

The costs and benefits of business activity

When businesses produce and sell products or services it is relatively easy for them to see the costs involved and the benefits they will gain. These costs are known as PRIVATE COSTS. They might include such things as the wages paid to employees, the cost of an advertising campaign or the purchase of raw materials. The PRIVATE BENEFITS to the business and its owners include the total revenue earned from sales, any resulting profit and the dividends paid to shareholders.

A business may find, however, that it creates other costs. Take a factory producing cement which is located in a small 'scenic' town. The firm may dispose of some of its waste in a local river or discharge dust into the atmosphere. Lorries making deliveries to the factory may disturb the local residents. The factory may be sited close to a local beauty spot, ruining the view. These are all examples of spillover effects or EXTERNALITIES. So the costs to the whole of society, the SOCIAL COSTS, are made up of the private costs of the business plus **negative externalities** (the costs to the rest of society). Social and environmental audits take into account the social costs of business activity.

There may also be **positive externalities** which result from the business. It may create other jobs in the area for companies producing components or design a factory that complements the landscape. The firm may create skills which can be used for other jobs in the area. We can say that SOCIAL BENEFITS to society are the private benefits to business plus positive externalities (the benefits to the rest of society).

There are obvious problems that result from negative externalities. Many externalities affect the environment. Furthermore, when firms set their prices these usually only reflect the private costs of production. Prices will not, therefore, reflect the cost of pollution, noise etc. As a result of this firms may not be concerned about negative externalities as they do not have to pay for them. For example, a chemical company may produce toxic waste from its production process. It might be faced with two choices - disposing of this waste in a nearby river without treating it, or treating it and removing any toxins. The first measure would cost next to nothing, but the second measure could be relatively expensive. The rational choice for the firm, assuming this is legal, is to dispose of the waste untreated in the river. However, for other users of the river, such as anglers and water sports enthusiasts, this decision would have serious effects.

In order to assess the impact of business activity, cost - benefit analysis is sometimes used, particularly for large projects.

Environmental costs

There are many different types of negative externality that may result from business activity. Some are dealt with in other units,

e.g. consumer exploitation and employee exploitation. This section will focus on environmental costs.

Air pollution This is pollution from factories, machines or vehicles emitting poisonous gases into the atmosphere. We need only look into the sky above some factories to see evidence of this. Other forms of air pollution may be catastrophes such as at the Chernobyl nuclear plant in 1986, when massive quantities of radioactive materials were released into the atmosphere and surrounding countryside. The results were seen in many countries in Europe.

What are the main causes of air pollution?

- Acid rain. Thousands of acres of forests have been destroyed by acid rain, as a result of sulphur dioxide emissions into the atmosphere.
- Chlorofluorocarbons (CFCs). The use by some firms of CFCs in aerosols and refrigerators has contributed to the breakdown of the earth's ozone layer. The ozone layer acts as a filter for the sun's rays. Without it, exposure to sunlight can increase the risk of skin cancer.
- Carbon dioxide (CO₂) and other gases. There has been a growing awareness that the release of CO₂, and other gases such as methane and nitrous oxide, into the atmosphere is causing a 'greenhouse effect'. The build-up of these gases is associated with the rise in the use of cars and with the generation of electricity with fossil fuels such as coal.

Scientists argue that the 'greenhouse effect' could result in the earth's atmosphere warming up (**global warming**) to such an extent that the polar ice caps melt. This could lead to significant areas of land being submerged by rising sea levels. The

Question 1.

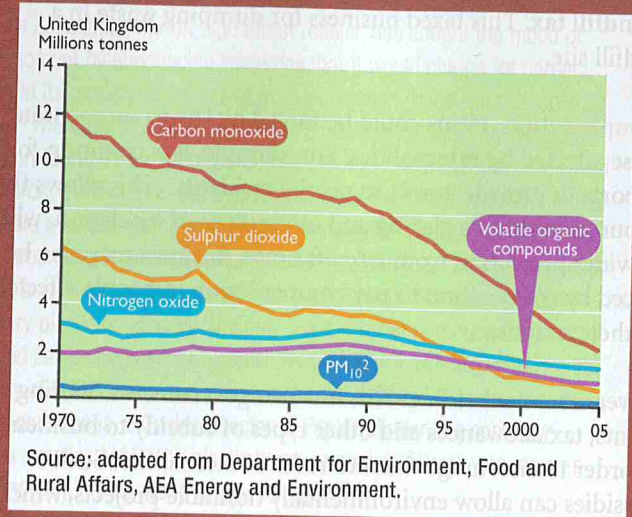
In 1991 Shell, the owner of the Brent Spar oil platform, was looking for ways to dispose of the structure. With the approval of the UK government, it decided to sink it in a deep part of the Atlantic. Sinking it in its place of operation in the North Sea would have caused a hazard to shipping and would have caused further environmental damage to an already polluted area. In 1995 the platform was towed to the Atlantic for sinking. Pressure from groups such as Greenpeace led to Shell abandoning the plan to dump the platform. In 1998 Shell decided to dismantle the platform and use the parts to construct a ferry quay in Norway. Shell had already spent £20 million preparing the platform for sinking. It would cost £26 million for the recycling of the structure.

Using examples from the article, outline the possible:

- private costs;
- negative externalities;
- positive externalities;

of the proposed methods of disposal of the Brent Spar oil platform.

Figure 1: Air pollutants



'greenhouse effect', many scientists believe, has also been responsible for the climatic extremes experienced in parts of the world.

Figure 1 shows the emissions of air pollutants in the UK. It suggests that concern over their effect on the environment has led to an effort to cut emissions.

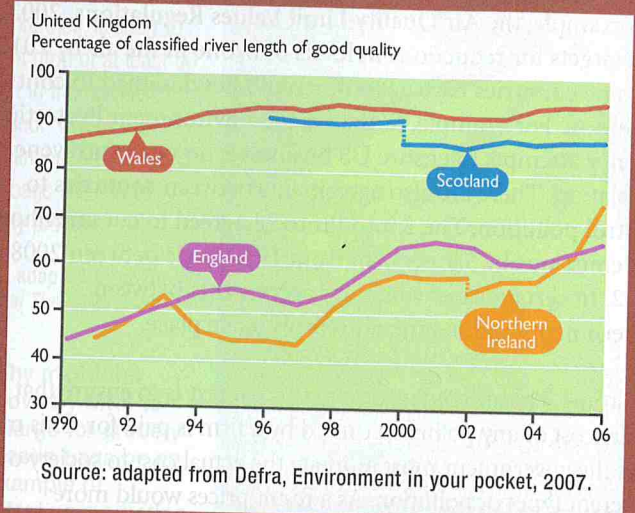
Water pollution Water pollution can occur in a number of ways. Many industries, such as brewing and chemical manufacturing, use water in production. Their plants are usually located by rivers and it is fairly easy, therefore, for them to dispose of waste into nearby water. It is also possible for our drinking water from reservoirs to be polluted by chemicals used in agricultural production. People are starting to drink bottled water or have water filters fitted to their water supply in the home as a result.

The sea has also been polluted over many years. Industries sited near to the coast have used the sea as a dump for their waste. The effluence and cargo of ships are also sometimes dropped into the sea. The North Sea, for example, is one of the most polluted seas in the world as a result of years of discharges from a variety of industries. These have included sewage and the by-products of chemical production. A number of beaches in the UK are unsafe for bathing, according to the European Union, which grades the quality of beaches. Figure 2 shows that there has been an improvement in river quality in the UK since 1990.

Congestion and noise Business activity has resulted in more roads becoming congested with traffic. For example, many firms now transport their goods by rail rather than road. Recent estimates have put the cost of this congestion on British roads as high as £15 billion.

Some business activity can also result in noise pollution. For example, a decision by an airport to open a new runway would affect noise levels experienced by local residents.

Figure 2: River water quality



Destruction of the environment One example of this is logging and associated industries, which have been responsible for the destruction of sections of the Amazonian rainforests. Another example might include the effects of new buildings in a rural area. A new housing estate in a village, for example, may deprive villagers and visitors of previously unspoilt countryside. It may also increase noise and congestion levels in the village.

Waste disposal Many business operations result in waste products. This may be in the form of waste chemicals resulting from the manufacture of plastics or waste materials from the manufacture of wooden products. The packaging used in products can also be waste and needs to be disposed of.

It has been suggested that some water operators in the UK impose external costs. If a company does not maintain its pipes and leaks occur, this can result in hosepipe bans. It also means that it has to take more water from reservoirs and rivers because of the waste water it has created by leakages.

The impact on the environment of business is not always negative. In derelict urban areas, for example, businesses have converted rundown buildings into office space and have landscaped waste land around the site. Also, some of the buildings may be thought to have architectural merit.

Controlling environmental costs

Because of concern about the impact of business on the environment, attention has been focused on how pollution, congestion and other environmental costs can be controlled. There is a number of ways this can be done.

Government regulation Various pieces of legislation exist in the UK and Europe to prevent the pollution of the environment by business activity. For example, in the UK The Environment Act, 1995 set up the Environment Agency to monitor and control pollution. It also set up regulations concerning

contaminated land, abandoned mines, national parks, air quality and waste. EU directives often become regulations in the UK. For example, the **Air Quality Limit Values Regulations, 2003** sets targets for reductions in levels of ozone in the air by 2010.

Some countries have government bodies designed to control pollution. For example, in the US the Environment Protection Agency attempts to ensure US businesses do not contravene legislation. There are also agreements between countries to control pollution. The Kyoto Protocol agreed to cut greenhouse gas emissions by 5.2 per cent from 1990 levels between 2008 and 2012. In certain cases voluntary agreements between governments and manufacturers also take place.

Taxation The aim of taxation in this context is to ensure that the social cost of any pollution caused by a firm is paid for. This means that the government must estimate the actual cost to society of different types of pollution. As a result prices would more accurately reflect the true cost of using environmental resources. So, for example, a firm which produced a £5 product with 'environmentally unfriendly' packaging might be taxed 50p for this packaging, raising the price to £5.50. There are two advantages to this. First, the tax revenue might be used to minimise the impact of this packaging on the environment. Second, it might act as an incentive for the firm to produce more environmentally sensitive packaging, so that the tax is either reduced or removed.

In this example the consumer pays for the environmentally unfriendly packaging in the form of a price rise. Some would argue that the firm itself should pay for such costs. In this way, the price would remain at £5.00, but the firm would be taxed 50 pence for externalities created by its packaging. The consumer would not directly suffer as a result of the taxation.

Increases in fuel prices in the UK have been justified by governments on the grounds that consumers should pay prices

which accurately reflect the impact of car use on the environment. In the late 1990s the UK government introduced a **landfill tax**. This taxed business for dumping waste in a landfill site.

Compensation Firms could be forced by law to compensate those affected by externalities. For example, it is common for airports to provide grants to nearby residents. This allows them to purchase double glazing and other types of insulation, which provides protection from aircraft noise. Business may also be forced by court action to pay compensation to people affected by their actions.

Government subsidies This involves governments offering grants, tax allowances and other types of subsidy to businesses in order to encourage them to reduce externalities. Such subsidies can allow environmentally desirable projects, which otherwise might not be profitable, to go ahead. For example, a business may be given a grant so that it can build a recycling plant for plastics. This should encourage domestic and industrial users to recycle rather than dump plastic products.

Government subsidies could also be used to encourage more environmentally friendly habits amongst consumers. For example, many councils are attempting to encourage the use of bicycles through schemes such as setting up cycle lanes and giving grants to employees wishing to use bicycles for travelling to and from work.

Road pricing and charges Charging road users could be used to reduce pollution and congestion. There is a long history of charging for motorways in European countries such as France, Spain and Italy. In the UK the first toll motorway was opened in 2004, with travellers and business users paying to travel around

Question 2.

Electricity prices in the UK could rise as a result of plans to cut carbon dioxide emissions beyond EU targets. The UK energy minister, Stephen Timms, said 'Our suggestion is that industrial electricity prices will increase ... by something like 6 per cent, not just in the UK but in major European industrial economies. The comparable figure for domestic bills would be about 3 per cent ...'.

The government had plans to cut carbon dioxide emissions by a fifth by 2010 in preparation for a new EU scheme on emissions trading to start in 2005. The initiative introduces caps on the amount of carbon dioxide emitted by industry. The scheme would force EU companies to pay to pollute. It will be mandatory for around 12,000 factories, of which 2,000 are in the UK. Under the scheme, the government would set emission limits on industry and allow companies to trade the right to produce emissions. Carbon emission limits for power stations have been cut so that, by 2007, their allocations will be 2.75 million tonnes of carbon dioxide below the government's updated energy projections for the sector.

Britain only imports around 2 per cent of its electricity and exports much less than that. The government said the fact that UK producers do not face competition from generators not affected by the EU

scheme means they are better placed to absorb the costs of reducing their emissions.

The overall number of allowances for UK industry have been set at a level beyond the Kyoto Protocol commitment. Industry voiced its displeasure at this. 'Emissions trading is the right approach, but if we go too far and other countries don't make similar commitments, we are going to put our hard-pressed manufacturers in an extremely difficult position in global markets' said Digby Jones, the director general of the Confederation of British Industry. But Friends of the Earth pointed out that the UK will not be introducing the toughest limits in Europe. It said some countries, such as Spain and Ireland, will have to take tougher action simply to meet Kyoto targets. Germany was also expected to follow the UK in going further than its Kyoto target.

Source: adapted from *The Guardian*, 19.1.2004.

- Explain the types of control on environmental costs mentioned in the article.
- Discuss to what extent the competitiveness of UK industry would be affected by these controls.

Question 3.

Marks & Spencer, the UK high street retailer, has caught the mood of the moment by announcing yesterday that it would charge for carrier bags in its grocery departments from November. Bags will now cost 5p each. The Daily Mail and the Women's Institute immediately gave their support to the move. Both Gordon Brown, the Prime Minister, and David Cameron, the leader of the opposition, have said they would like to see retailers abandon giving away single use plastic bags.

Groundwork, an environmental charity which has been working with M&S, and which will receive all the revenues from the sale of M&S grocery plastic bags, said: 'Not only will this scheme reduce the amount of food carrier bags sent to landfill sites but it will also help improve the quality of life in towns and cities across the country.'

Adam Jones, UK sales director of Papier-Mettler, the company which supplies M&S with plastic bags, commented there was 'never a dull moment' in the world of plastic bags.

However, there is some controversy about the environmental impact of banning plastic bags. If it leads to far more paper bags being used, then paper bags are far more energy-intensive to produce than thin plastic bags.

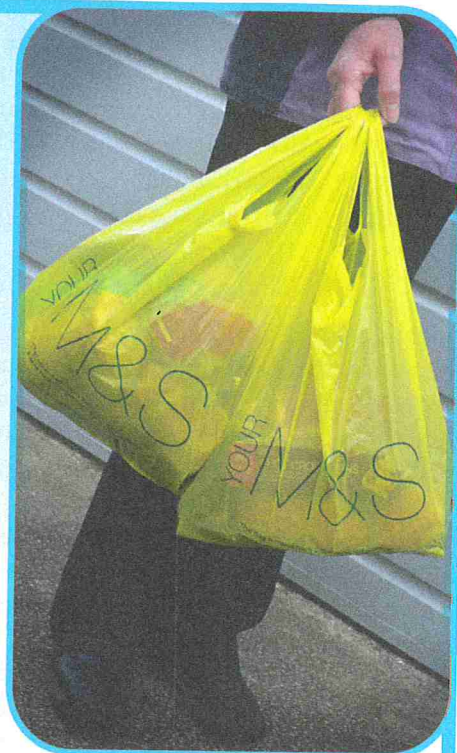
The announcement by M&S led to other retailers giving reminders about their own initiatives. Aldi, the supermarket chain, already charges for bags. Tesco said its bags were degradable. Sainsbury said it was concentrating on encouraging recycling.

Charging for plastic bags, based on experience from the UK and

other countries, is likely to lead to a drop of at least 90 per cent in the number of bags used. Cynics have noted eliminating the use of plastic bags will add to company profits.

Source: adapted from *The Financial Times*, 29.2.2008.

- (a) Why might the move by M&S to charge for grocery plastic bags be an example of effective marketing for the company?
- (b) Evaluate whether it would benefit both businesses and the environment if the government banned the giving away of free plastic bags by retailers such as supermarket chains, clothes retailers, DIY stores and music shops.



Birmingham to reduce traffic on the M6. In 2003 a Congestion Charge was introduced on most vehicles entering the centre of London.

Park and ride schemes These are also designed to encourage a reduction in car use in city areas. They are often run by local authorities. Car users, for a fee, can park their cars outside the city areas and are taken by bus or rail into and out of the city. A single bus, if full, reduces traffic in the city area and also reduces the need for inner city car parking spaces.

Pollution permits In both the USA and the European Union, pollution permits have been introduced. These allow businesses a certain amount of emissions. If the business reduces its pollution below a certain level, it can save the allowance for later or even sell it. Some have argued that Western economies should adopt the same approach to developing countries as they pollute the atmosphere across the world.

Working together It may be possible for business and/or government to work together to control the effect of business action on the environment. Examples might be:

- the sharing of best practice on environmental controls;
- producing environmental codes of practice;
- developing waste strategies.

Education Governments and other agencies, such as charities,

could try to influence consumers and producers through educational and promotional campaigns.

Consumer pressure Consumers have forced a number of firms to consider the impact of their activities on the environment. There is evidence that a new breed of consumer is emerging, who considers factors other than price and quality when buying products. Such consumers take into account the effect on the environment and society of those products which they purchase. So, for example, such a consumer may not buy aerosols containing CFCs, furniture made from trees which have been chopped down in the Amazon rainforest or cosmetics which have been tested on animals.

Although this approach has influenced a wide range of firms, it does have one major problem. Consumers often do not have sufficient information with which to evaluate the impact of business activity upon the environment. Such information is often not disclosed to members of the public. Also, many firms have not been slow to realise that presenting themselves as being environmentally conscious can be very good for sales. However, the actual record of such firms with regard to the environment may well fall short of the claims which they make for themselves. For example, a battery producing company placed an environmentally friendly label on its products. However, this had to be removed when it was revealed that batteries use up more energy in their construction than they create in their use.