

Regulation, pollution permits and correcting information failure

Regulation

- The use of rules or laws to control or restrict the actions of economic agents.
- Examples used to tackle market failure include:
 - a ban on smoking in public places
 - a minimum age to drink alcohol
 - establishing green-belt land around major cities to limit housebuilding
 - maximum emission levels on cars that use fossil fuels
 - noise thresholds for aeroplanes as they take off over urban areas
 - setting up regulatory bodies, such as Ofwat in the water industry, to restrict the activities of dominant firms
- If firms or consumers do not adhere to the rules and laws they may be punished, e.g. with fines, limitations on trading activities, or even being sent to prison.

- The possible effects of regulation to increase the minimum legal age to drink alcohol are shown in Figure 1. By reducing the number of people legally allowed to drink alcohol, the demand curve for alcohol will shift left, from D_1 to D_2 , reducing the quantity demanded from Q_1 to Q_2 .

Disadvantages of regulation

- May impose additional costs on businesses, which could reduce profits.
- Possible additional costs to governments to police rules and laws.
- May lead to regulatory capture, when regulatory bodies come to be influenced by the firms they have been set up to monitor.

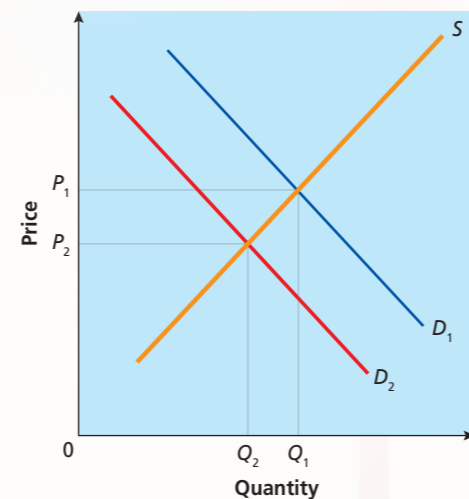


Figure 1 The effect of increasing the minimum age to drink alcohol

In this centrespread, Steve Stoddard outlines three forms of intervention that may be used by governments to deal with market failure – regulation, pollution permits and correcting information failure

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Pollution permits

- A key reason for the overexploitation of natural resources such as oceans, forests and the atmosphere is a lack of clearly defined property rights or ownership of these resources.
- An example of extending property rights and creating a market for pollution is the use of pollution permits.
- Pollution permits give a legal right to use or exploit economic resources to a specific degree.
- Examples include:
 - fishing permits
 - deforestation permits
 - carbon dioxide (CO_2) pollution permits
- Pollution permits can be illustrated using a diagram, as in Figure 2.
- A regulating organisation such as a government will set a fixed supply of permits, such as S_{2025} , deciding how many to release in the year 2025, based on the perceived social optimum level of output. This creates a perfectly inelastic supply of permits at Q_{2025} . Demand by CO_2 -emitting firms is shown by the demand curve D . An equilibrium price for permits is thus set at P_{2025} .

- If the organisation overseeing the carbon market wishes to reduce emissions even further, it can reduce the supply of permits e.g. to S_{2050} . This has the effect of raising the price of permits to P_{2050} and reducing the quantity to Q_{2050} . The EU has pursued such repeated reductions in supply, in order to meet its 2050 commitment to carbon neutrality.
- The use of the market mechanism can provide powerful incentives to firms to reduce carbon emissions as they now have to pay to generate these emissions.
- Firms that improve their carbon efficiency can sell spare permits in the carbon market, increasing their profit. However, firms that do not reduce their carbon emissions have to buy additional permits, reducing their profit. In both cases, firms should be incentivised to reduce their CO_2 emissions, perhaps by investing in 'green' technologies.

Disadvantages of pollution permits

- Governments are likely to suffer from imperfect information regarding the full social costs of CO_2 emissions, which may lead to government failure in deciding the quantity of permits to set.
- If the price of permits is set too low, firms will not be sufficiently incentivised to cut their CO_2 emissions.

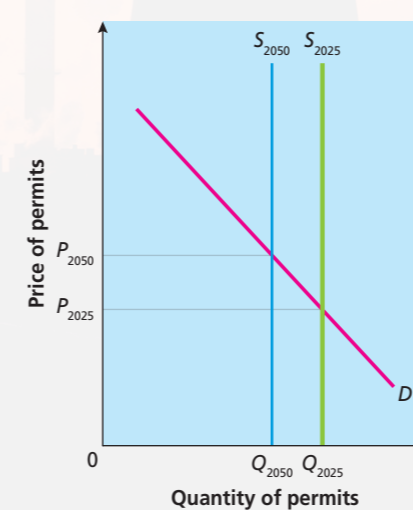


Figure 2 Using pollution permits to reduce environmental market failure

Correcting information failure

- Governments may attempt to intervene in markets where they believe that people consume either too many or too few goods or services because of a lack of information about the effects of consumption or production.
- Goods that qualify as merit goods would be underconsumed in a free market partly because consumers lack knowledge of, or are unable to make rational decisions about, the benefits of consumption.
- Conversely, demerit goods would be overconsumed because of a lack of knowledge about their downsides.
- Governments can use a range of methods to remedy information failure, which will affect the demand for the good or service in question. If successful, this will bring the quantity demanded closer to the social optimum.
- Figure 3 shows that if consumers become more aware of the benefits to their health, they are more likely to buy healthy food. This results in a rightward shift of the demand curve for healthy food (D_1 to D_2) and an increase in the equilibrium quantity demanded, Q_1 to Q_2 .
- Examples of attempts to correct information failure include:
 - compulsory labelling on food, along with 'traffic-lighting' levels of salt, sugar, fat etc.
 - strong health warnings on packs of cigarettes
 - TV advertising campaigns discouraging excessive alcohol consumption
 - publishing local and national league tables for schools and hospitals
- There is some overlap in correcting information failure with the concept of 'nudges' in behavioural economics.

Difficulties in correcting information failure

- Government advertising campaigns often have a high cost and it can be difficult to estimate the causal impact on their target audience.
- Advertising campaigns may have a short-term impact but not cause people to change their behaviour in the long run.
- Consumers are bombarded by information and so may miss or ignore government campaigns.
- The marketing power and skill of large food and drink companies, such as Coca-Cola, may be greater than governments attempting to counter them.

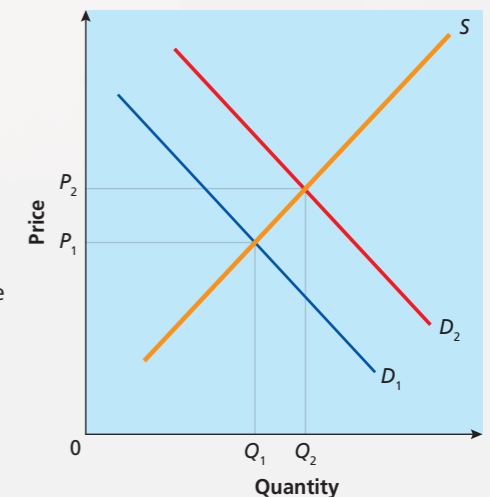


Figure 3 The effect of correcting information failure for healthy food