival**. As more and more people consume the product, the benefit to those already consuming the product is not diminished.

Once one begins to think about these characteristics, there are a number of goods that can be seen as public goods. Take the example of a lighthouse. Once a lighthouse is built to warn one ship at sea away from a dangerous area of rocks, then by its very nature, this service will automatically be provided to all ships that sail within a certain distance of the lighthouse. It is non-excludable. Equally, the fact that other ships see the light given by the lighthouse and are warned away from the dangerous rocks does not reduce the benefit that any one particular ship receives from that warning. It is non-rival. Very few goods though are pure public goods in the sense that they match both of the above characteristics in full.

Quasi-public goods

While there may be some goods that can clearly be defined as 'public' in nature, there are others that have some of the attributes of such goods without fully possessing the two required characteristics stated above. Such goods are referred to as **quasi-public goods**. They are like public goods without truly being public goods.

In practice, it is not possible to classify all products as being either 'public' or 'private'. Many products lie somewhere in between these two extremes. A good that is closer to a public good than to a private good, but is not fully a public good, is called a quasi-public good.

A good example might be a sandy seaside beach. Such a beach is available to all those who wish to use it. It appears non-excludable. However, it is possible to think of ways of excluding consumers. Privately owned beaches do this. Equally, the beach is non-rival up to a point. If you are the first person on a pleasant beach on a warm sunny day, it does very little to diminish your enjoyment of that beach as a few more people arrive to enjoy the benefits themselves.

However, there may well come a point at which that is no longer the case. As the beach becomes crowded, space limited and other people's conversations and music become ever more audible, enjoyment may perceptibly reduce. Thus the beach has something of the characteristic of non-rivalry, but not the full characteristic. It is a quasi-public good.

The problem caused by public goods

The problem that may be caused in a free market by the existence of public goods is a serious one: the market may fail to produce them at all. There may be a consumer demand for such products (consumers are willing and able, in principle, to pay for the product's services), but the free market may not have a mechanism for guaranteeing their production.

This problem is referred to as the **free rider** issue. Some consumers attempt to gain a 'free ride' on the back of other consumers' purchases of the public good. It is entirely reasonable that they may attempt to do this. One of the key characteristics of public goods is that they are non-excludable. This implies that once one consumer has purchased the product, all other consumers cannot be prevented from benefiting from that product. Take the example of the lighthouse. Once one particular fisherman has provided a lighthouse close to some dangerous rocks for his own benefit, then all other fishermen in the area will benefit equally from the lighthouse. Their advantage, however, is that they do not have to pay for this lighthouse: they have received a free ride on the back of someone else's purchase. The logical thing to do, then, would seem to be for all fishermen to sit back and to wait for one fisherman to be foolish enough to provide a lighthouse so that those not purchasing can benefit without paying. Unfortunately, the implication of this is that the lighthouse will never be provided: everyone waits for everyone else to provide it, and nothing happens.

It could be argued that a more likely scenario to the one described above is that all fishermen in an area might agree to club together in order to make the purchase and thus the lighthouse would be provided. However, there is still a problem here as it is in the interest of any one fisherman to conceal his desire for the lighthouse, refuse to pay but still to gain the final benefit once it is provided. Again, if all fishermen behave like this, the lighthouse is not provided.

The existence of public goods may mean that scarce resources are not used in a way that would be desirable. People may wish for the provision of such goods (they yield utility), but the demand may never be registered in the market.

Private goods

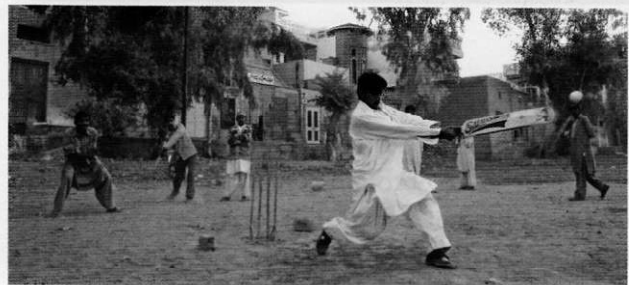
Private goods are those bought and consumed by individuals for their own benefit. Most of the goods we consume are private goods. They have two important characteristics:

- **Excludability** It is possible to exclude some people from using a private good. This is normally done through charging a price. If the price is not acceptable, then that good will not be consumed. Once a private good has been purchased by one person it cannot be consumed by others.
- **Rivalry** The consumption by one person reduces the availability for others. In some ways it seems obvious that when we purchase food, clothes or a textbook then this means that fewer of these goods are available for purchase by others.

SELF-ASSESSMENT TASK 3.5

Explain whether each of the following may be described as a private, a public or a quasi-public good:

- the local police service
- a chocolate bar
- a public park
- a firework display
- a stretch of road
- street lighting
- a berth for a cruise ship
- a public cricket pitch
- a museum.



Private goods can also be rejected if the price is too high or the quality is not what is expected.

These seemingly obvious qualities of private goods are useful since they help us understand what is meant by public goods.

Government intervention

You have only to glance at a newspaper or listen to the news or a political debate for a few minutes to realise that one of the more controversial areas of Economics is concerned with the extent and reasons for government intervention in markets. Governments throughout the world intervene to a greater or lesser extent and the reasons for intervention vary enormously between them. However, the justification for intervention is usually where there is market failure.

We shall now consider what forms intervention can take with respect to the instances of market failure analysed above.

Methods of government intervention

Regulation

The government uses different methods of **regulation** as a means of controlling a market. Legal and other methods are used to control the quality and quantity of goods and services that are produced and consumed.

Regulations have been important in combating negative externalities. For example, excessive levels of pollution are prohibited by regulations that apply to the manufacture of vehicles and the production of electricity. These are just two examples. Regulation may also refer to prices. Examples of price controls include minimum wage legislation and maximum price controls (see Supplement for a wider analysis).

Financial intervention: use of taxes and subsidies

Financial tools, such as **taxes** and **subsidies**, are frequently used by governments to influence production and the prices of commodities in an economy. For example, demerit goods which produce negative externalities are usually subject to high rates of indirect taxation. By contrast, subsidies, involving a direct payment by the government to a producer, make the price paid by consumers less than it should be. Typically, subsidies are paid for goods that give

positive externalities. They might be in the form of a partial subsidy, as in the case of staple food products and public transport, or total, as in the case of free school meals for children from low-income families.

Tax instruments may also vary. In the UK two different forms of taxation are currently applied to the use of vehicles. Vehicle Excise Duty is paid once every six or twelve months for any vehicle using roads. The same amount is paid whether the car is used daily or only once a month. In addition vehicle users pay **excise duties** and value added tax on petrol. In this case the total amount of tax paid rises with the number of miles driven. The first type of tax may deter ownership of a vehicle whilst the second deters use of the vehicle.

Governments also provide the finance that is needed to produce a good or service. It is very important to note that just because the government provides the finance for a product, it does not necessarily mean it has to produce the product. For example, the government could finance education but all schools, colleges and universities might be privately owned and run. Health care may be provided free (financial intervention) but the drugs used in prevention and cure of illness might be privately produced.

State production

In addition to providing the finance it is also possible for a government to take over the production of a good or service, either in whole or in part. In many countries state-owned industries such as electricity generation, coal mining, water provision and railways are entirely owned and managed by the state and are often referred to as *nationalised industries*. In many countries this is no longer the case following the major shift towards privatisation that took place during the 1980s and 1990s. It is also very common to find that some goods and services are produced by both the state and the private sectors. Education and health care are particularly good examples of these types of service industries. State-run hospitals function alongside private hospitals and independent schools operate alongside state schools.

The impact of government intervention on markets

The impact of the different methods of government intervention will vary according to the reasons for market failure and the conditions facing the markets.

Public goods

Public goods, such as defence, need to be financed by the government but they do not necessarily need to be produced by the government. The government will decide upon the optimal amount of defence expenditure and raise revenue through taxation to fund it. The problem facing the government is deciding on the best or fairest method of raising the tax revenue required. One approach is to tax individuals according to their income. Thus those who have the highest incomes (or wealth) will pay most in taxation. Many governments use the 'ability to pay' principle as a basis for their tax systems and this is widely accepted amongst the electorate as being the fairest means of raising tax revenue. In most countries the government takes a larger percentage of income in tax from the rich than the poor. This is called a **progressive tax** system.

Externalities

Setting standards and regulation

Governments frequently use regulation to overcome market failures caused by externalities. Let us consider the case of an electricity company that pollutes the surrounding countryside. The government might intervene by setting standards which restrict the amount of pollution that can be legally dumped. The government would then need to regulate and inspect the company to make sure that these restrictions are enforced. It can do this in several ways, for example by imposing large fines on any company that contravenes the law. Exhaust fumes from cars pollute the atmosphere and to reduce this problem the government can set legal limits on the amount of carbon particles that are emitted from a car's exhaust pipe.

Financial intervention – taxes

An indirect tax would normally be imposed on the individual or firm that causes the negative externality. This is consistent with the so-called 'polluter pays' principle.

In Figure 3.7, in the case where there is no government intervention, the equilibrium occurs at point E, where supply, S_1 , which is given by marginal private cost (MPC), equals demand, D , which is given by marginal private benefit (MPB). However, if

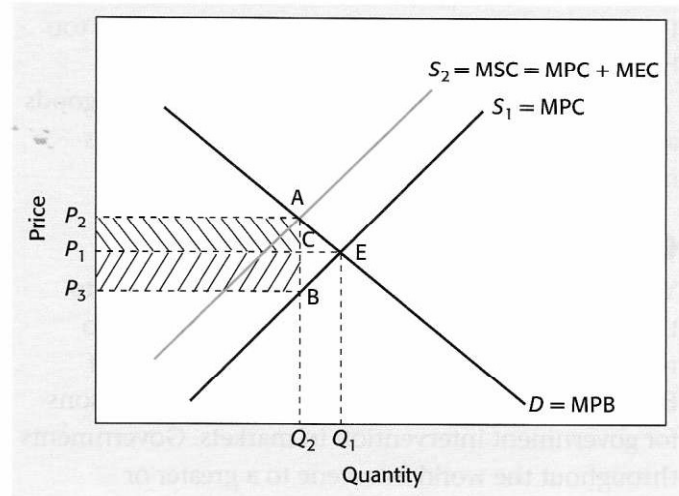


Figure 3.7 External costs and use of taxation

external costs are taken into account, then the supply curve becomes S_2 or marginal social cost (MSC). The vertical distance between these two supply curves is marginal external cost (MEC). The socially optimal level of output is now equal to Q_2 , where S_2 cuts the demand curve. At this socially optimal level of output, the marginal external cost is equal to the vertical distance AB.

The government intervenes in this market and imposes a tax which is equal to the marginal external cost. This tax is added to the cost of producing the product and thus the supply curve S_2 is also equal to the MPC plus this tax. From the diagram, you can see that the price at which the product is sold has increased from P_1 to P_2 . This is less than the tax applied by the government. At first sight this may appear a little strange, but the producer has accepted a cut in the price received from P_1 to P_3 . The producer has borne the burden of part of the tax. The total tax paid is equal to the area P_2ABP_3 , of which the consumer's share of the burden is P_2ACP_1 and the producer's share is P_1CBP_3 . The effect of the negative externality is now internalised within the market.

Financial intervention – subsidies

Financial intervention to overcome market failure caused by positive externalities takes the form of a subsidy. This is shown in Figure 3.8. The equilibrium without government intervention is at point F where $MPC = MPB$ or $D_1 = S_1$. In this case, marginal external benefit is added to the MPB curve to give the MSB

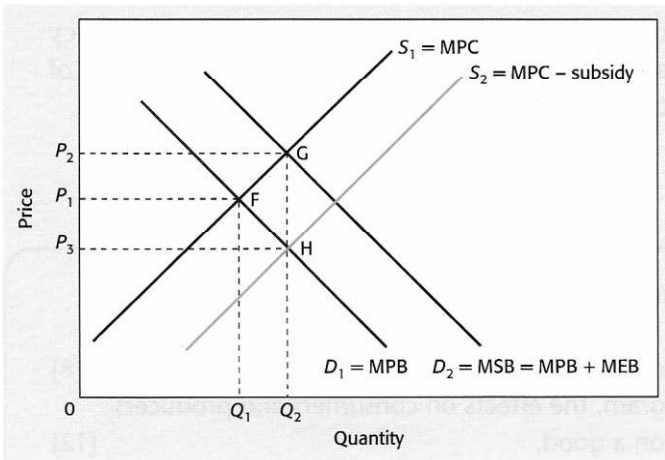


Figure 3.8 External benefits and use of a subsidy

or marginal social benefit curve. The MSB represents society's demand curve for the product.

If the government subsidises production of this product, then the supply curve moves to the right from S_1 , which equals MPC, to S_2 , which equals MPC minus the subsidy. The marginal cost of supplying the good is reduced by the amount of subsidy and the vertical distance GH is equal to the value of the subsidy. Thus the equilibrium after the subsidy is at point H, which is where D_1 crosses S_2 and the optimal amount of goods Q_2 is sold by the market.

As you might expect, there is considerable debate over which is the best method of government intervention when externalities are present in a market. If we accept the argument that education provides external benefits, then one solution would be to provide a subsidy for education. This can be seen where the government subsidises university education. Students still have to pay towards their education in the form of a fee, which can be represented by P_3 in Figure 3.8. The government provides the difference between P_2 and P_3 by providing a subsidy.

Maximum price controls and price stabilisation

We will conclude this core section by considering how governments impose maximum price controls in markets and how price stabilisation policies can be applied in agricultural markets.

Maximum price controls are only valid in markets where the maximum price imposed is below the normal equilibrium price as determined in a free

market. Governments use legislation to enforce maximum prices for:

- staple foodstuffs, such as bread, rice and cooking oil
- rents in certain types of housing
- services provided by utilities, such as water, gas and electricity companies
- transport fares where a subsidy is being paid.

Figure 3.9 indicates that at the price ceiling of P_1 , production is not sufficient to satisfy everyone who wishes to buy the product. Consequently, as price cannot rise, the available supply has to be allocated on some other basis. The most likely way is by means of queuing, a much evidenced form of control in the former planned economies of Central and Eastern Europe (see Chapter 1). Rationing is another means of restricting demand – it inevitably leads to an informal market for the products involved, with consumers then having to pay inflated prices well above the ceiling price.

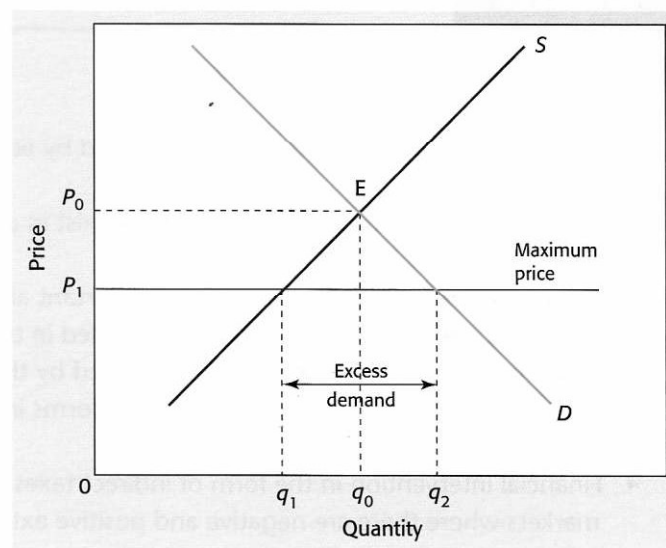


Figure 3.9 The effects of maximum price control

Price stabilisation policies, especially in agricultural markets, are designed to lessen the effects of unplanned fluctuations in supply. A producers' association or a government-backed marketing board regulates supply by releasing stocks on to the market in order to stabilise farm incomes. By releasing buffer stocks at times of shortage or by purchasing excess stocks at times

of surplus production, price can be stabilised at a predetermined level. Although theoretically simple in terms of their economic logic, such policies are

often criticised as they do not promote efficiency and tend to protect farmers from the full force of competition in world markets.

SPECIMEN EXAM QUESTIONS

The following questions have been set in recent CIE examination papers.

- 1 a** Explain how resources are allocated in a market economy. [8]
b Discuss, with the aid of a demand and supply diagram, the effects on consumers and producers when the government introduces an indirect tax on a good. [12]

[20 marks]

(October/November 2007)

- 2 a** Explain the market failure which arises from the characteristics of public goods. [8]
b Discuss whether the use of cost–benefit analysis helps to improve economic decision-making. [12]

[20 marks]

(October/November 2008)

SUMMARY

In this core section it has been shown that:

- Markets do not always operate as suggested by economic theory. There are various reasons why markets fail.
- Where negative and positive externalities exist in a market, the outcome is an inappropriate level of production.
- Using cost–benefit analysis can be an important aid to decision making.
- Merit and demerit goods will not be provided in the right quantities by the market.
- Public goods will not necessarily be provided by the market.
- Government intervention can take various forms including regulation, financial intervention and direct provision of goods and services.
- Financial intervention in the form of indirect taxes and subsidies has been widely advocated for use in markets where there are negative and positive externalities.
- Maximum price controls and price stabilisation programmes are other ways that governments choose to intervene in markets.

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3

Government intervention in the price system Supplement

On completion of this supplement section you should know:

- what is meant by market failure and the main reasons why markets fail to operate in an optimum way
- why monopolies can cause market failure and why they do not achieve allocative and productive efficiency
- what is meant by deadweight loss
- how governments can correct market failure through regulation and policies to redistribute income and wealth
- how to evaluate the effectiveness of these policies
- what is meant by privatisation and why governments believe that privatisation can enhance economic efficiency.

Market failure

In the Core section it was suggested that there may be times when markets do not function well. Three particular reasons were identified:

1 The existence of externalities

- Both negative and positive externalities can cause a market to fail to work effectively.
- Negative externalities exist when the social cost of an activity exceeds the private cost. There is an external cost that is not paid by those directly involved in the transaction. This leads to overproduction of the product involved as the true cost does not directly have to be paid by the producers and consumers of this product.
- Positive externalities exist when the social benefit of an activity exceeds the private benefit. The full benefit to all of society is not gained by those directly involved in an activity. This means that the product is underproduced as demand will not be as great as it should be.

2 Public goods

- Public goods possess the twin characteristics of non-excludability and non-rivalry. Once the good (such as a lighthouse) is produced for one person, it is impossible to stop others from benefiting. Equally, as more and more

people consume the product, the benefit is not diminished to existing consumers.

- Public goods may not be produced in free markets due to the problem of 'free-riding'. No-one is prepared to purchase the product as there is a strong incentive to wait for someone else to do so and then to enjoy the benefit without incurring any cost. If everyone behaves in this way, then the product is not produced.

3 Merit goods

- Merit goods can be defined either as products that generate positive externalities or as products that generate greater benefits to individuals than those individuals realise. Health care could be seen as a clear example.
- Merit goods are likely to be underproduced in a market as the full benefits are not recognised. The demand for the product is thus less than it ideally should be.

The purpose of this chapter is to build upon this earlier analysis and to consider some further ways in which markets fail.

When markets do not work well they are seen to fail. Market failure can now be defined in a more precise manner. It exists *when the operation of a market does not lead to economic efficiency*. A free market

may fail to deliver either productive efficiency or allocative efficiency (or both). Resources are then not being used in the best way possible in that market. So for this reason, the market has failed.

Monopolies and market failure

One important way in which markets can be seen to fail is when a market is dominated by a single supplier, a monopoly.

A monopoly technically exists where there is just one firm in the industry. However, an industry can be deemed to be a monopoly when it is dominated by one firm. There are two reasons why monopolies might be expected to develop:

- **Economies of scale** Where there are significant economies of scale present in an industry, firms will have to be very large in order to effectively exploit those economies (see Self-assessment task 3.6 on Mauritius sugar industry).
- **The profit motive** It is assumed in Economics that firms aim to maximise profits. A very effective way of maximising profits is to destroy competitors. Given this, a free market may move towards a monopolistic market.

The problem with this tendency towards monopolistic markets is that there are economic reasons to expect such markets to be inefficient. They are unlikely to be either productively or allocatively efficient. In other words, there tends to be market failure in monopoly markets.

A useful way to understand the problems of monopolies is to try to compare the possible production point of an industry if it were a monopoly as opposed to being a competitive industry (see Figure 3.10).

In a fully competitive market (a state of perfect competition), price is determined by the interaction of supply and demand. The equilibrium price and quantity will be where the supply curve intersects the demand curve. This information can be seen on the diagram. The average revenue line (AR) is the same as the demand curve. In a perfectly competitive industry, the marginal cost curve (MC) is the same thing as the supply curve. Thus the equilibrium price in the perfectly competitive industry is P_1 and the quantity is Q_1 .

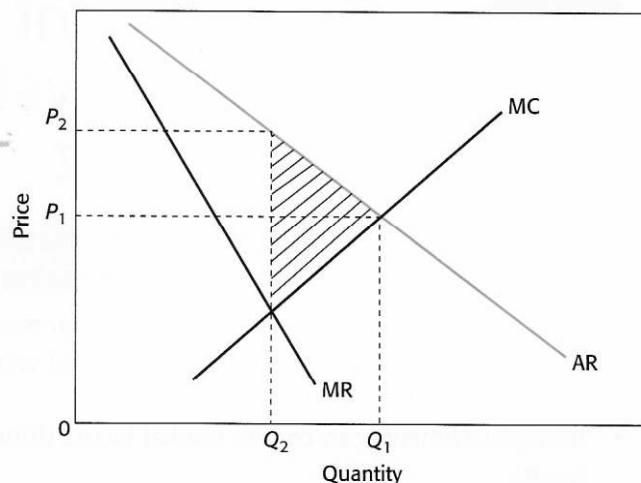


Figure 3.10 A comparison of monopoly and a competitive market

The situation is different in a monopoly market. Here, the firm has the power to set the price for the whole industry. Given this, the profit-maximising monopolist will choose to set the price at the point where marginal cost is equal to marginal revenue as this is the point of profit maximisation. On the diagram, this is indicated by the price of P_2 and the quantity Q_2 . This suggests that price will be higher and quantity lower in a monopoly market than in a competitive market.

The problem is not simply that price is higher under monopoly. The essence of the problem is that price is above marginal cost (as is clear on the diagram). This means that there is not allocative efficiency. Price is higher than the cost of producing the last unit of production and thus demand and production are too low. There are insufficient scarce resources directed to the production of this product. There is inefficiency.

In addition to allocative inefficiency, there may also be productive inefficiency in monopolistic markets. It is possible that the cost curve indicated on the diagram may rise if the market is a monopoly compared to its position in a competitive market. This is due to x-inefficiency. This is a phrase used by economists to describe the tendency of costs to drift upwards in monopolies. The reason for this is easy to see. Monopolists do not have the same competitive pressures operating upon them as do firms in competitive markets. Whilst a monopolist may have the incentive of profits to keep costs as low as possible, there is not the same threat of bankruptcy.

A monopolist can 'get away with' higher costs as there are no rivals who will take away the trade if costs and thus prices are higher than is possible. Thus costs tend not to be at their lowest possible level. There is not productive efficiency.

The profit-maximising point is where marginal cost is equal to marginal revenue. It can be seen that

this point is not the minimum point on the average cost schedule and thus that there is not technical efficiency.

The conclusion is clear: monopoly markets tend to fail. They do not lead to resources being used in an optimum way and thus there is economic inefficiency.

SELF-ASSESSMENT TASK 3.6

Read the feature below and then answer the questions that follow.

Mauritius sugar sector offers lessons for Kenya

The lush green fields of sugar cane farms in every village and every hamlet, every state and every city distinctively identify Mauritius as a top sugar producer.

Unlike the Kenyan bittersweet sugar story, the success of the Mauritius sugar industry boils down to favourable policies introduced by the government that amalgamated the factories.

The government has also created policies to push diversification and cogeneration among the millers that are now owned by private developers. Sugar cane is grown on about 90% of the cultivated land area and accounts for 25% of export earnings.

Sugar farms occupy 62000 hectares of land out of the total country area of 204000 hectares. And as Kenya mulls over switching to irrigation from rain-fed agriculture, in Mauritius large overhead sprinklers sustain the sugar cane fields all year round.

The sector also contributes up to 60% of the Indian Ocean island's electricity requirements, according to the director of the Mauritius Sugar Producers Association, Jean Li Yuen Fong.

One of the foremost reform policies that have spurred this development is the amalgamation of sugar factories. Initially, the country had over 250 factories. According to Mr Fong, essentially every large-scale farmer owned a mill.



Sugar cane processing factory in Mauritius

Over time though, the entrepreneurs were forced to centralise to achieve economies of scale.

The factories were reduced to 23, then seven. But the amalgamation is not over yet, stated Mr Fong.

'In the medium term, we shall have between four and five factories left. This is to optimise the efficiency while also bringing down the cost of production.'

Soon after he took over the reins at Kilimo House, Agriculture Minister William Ruto put forward an idea to consolidate the management of the existing factories to make the industry more competitive and achieve the economies of scale.

In his proposal, Chemelil, Miwani, Muhoroni and Agro Chemical Food Company could be merged into one large mill. Mr Ruto also stated that small factories stood no chance of withstanding competition from the region unless they diversified into ethanol and bargasse production.

In Mauritius, nothing goes to waste as the green sugar cane leaves are used as fodder while dry ones go into thatching houses and exclusive beach hotels. The residue from the factories is used as manure. The Mauritius Sugar Industry Research Institute is charged with crop development.

Every farm has a beacon that bears the cane varieties so far planted and the date of next planting. Each variety produces eight ratoon crops before a new one is planted.

Jean Ribet, the president of Mauritius Chamber of Agriculture states in an industry annual report

that the subsector is still yet to relax as more reforms are lined up.

'With the coming into operation of the World Trade Organization and the Economic Partnerships Agreements, we face competition as the EU opens its market to other producers,' he said. 'This will see sugar prices go down by about 36% and we have now been forced to restructure our industry through further amalgamation and diversification.'

In contrast to Mauritius, Kenya remains at odds with itself on how to go about privatisation. And as Kenya struggles to find a compromise in the ownership of the millers lined up for privatisation, Mauritius law is very clear that 35% of the shareholding is left to farmers and employees.

Source: Menya, W., Business Daily, All Africa Global Media, 21 August 2009 (adapted)

- 1 Using the information above, explain the benefits to the economy of Mauritius of the on-going amalgamation of sugar processing factories.
- 2 The proposed merger of four companies will lead to a technical monopoly. Discuss the extent to which this may not necessarily be beneficial to the hundreds of sugar cane producers.

Deadweight loss

Market failure can also be understood through an economic concept known as **deadweight loss**. This term refers to the loss of economic welfare due to the fact that potentially desirable production and consumption does not take place. There is not as much producer and consumer surplus as there would be if all such desirable trade took place. This loss of surplus is called 'deadweight loss'.

Deadweight loss can be seen to occur in a monopoly market when comparing that market with a competitive market. This is also illustrated in Figure 3.10 (page 140). The competitive outcome is given in this diagram by price P_1 and output Q_1 . This represents the optimum production and consumption position. Just the right amount of resources is being used to provide this product. This is in contrast to the monopoly outcome given by price P_2 and

quantity Q_2 . Here, there is underproduction and underconsumption. Too few resources are used in the production of this good because the price is too high. A measure of the resulting loss of economic welfare is given by the shaded triangle in the diagram. This indicates the loss of net consumer and producer surplus due to the monopoly. It is the deadweight loss due to the monopoly.

Deadweight loss can also be seen to operate when a government imposes an indirect tax on a product. This is shown in Figure 3.11.

The price and quantity of the product are given by the intersection of supply and demand before the tax is imposed. This gives a price of P_1 and a quantity of Q_1 . The imposition of the tax is the equivalent of an increase in the costs of production and thus it shifts the supply schedule to the left (S to S_1). This leads to a higher price, P_2 , and a lower quantity, Q_2 . This

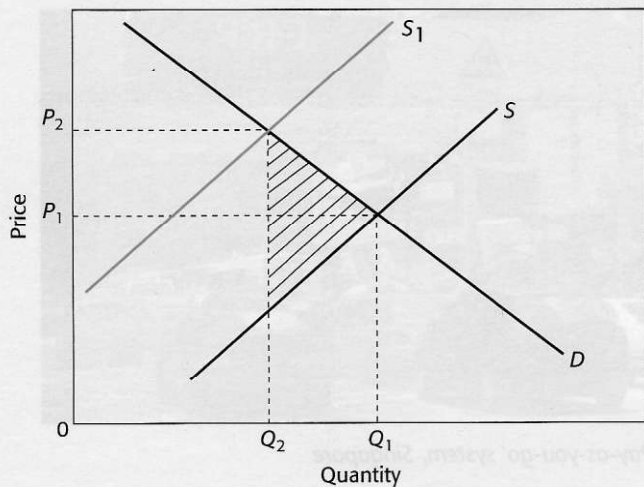


Figure 3.11 Imposition of an indirect tax

means a deadweight loss for the same reason as in a monopoly. Desirable production and consumption are discouraged because of the higher price. The resulting overall loss of economic welfare is shown by the shaded triangle. It gives a measure of the amount of deadweight loss due to the imposition of the tax. From a wider perspective, excessive taxes can undermine competitiveness in a market.

Government intervention to correct market failure

Introduction

In the Core section you read that when the market did not appear to work well (there was obviously market failure present) then the government intervened in order to try to improve the situation. Specifically, the following four forms of government intervention were identified.

1 Maximum prices

- If a price were seen to be too high, then the government might impose a maximum price.
- A maximum price could be imposed on a monopoly market in order to moderate the price. This is a policy used in some countries by regulatory bodies.
- A maximum price might also be used if there were concerns that consumers could not afford an important product, such as housing.
- The effect of a maximum price could be to create shortages as it could lead to demand exceeding supply.

SELF-ASSESSMENT TASK 3.7

Read the feature below and then answer the questions that follow.

Jam today, road pricing tomorrow?

Singapore invented it, Norway copied it, Stockholm spent 20 years and \$1 billion before thinking again, whilst Hong Kong retreated at the last moment in the face of a popular revolt but is determined to try again. It is against this international context that in Summer 2005 the British government unveiled its plans for a national 'pay as you drive' system of charging for the use of road space. Since the announcement, there has been considerable opposition to this radical scheme. As a result, there has been an about-turn in policy, leaving road pricing decisions to particular towns and cities.

The bottom line is that politicians are terrified of road pricing; indeed they prefer not to be seen

to be interfering with the ability of the country's 28 million drivers to be able to use their vehicles when they want, where they want and at no additional cost above the massive levels of taxation that they are already pouring into the Exchequer from fuel duties, taxes on new vehicles and an annual road fund tax. The scale of the problems which the UK is facing is so serious that it cannot be ignored.

At the same time there is a remarkable consensus amongst economists that road pricing is the only way in which the country's congestion problems can be resolved. It is seen as a sensible way of dealing with the problem of a scarce resource, road space,

which is inefficiently used and as a consequence, generates substantial costs to the community. Road pricing is not only the answer to congested city roads – it is a fair and logical outcome to a classic example of market failure.

Returning to Singapore, for many years now the government has imposed high customs duties on imported cars and set stiff registration fees and high annual road taxes. In addition it requires anybody buying a new car to get a permit, currently priced at between \$27 000 and \$49 000, well above the average annual income per head. If this were not enough, for the past 30 years, to enter a restricted city zone, drivers must pay a \$2 flat rate charge in the morning peak period, falling to \$1.30 at off-peak times. When the peak charge was extended to the rush hour in 1989, it further reduced traffic.

From Spring 1998, a new automatic ‘pay-as-you-go’ system replaced the above rather crude system. Using the latest micro-chip technology, charging is automatic (smart cards can be pre-loaded up to \$150) and is based on the actual contribution to congestion made by individual car users. To the economist this is in many respects a ‘dream ticket’ – it matches in full the well-known ‘polluter pays’



‘Pay-as-you-go’ system, Singapore

principle so strenuously advocated in text books yet so very rarely applied in practice.

But will it work in Britain? This is highly problematic, not least because, unlike Singapore, Britain does not have a world-class public transport system to provide a realistic alternative for urban travellers. If the country is serious about resolving its transport problem it must be as radical as the objections it faces. For a start, it could learn a lot from Singapore.

Source: The Economist, 6 December 1997 (adapted); Bamford C G et al, OCR A2 Economics, 2009.

- 1 **a** Explain why traffic congestion is a classic example of market failure.
- 1 **b** How in theory should a government deal with the problem of traffic congestion?
- 2 Suppose you have been invited to make a presentation to politicians and planners on how the experience of Singapore in dealing with its congestion problems might assist your country

in reducing its urban transport problems. Briefly draft this presentation under the following headings:

- the main benefits of road pricing in Singapore
- the data you would need in being able to measure these benefits
- why the experience of Singapore may not be entirely relevant for your own country.

2 Price stabilisation

- Some markets are susceptible to undesirable swings in the market price of the product. This is particularly true of the agricultural market.
- Prices may be stabilised by the government to protect the real incomes of both consumers and producers.
- In agriculture, the use of buffer stocks represents a way by which prices could be stabilised.

3 Taxes and subsidies

- Taxes can be used to discourage the production of a product. Subsidies encourage production.
- Taxes may be placed on products that generate negative externalities and would normally tend to be overproduced.
- Subsidies might be paid to producers of goods and services that have positive externalities and are merit goods. Such products, such as health

care and education, would be underproduced by the free market.

4 Direct provision

- The government may decide to provide some products itself.
- The main economic justification for the government providing goods and services is that they would not be produced otherwise. This can be seen to be the case with public goods.

The purpose of much of the remainder of this chapter is to consider further why governments intervene in markets and to analyse further policies that may be available for such intervention.

Objectives of government microeconomic policy

It is possible to identify two possible economic justifications for the government to intervene in the operation of free markets:

- 1 Governments may intervene in markets in order to try to restore economic efficiency. If markets are seen to be failing, for the sorts of reasons indicated earlier, then the government may try to move the market to a more efficient position through the use of various policies. Both productive and allocative efficiency could be improved through the introduction of appropriate government policies.
- 2 A further concern over the operation of free markets is to do with equity. Even if markets may be judged to be efficient, they may not be judged to be equitable.

Equity is to do with 'fairness'. The outcome of a free market may be judged to be 'unfair'. This can be seen in the comparison that is sometimes used between so-called 'political democracy' and 'economic democracy'. A free market is sometimes likened to an economic democracy. Consumers are the voters and money represents the votes. Those products that are 'elected' are those that receive most money votes. Thus, free markets produce allocative efficiency as they ensure that those products most in demand are those that are produced. There is, however, one important difference between these two democracies. The underlying principle of the political democracy

is that of 'one person – one vote'. This is clearly not true of the economic democracy. Here, the number of votes varies greatly between individuals. Some have very few, if any, whilst others have very large numbers of votes. Some would judge this to be inequitable and an undesirable aspect of market economies.

This area of Economics is not without difficulty. One person's judgement of what may be 'equitable' is not necessarily the same as another person's view. This is 'normative' economics: there are clear value judgements to be made between what is 'right' and 'wrong'. The role of the economist is usually seen as identifying the inequality and allowing others (such as politicians) to judge its desirability.

If the outcome of the market economy is deemed to be unacceptably inequitable, then governments can use policies to try to reduce the inequity. This could be within a country or it could be international in scale.

Government regulation

One further form of intervention available to governments mentioned briefly in the Core chapter is that of regulation. Regulation is the use of legal intervention to force consumers and producers to behave in certain ways. It is the use of government legislation in order to produce a more desirable economic outcome than that achieved by the free market.

Economists generally do not favour the use of government regulation. It is seen as a 'blunt' instrument. It forces consumers and producers to do (or not to do) certain things rather than to provide incentives. It can be seen as working against the market rather than with the market. However, governments may judge that regulation is sometimes required if a more desirable outcome is to be achieved.

Government regulation may be used in order to control the behaviour of monopolies. There are several forms of regulation that can be used for this:

- **Legislation that outlaws the formation of monopolies** This is usually referred to as merger policy. It takes the view that the formation of a monopoly in a market may be undesirable and thus, under some circumstances, mergers that would create a monopoly would not be allowed to occur.
- **Legislation that forbids certain types of monopoly behaviour** An example might

be 'predatory pricing'. This is when a powerful producer deliberately sets its price below that of its competition. It does this in order to try to destroy competition. Either a current firm is to be driven out of business or a potential new firm is dissuaded from entering the market. It thus maintains or strengthens the monopolist's position and can lead to inefficiency.

- **Laws that insist on certain standards of provision** These try to ensure that there is a guaranteed quality of product provided in monopoly markets.
- **Regulations that insist on certain levels of competition in an industry** A range of possibilities exists here. This policy has often been used in the telecommunications industry.

Government regulations can be used in other areas to try to overcome market failures, for example, to tackle environmental problems. A common

approach suggested by economists is to use indirect taxes to tackle negative externalities that lead to excessive environmental costs and to give subsidies to encourage environmentally friendly production techniques. However, a more direct approach is simply to legislate and outlaw certain behaviour that creates environmental damage.

Laws may be passed by governments that disallow certain types of pollution. Any producers found to contravene such laws are prosecuted and thus pollution is reduced. Laws are seen as necessary in some situations to stop the excessive depletion of natural resources. There is no marginal cost for the using up of scarce resources such as public pasture by cattle herders. However, there is a cost imposed on others if the pasture becomes over-grazed. Thus regulations are needed. A similar situation can be seen with the over-fishing of fish stocks. Without regulation fishing stocks become dangerously depleted (see Self-assessment task 3.8).

SELF-ASSESSMENT TASK 3.8

Read the feature below and then answer the questions that follow.

China's fishing fleet sets challenge to US

China is the world's major fishing power. With an estimated 300 000 motorised fishing vessels and 8 m fishermen, in 2007 around 17 m tonnes of fish were caught. This is four times that of Japan, its nearest competitor, and way above what is netted by the US and other Pacific countries. These mind-blowing statistics leave little doubt about the severe strain of over-fishing that is being felt across the world's fishing areas. There are also wider concerns of sovereignty as Chinese fleets trawl further and further away from home as China's own resources have been fully exploited, with many areas facing almost complete exhaustion.

At any one time, there are close to 300 Chinese vessels operating in West African waters. Here, they tend to fish for mackerel and other low-value species. This fishing is often legal; at times



it is not, for example off the coast of Sierra Leone where fisheries protection vessels are essential in maintaining the country's territorial limits. The worry is that Chinese practices could take away the livelihoods of local fishermen and exaggerate the food crisis in Africa and elsewhere.

China has signed various bi-lateral fishing agreements with neighbouring states. It has also taken steps to protect some of its own coastal waters and to pay subsidies for fishermen to scrap their vessels. China has though refused to ratify the UN Fish Stocks Agreement, in force since 2001. On a more encouraging note, for over a decade the US Coast Guard has been co-operating with China's

Fisheries Law Enforcement Command to enforce a UN prohibition on drift net fishing in the North Pacific. If fish stocks are ever to return to environmentally sustainable levels in many parts of the world's oceans it is essential that the Chinese government makes positive moves to co-operate in the development of meaningful regulations to restrict the volume of catches made by its own fleet and by the fleets of other major producers. If not, then an environmental catastrophe seems inevitable.

Source: Asia Times Online, August 2009 (adapted)

- 1 Why is the depletion of fish stocks a case of market failure?
- 2 Use a demand and supply diagram to explain how the enforcement of regulations limiting the volume of catches affects the market equilibrium.
- 3 Apart from regulations, discuss the ways in which governments can intervene in the market to prevent over-fishing.

Government policies to redistribute income and wealth

There are three main types of policies that are available to reduce inequality in the **distribution of income** and wealth. These are:

- monetary benefits
- the tax system
- direct provision of goods and services.

Monetary benefits

A simple way to redistribute income is to pay benefits out of **government expenditure** to those on low incomes. Money is raised through the tax system and then paid to low income individuals and families in order to increase their disposable income. There are two types of such benefits:

- **Means-tested** These benefits are only paid to those on low incomes. They are targeted directly at those who are seen to be most in need. An example would be unemployment benefit. However, such benefits are not always claimed

by those for whom they are designed. They can also create a disincentive to work (see Chapter 2 Supplement). If such benefits are reduced through an individual earning more, then there is an incentive not to earn more. This is the so-called **poverty trap**.

- **Universal benefits** These are paid out to everyone in certain categories regardless of their wealth and income. Examples include universal state pensions and child benefit. Such benefits overcome the two problems associated with means-tested benefits. However, they imply paying out money to many who do not need it and therefore tend to be expensive to operate.

The tax system

The tax system can be used in order to reduce inequalities in income and wealth. This is specifically through the use of **progressive taxation**. Progressive taxes lead to those earning higher incomes being taxed a higher percentage of their income than those on lower incomes. Thus income differentials are

reduced. Most **income tax** systems are progressive in nature. The average rate of tax rises as people earn higher incomes. Indirect taxes on products which are bought usually tend to be **regressive**.

Taxes can also be imposed upon wealth in order to reduce wealth inequalities. One example might be inheritance tax. Individuals who inherit more than a certain amount of wealth may have to pay some of the value of that wealth in tax to the government.

Direct provision of goods and services

A further way of reducing inequalities in society is for the government to provide certain important services free of charge to the user. Such services are financed through the tax system. If such services are used equally by all citizens, then those on lowest incomes gain most as a percentage of their income. Inequality is thus lowered.

The two most significant examples of such free provision in many economies are health care and

SELF-ASSESSMENT TASK 3.9

Read the feature below and then answer the questions that follow.

Income inequality in Pakistan

The distribution of income in Pakistan remains a serious economic and political issue. Although estimates vary, and some of the data is unreliable, the general picture is that the rich are getting richer and the poor becoming poorer. Moreover, income inequality is now more than in any other time in Pakistan's history. Table 3.4 provides a perspective on this problem.

	1978	1988	1999	2002	2005*
Income share of lowest 20% population (%)	7.2	8.8	7.8	7.0	6.6
Income share of highest 20% population (%)	45.6	43.5	46.5	47.6	50.0

Table 3.4 *Inequality measures*

Note: * estimate

There are many varied reasons for this state of affairs. Two very relevant ones are the distribution of assets and the tax system. The poor have few or virtually no assets; the incidence of tax on the



The distribution of income in Pakistan is a serious problem

poor has also had an effect in so far as in recent years, the poor have experienced an increase in their tax burden whilst there have been no particular changes for the highest earners. This is surely against the whole concept of a progressive tax system.

Source: www.pakistan.gov *Employment and Income Distribution, Paper No. 14*

- 1 Use the data above to describe the changes in the income distribution of Pakistan from 1978 to 2005.
- 2 Discuss the policy measures that could be used by the government of Pakistan to reduce income inequality.

junior and secondary education. These markets are characterised by various market failures. However, these failures do not, according to standard economic theory, justify free provision to the consumer. The justification must thus be on the grounds of equity. The view is that everyone should have access to a certain level of health care and education regardless of wealth and income. Thus, these services are provided universally free: they are the material equivalent of monetary universal benefits.

The effectiveness of government policy

In principle, government policies to reduce market failures make economic sense. They increase the level of economic efficiency in markets and thus must be judged to be economically desirable. However, in practice, all may not work out as planned. Governments may themselves fail. There are reasons why government intervention may in fact create further inefficiencies and thus not improve the use of scarce resources in a society.

There are three main reasons why there may be **government failure**, through problems of:

- information
- incentives
- distribution.

Problems of information

Once the government starts to intervene in the running of markets, it needs information. The correct policies can only be introduced if governments have the correct information. The problem is that governments may have inaccurate information. In this case, they may introduce policies that lead to greater economic inefficiency. Some examples of this problem could be the following:

- There is a lack of information about the true value of a negative externality. It is often very difficult to give an accurate figure for the value of a negative externality such as pollution. It is difficult both to put an accurate figure to all of the costs imposed and to trace the source of the pollution itself. The problem with this is that it then becomes very difficult to impose the correct value of a tax that attempts to reduce production

to an efficient level. The wrong level of tax will lead to the wrong level of production.

- There is a lack of information about the level of consumer demand for a product. If the government is providing a product free of charge to the consumer, then some estimation of the level of consumer demand is required. This could be the case with a public good. However, the government must try to provide the right amount of such goods. If it does not estimate the level of demand accurately, then the wrong amount will be produced and thus there is inefficiency.

Problems of incentives

A further problem arises with government intervention in the economy due to the creation of undesirable incentives. These can create inefficiencies. Some examples of the ways in which this can happen are as follows:

- The imposition of taxes can distort incentives. The most obvious example of this is the possible impact of an income tax upon the incentive to work. High marginal rates of taxation can create disincentives for people to work harder and gain more income. If this happens, then scarce resources are not being used to their best effect and there is inefficiency. A similar point can be recalled from the earlier discussion of the deadweight loss of a tax. The disincentive to consume and produce created by the tax led to the wrong amount of a product being produced.
- Politicians may be motivated by political power rather than economic imperatives. Politicians are often seen as being motivated principally by the desire to remain in government. If this is so, then economic policies may be designed by governments to try to retain power rather than to try to ensure maximum efficiency in the economy. Thus, an unpopular tax on a product that produces negative externalities, such as car use that creates pollution and environmental damage, may be avoided due to the government's fears that it could lead to a loss of votes.
- Those running public services may have inappropriate incentives. Once products are provided by the government, then the profit

motive of the private sector is largely removed. The question then remains as to what may motivate those in charge of providing public services. There is no entirely clear answer to this question. At its worst, it could become a total lack of incentive to produce the product well or attempts to defraud the system.

Problems of distribution

Government intervention in the running of the economy is often justified by the need to reduce inequality. However, it is possible that government intervention might sometimes increase existing inequality. This is simply understood by recognising that the imposition of any tax will have a distributional effect. Thus, a tax on energy use that aims to reduce harmful emissions of greenhouse gases will have different effects on different groups of people. If the tax is on the use of domestic fuel, then older members of society may feel the greatest effect as they use proportionately more domestic fuel for heating than others in society. This could be seen as unfair and increasing inequality in society.

SELF-ASSESSMENT TASK 3.10



Explain why each of the following is an example of government failure.

- a An underestimation of the full benefit to society of public transport that means only a small subsidy is being provided by the government.
- b The building of a new road that has unclear benefits in an area where the government fears that it could lose votes at the next election.
- c A high tax on health care that forms a significant part of many poorer people's budgets.
- d A high level of unemployment benefit that means that people can sometimes earn more by not entering paid employment.

Privatisation

In a simple sense, **privatisation** refers to a change in ownership of an activity from the public sector to the private sector. In many instances, as in the UK, privatisation has returned activities that had

previously been nationalised to new private owners. In a modern sense, privatisation means more than this and is now recognised to include the following:

- **The direct sale of government-owned and operated activities to the private sector**
The nature of the sale can be diverse and includes offering shares to the public, management and worker buyouts, the direct sale to new owners and, in some cases, a partial sale with the government retaining some share in the new business.
- **Deregulation** through the removal of barriers to entry which had protected the public sector from outside competition. Through this action, a contestable market can be created (see Chapter 2 Supplement).
- **Franchising** This can give a new private sector owner the right to operate a particular service or activity for a given length of time. In some cases, the franchise might be an exclusive one; in other cases, some competition may be experienced.
- **Contracting out of services** previously provided in-house by public sector organisations. Normally, this involves activities that are deemed not to be core to those organisations. In some cases, contracting out allows public sector-based organisations to openly compete with private sector businesses for a particular contract.

By any yardstick, privatisation in the UK economy since 1979 (when a right-wing Conservative government led by Mrs Thatcher was elected) has been substantial. In 1979, the nationalised industries accounted for about 9% of GDP and 7% of employment. By 2000, these statistics were just 2% in each case. Table 3.5 shows the extent of privatisation in this period.

As this table shows, the principal privatisations were in the fuel and power and transport sectors. Both were nationalised in the late 1940s, and under government ownership both relied heavily on various forms of subsidy to cover their losses. Under public ownership, it was also recognised that the government was unable to fund the extensive investment programmes needed to enable them to compete in a rapidly changing UK economy. The table also shows how the government withdrew its support from a wide range of manufacturing activities. In many cases, this support had been

Fuel and power

National electricity generation and regional supply

National gas production and regional supply

Coal production

Nuclear power production

Transport

Railways, passengers and freight

Local and national bus services

Some major airports

British Airways, the national airline

Some road freight services

Some ferry services and ports

Other

Water supply

Telephones and telecommunications

Various manufacturing companies including British Steel, British Aerospace, British Petroleum, British Sugar Corporation, Rover Group, British Shipbuilders

Table 3.5 Privatisation in the UK economy between 1979 and 2000

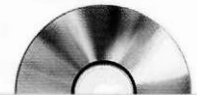
essential in order to keep 'lame duck' companies solvent and safeguard employment. In many respects, the UK has led the way when it comes to privatisation. Other economies, developing as well as developed, have drawn upon the UK's experience to pursue their own privatisation policies.

Why privatise?

Taking the UK economy as a particular example it is possible to recognise various reasons for the extensive privatisation shown in Table 3.5. Some are economic, others much more concerned with political motivation. For example:

- In the early phase of privatisation, there is little argument that there was a deliberate commitment *to reduce government involvement in the economy*. A return to market forces was seen as necessary for many nationalised industries to achieve an efficient allocation of resources. Public ownership was believed to be a serious obstacle to these industries meeting their particular objectives.

SELF-ASSESSMENT TASK 3.11



Read the feature below and then answer the questions that follow.

Rail privatisation rolls across the continent of Africa

For the national governments, the value of these concessions has been threefold. First, subsidies and government expenditures have been significantly reduced, and in some cases, eliminated. Also, given that roads in most parts of Africa are provided by the government, traffic carried by rail has reduced congestion and public investment in roads. This has eased the financial burden of the railway on governments, suggesting that it could allocate funds to other priority areas in dire need of funding such as education and health care. Second, governments have earned, and continue to earn revenues from annual concession fees averaging about 4–6% of turnover and tax from the operator. This is in addition to the modest lump sum typically paid at the start of the concession.

Finally, the revitalisation of the railway has provided regeneration benefits along its routes, particularly in agriculture and mining.

Despite this positive track record, the World Bank reports that only one concession has operated in an uninterrupted manner for five years, and one national concession, in Gabon, has been cancelled outright. Inconsistent or inadequate investment in infrastructure, the continued decline in passenger service, staff issues and selective service provision – not to mention civil war and natural disasters – are all challenges that many countries must resolve.

Understandably, concessionaires are reluctant to invest in infrastructure with a life beyond the duration of their concession, or where the long-term

economic and political risk is high, as it is in most African countries. They also do not usually generate enough revenue to cover the cost of infrastructure improvements by themselves.

It means that governments are left with the burden of funding infrastructure improvements, but these are often subject to long delays. In Malawi, the concessionaire and the government are at odds over who should pay to rebuild a bridge which was washed away. This deadlock means poor service and reduced income for the concession.

Passenger service is another contentious issue. Passenger traffic is often unprofitable, and concessionaires are usually uninterested or unwilling to maintain passenger services unless government subsidy is provided. This is the case in the joint concession of the Senegal–Mali railway, where only a limited passenger service is being provided until the government provides new rolling stock, which it has agreed to do. In other countries, such as Tanzania, the concessionaires are expected to cross-subsidise passenger services with freight, which many are not keen to do, because in many countries, buses are far cheaper than trains for passengers. Where the railway provides the only means of transport, it generally retains a service.



Rail freight in Africa

Another key social issue is human resources. Staff levels on most state-run railways in Africa are high, often the result of trying to achieve political ends rather than an attempt to improve the railway. Until recently, the soon-to-be-concessioned Nigeria Railways Corporation, which carried approximately 60 000 tonnes in 2004, employed 13 000 staff. It is no surprise that in almost every case, rail concessioning has led to massive staff cuts. These are often resisted by staff, unions, or political groups, causing delays in the process.

Source: Roy, M-A. and Kieran, P., International Railway Journal, March 2006

1 Explain the benefits of rail privatisation in Africa.

2 Comment on why some countries have continued to rely on the state to operate their national rail networks.

- There was also a deliberate policy to widen share ownership amongst the population and amongst the employees of the privatised companies. In this way, people who previously had no opportunity to own shares could purchase small quantities of shares in businesses where they were consumers. From an employee's standpoint, share ownership was seen as a way of enhancing motivation and improving labour relations in a company.
- Privatisation can generate benefits for consumers in the form of lower prices, wider choice and a better quality product or service. x-inefficiency would be

likely to be reduced as firms become more aware of the need to control costs to stay in business. Consumers and shareholders therefore become pivotal in the affairs of privatised companies. Under state ownership consumers often took second place to the needs of the producers.

- The sale of nationalised industries has generated substantial income for the UK government over a long period of time. This has been estimated to be £70–£80 billion and has been very important in helping the economy to cope with deficits on the trading account of the balance of payments (see Chapter 4).

- It is further believed that privatised companies can be successful in raising capital, lowering prices and cutting out waste. In other words they are more efficient, with managers able to operate in a market-led way, without the restriction of trying to satisfy government objectives for their companies. Managerial freedom and a highly motivated workforce become the means by which economic efficiency is realised.

One of the most successful privatisations in the UK has been the sale of the nationalised rail freight business to the English, Welsh and Scottish Railway (EWS), now DB Shenker. Seemingly in terminal decline under government ownership, and unable to compete effectively with road freight, EWS has enjoyed considerable success since 1995.

For example:

- goods moved by rail had increased 70% by the end of 2007
- EWS had invested heavily in over 200 new freight locomotives and had begun a massive investment in freight wagons
- new customers, who had previously used only road freight, were switching some business to rail.

The case against privatisation

The experience of the UK economy has been that privatisation does not necessarily always produce the full range of benefits stated above. Let us briefly consider some of these arguments:

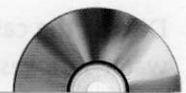
- In some situations, a private sector monopoly has replaced a public sector monopoly. The outcome therefore remains the same, namely a lack of competition. This has occurred in the UK in many of the privatisations shown in Table 3.5 (page 151), often on a regional rather than national market basis. Good examples are in water supply, rail passenger services and local bus operations. In such circumstances, firms can practise many of the practices of monopoly listed in Chapter 2 Supplement.
- Some economists argue that where there are natural monopolies, then these are best left to the public sector. Water, gas and railways are good examples where the unnecessary

duplication of services is wasteful, inefficient and not in the best interests of consumers.

- The sale of nationalised industries clearly generates substantial revenue for the government. This income though is a 'one-off stream', not to be repeated. Where governments may need further flows of funds, then privatisation sales may not be a future option for them.
- A regular complaint about privatisation is that there are often negative externalities associated with the change in ownership. One of the best examples is that of unemployment – many jobs are lost in all sorts of activities once a private sector owner has taken over a former public sector activity.
- Privatisation has to be accompanied by the setting up of regulators to ensure that competition is fair and that consumers are not being exploited through high prices and excessive profits for the new owners.

So, all in all, the decision on whether to privatise may not be as straightforward as it may seem. In general though it has been the prevailing view in many economies that the benefits usually outweigh the likely costs. It is for this reason that privatisation is firmly on the agenda of former centrally planned economies as they move towards market liberalisation and the generation of more competition.

SELF-ASSESSMENT TASK 3.12



- 1 For your own country, take each of these activities:
 - water supply
 - rail transport
 - telephone services.
 - a Establish whether these activities are operated by the government or private sector businesses.
 - b If government owned, how might the private sector help to improve the economic efficiency of these activities?
 - c Why in your country might the government not wish to pursue a policy of privatisation?



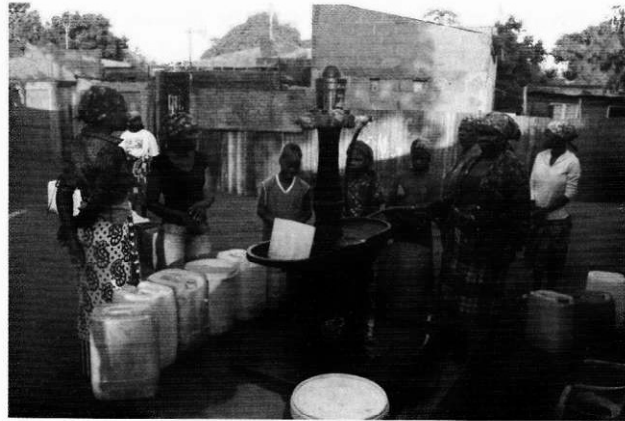
Read the feature below and then answer the questions that follow.

Water privatisation in sub-Saharan Africa

Water privatisation, either by direct sale or through public-private partnerships, is now the favoured way forward for tackling Africa's serious problems of water provision. This may seem a little odd, given that the supply of water is best provided by a monopoly to avoid any problems of wasteful duplication.

Most countries in sub-Saharan Africa have a lack of clean water and adequate sanitation. As a consequence, water-borne diseases such as cholera and dysentery are rife and result in high infant and child mortality rates. The problems are acute in rural areas and in the teeming shanty towns in most of the large cities.

The push for privatisation is now required by the International Monetary Fund as a condition for countries receiving loans. It is a further requirement that a market price for water supplies must be established. The UK's Department for International Development took a similar line before giving funding for water privatisation in Ghana.



Queuing for water at a communal tap

The effects on local populations have been particularly controversial. The problem is that water tariffs have to be set by private companies at a market price which is often way beyond the means of most poor families. As a consequence, many cases of water-borne disease occur, not because of a lack of infrastructure, but because those in most need lack the meagre finances to be able to pay for this life-saving facility.

- 1 Discuss the case for and against the privatisation of water supplies in sub-Saharan Africa.
- 2 Comment on whether water should be provided free of charge to poor communities in sub-Saharan Africa.

Privatisation and the transition to a market economy

The task of transforming a centrally planned economy into a market economy is enormous. Not only must the foundations of a fully functioning market economy be put in place but the government needs to react to the inevitable problems during transition. If these issues are not complex enough, governments must conduct this transformation lacking any explicit prior experience on which they can draw. Although the major reforms can be identified, there is little guidance on the speed or the sequence in which the

reforms should be implemented. Some countries have chosen to follow the 'shock therapy' approach recommended by some economists. This approach involves extensive privatisation, strict monetary and fiscal policies to reduce inflation and the forces of supply and demand to determine internal market prices and the external exchange rate.

Others have chosen to adopt the 'gradual' approach to transition, arguing that consumers and producers needed time to adapt to the new economic system and that, to maintain public support for the reforms, the pain of transition needed to be softened. The

transition to the market economy was arguably the largest structural experiment conducted in the twentieth century. It has had a profound and lasting impact on many economies.

The reforms which are needed on the road to the market economy are considered in the final part of this chapter.

Price liberalisation

The key to microeconomic reform is to allow prices to be determined by supply and demand. By freeing prices from state control, former centrally planned economies should enjoy benefits in the long term. Figure 3.12 shows the efficiency gains which are likely from such price liberalisation. In a command economy, prices bore no relationship to demand and supply. This is represented by a price (P_c) below the market equilibrium (P_m). At this price consumers demand a quantity of Q_2 but the supply is fixed by planners at S_p , with the result that excess demand of $Q_2 - Q_1$ manifests itself through lengthy queues for the product. Price liberalisation causes the price to 'jump' to P_m , encouraging an increase in supply to Q_e in the long run. Producers are better off by the area $P_c P_m e b$ (the increase in producer surplus) and consumers are better off by the area $P_m P_c + Q a e$ (the increase in consumer surplus). This change in consumer surplus arises because the effective price of the good under the command system was $P_c + Q$ as the price to consumers is raised by the time spent

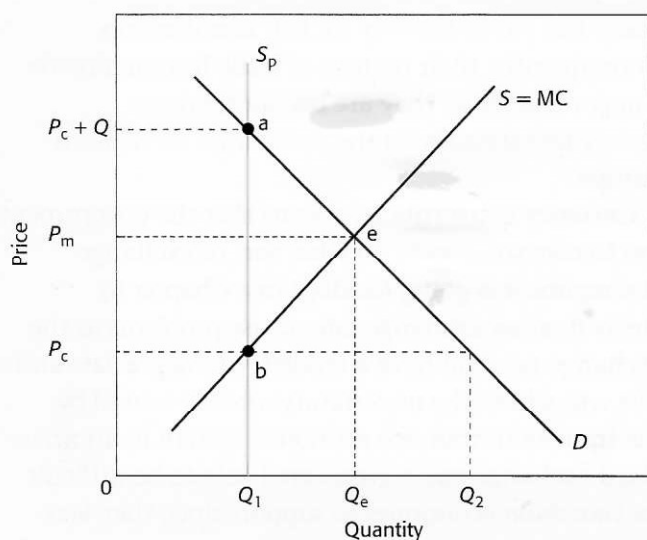


Figure 3.12 *The gains from price liberalisation*

queuing. Similar gains are possible by allowing domestic prices to reflect world prices more closely.

Removal of subsidies

In order to fully realise the gains from price liberalisation the government must also remove the various subsidies to state-owned enterprises (SOEs) which kept prices low. As these subsidies are removed prices will 'jump' even further. Some governments, most notably the Russian government, delayed the introduction of such price reforms for fear of the effect of price rises on the real wages of workers. Sensitive prices, such as food, housing and energy, were not fully liberalised. Another fear was that, if prices were liberalised before competition was introduced, the former SOEs might take advantage of their monopoly power and raise prices even further. Some countries, therefore, delay price liberalisation.

Privatisation

To create a fully functional market economy, SOEs need to be turned into profit-motivated, private sector firms. The privatisation of small-scale SOEs has created few problems – shops, restaurants and bars have largely been handed over to their former managers or, where they could be identified, their former owners. Where those who manage the firm are also its owners and free to make profit, changes can be rapid. Such small-scale privatisation has been the visible sign of transition for many consumers, with a rapid change in the appearance of the 'high street' in terms of window displays and the range of goods and services on offer. Outside the major cities, the typical Central and Eastern European 'restaurant', for example, may still exist, but the growth in fast-food outlets and trendy bars is apparent. Small-scale privatisation has been an important means of generating employment, much needed as large-scale SOEs shed labour in the quest for greater efficiency.

Large-scale privatisation has been much more of a problem. The key to such privatisation is to ensure that firms respond to the new market signals by seeking opportunities to reduce losses and improve profitability. Incentives need to be put in place so that firms become profit maximisers. In market economies these incentives exist in what is called the market for 'corporate control'. Briefly, firms are owned

by shareholders who appoint managers to look after their interests. If shareholders feel that managers are not maximising profits, they can either replace the managers or sell their shares on the stock market. The role of the stock market is crucial. As shareholders sell their shares, prices fall and firms become subject to takeover. Managers are kept on their toes by the threat of takeover and businesses are restructured by the new owners after a takeover. However, during the transition phase active share markets are absent or are only partially developed, causing some governments to delay the privatisation process.

Those governments that have privatised large-scale SOEs have had to think carefully about how to privatise. A number of different ways have been attempted:

- auctioning them to the highest bidder for cash
- issuing privatisation vouchers to the general public and then auctioning the SOEs in return for the vouchers
- allowing existing managers, workers and/or foreign companies to buy the SOE
- handing over the SOE to managers and/or workers for free.

Private ownership, of whatever kind, is not enough on its own to guarantee success. There is also a need to improve management techniques, especially in the areas of stock and quality control, financial management and marketing. Existing managers, of course, lack such skills and it may take some time for them to be acquired. This has convinced some governments of the need to delay the privatisation process whilst the necessary 'restructuring' takes place. Others have 'imported' the required management techniques by selling (wholly or partially) SOEs to foreign multinational companies, such as the sale by the Czech government of Skoda to the German car giant Volkswagen and the sale of Hungary's largest supermarket chain to Tesco, the UK's biggest grocery retailer. In other words, the type of privatisation during transition is as, if not more, important than the scale of privatisation.

Trade liberalisation

Liberalising prices does not make much sense without trade liberalisation. Since a lot of industry

is monopolised by SOEs, liberalising trade can create the competition which might otherwise not exist. However, for trade to be liberalised it is necessary for the currency to be convertible into other currencies, at least for transactions involving goods and services (so-called current account convertibility). As will be seen in Chapter 4, international trade brings important benefits. By allowing resources to be allocated on the basis of comparative advantage, economic efficiency is improved and there is a spur to greater dynamism in the long run.

In theory, trade liberalisation can be achieved fairly quickly by removing the state monopoly on trade and all tariffs, quotas and non-tariff barriers to trade, and by allowing the currency to be convertible. Some temporary protection of domestic industries might, however, be justified, given the inefficient state of many SOEs, the need for the government to raise revenue in the early phase of the transition process and the need to stop the 'monetary overhang' being translated into a big surge in the demand for imports and a consequent deficit on the current account of the balance of payments. But tariffs on imports will cause problems for those industries trying to export because they will increase the cost of their imported inputs.

The transition economies of Central Europe have been in a fortunate position with regard to trade. Geographically close to the European Union, they have been able to find alternative markets for their exports after the collapse of COMECON, unlike some Eastern European states. In addition, they have gained tariff-free access to the EU which for many has paved the way for full membership. Consequently, their pattern of trade has undergone a major change as they are becoming more closely integrated with the economies of Western Europe.

Currency convertibility means that the government has to take some view on what sort of exchange rate regime it is going to adopt (see Chapter 6). Freely floating exchange rates cause problems as the exchange rate will have a tendency to depreciate and this will add to the uncertainty already caused by the transition from one economic system to another. Fixed exchange rate regimes are likely to be difficult for transition economies to support since they lack the necessary foreign exchange reserves. However, if the exchange rate is fixed at a low enough rate and

against the 'right' currency, there is every chance that not much speculation will take place and this will minimise the amount of intervention needed to support the currency.

Reform of the financial sector

As we have seen, many of the reforms required as part of the transition process require a fully functioning financial sector. The elements of a typical reform package should include:

- establishing a central bank to control the money supply and interest rates independently of government and to act as a lender of last resort to the commercial banks
- creating banking institutions for collecting savings and channelling these savings to former SOEs so that they can invest and re-structure themselves
- setting up a framework to supervise and regulate the activities of the financial sector
- creating a market in which governments can sell bonds to finance any excess of expenditure over taxation receipts.

Given the nature of the financial system inherited from the years of planning, these reforms are a major task for governments and one that is likely to take many years to complete. The experience of financial sector reform has been very mixed. In Hungary, for example, the government refused to bail out banks which had made poor lending decisions, and started to sell them to foreign investors. In addition, there

were tough bankruptcy laws ensuring that banks could recover their bad loans. The result was that, by 1996, almost 50% of Hungarian banks were foreign-owned and their bad debts small. In the Czech Republic, in comparison, almost 50% of loans made by banks are unrecoverable. Here banks remained in state ownership and they were encouraged by the government to finance many of the privatisations of SOEs, creating a conflict of interest. Instead of calling in the bad loans, Czech banks (essentially the owners of the former SOEs) gave out more and more loans.

The legal framework tends to favour those who are in debt rather than giving power to the banks to recover their money. Consequently, the Czech government has been forced to bail out the banks for fear of a collapse in the financial system and has belatedly begun the process of privatising the banking system.

In pursuing a programme of economic reform, former centrally planned economies have experienced mixed success. The extent and pace of introducing reforms are obviously relevant, as is the degree to which monetary and external stability is achieved. Three further factors should also be recognised. These are:

- the ability to attract aid to underpin the economic reform process
- the ability to attract foreign direct investment from the USA, EU member states and Japan
- the extent to which there is political stability and a political commitment to persist with the process of economic reform shown in Figure 1.11 (see page 32).

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SPECIMEN EXAM QUESTIONS

Question 1 has been set in a recent CIE examination paper.

- 1** Large firms necessarily become monopolistic. Monopolies adopt practices that are undesirable. Therefore, large firms should be regulated by governments. Discuss whether there is any truth in this argument. **[25 marks]**
(May/June 2008)
- 2** In India the post is delivered partly by private courier and partly by the government-owned India Post. The government is keen to increase its share of the market.
- a** Explain why a government might wish to increase its control over private firms. **[10]**
- b** Discuss whether an increase in government control necessarily improves efficiency in an organisation. **[15]**
- [25 marks]**

SUMMARY

In this supplement section it has been shown that:

- The operation of markets sometimes does not lead to economic efficiency.
- Monopoly power can create market failure. Monopolies can lead to both allocative and productive inefficiency.
- Deadweight loss is a measure of the welfare loss due to monopolies and the imposition of an indirect tax.
- Governments often intervene in markets in an effort to overcome market failures.
- Government microeconomic policy has two main purposes: to overcome market failures and to reduce inequality in the distribution of income and wealth.
- Government regulations can be used to try to overcome some market failures.
- Governments may use taxes and benefits to try to reduce inequalities of wealth and income in society.
- When governments intervene in markets they may themselves introduce further inefficiencies. These are called government failures.
- Governments may privatise an industry for various reasons including efficiency.