Negative consumption externalities

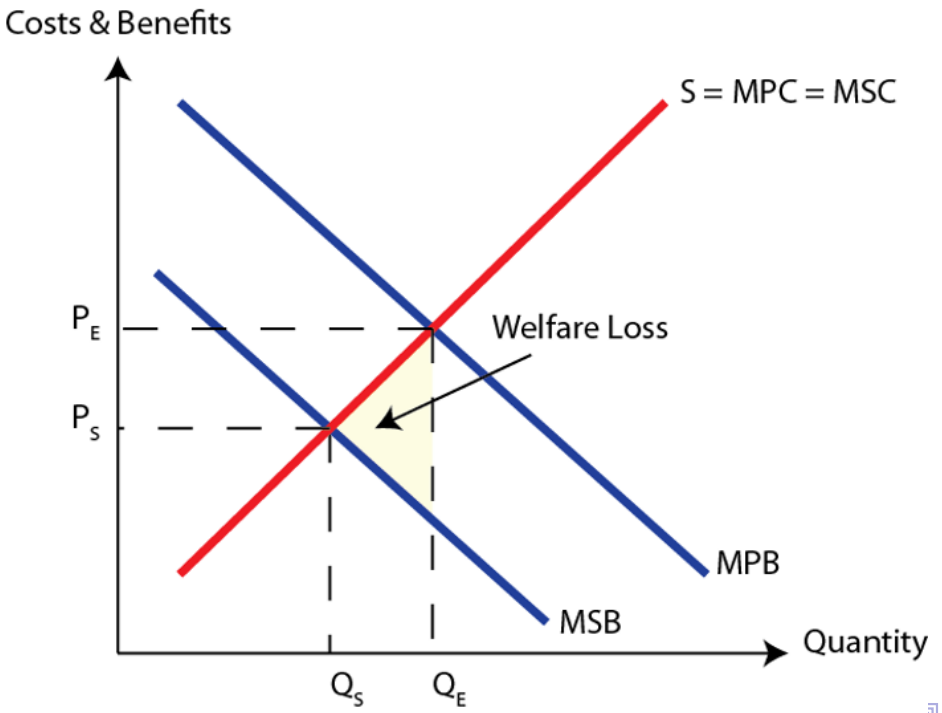
RIDLEY COLLEGE
SINCE 1889

Assessment Objectives

Specific Expectations	
AO2	Explain negative externalities of consumption and the resulting welfare loss.
AO2	Explain the meaning of demerit goods.
AO4	Calculate the welfare loss that arises from negative externalities of consumption.
AO2	Explain government intervention to correct negative externalities of consumption: indirect (Pigouvian) taxes, legislation and regulation, education and awareness creation, nudges.
AO4	Draw diagrams to illustrate the above government responses.
AO3	Discuss strengths and limitations of the above government policies with respect to: difficulties in measurement of externalities, degree of effectiveness, consequences for stakeholders.

Negative consumption externalities

- **Negative consumption externalities** a negative externality caused by consumption activities, leading to a situation where marginal social benefits are less than marginal private benefits (MSB $<$ MPB).
  - The negative external benefits (costs) suffered by others decreases the overall social benefit which is lower than the benefits to the individual.



Negative consumption externalities

- When there is a negative consumption externality, the free market overallocates resources to the production of the good, and too much of it is consumed relative to what is socially optimal.
  - This is shown by $Q_E > Q_S$ and MSC $>$ MSB at the point of production Q_E.
  - For all units of output greater than Q_S, MSC $>$ MSB, meaning that society would be better off if less were consumed.
  - The welfare loss is equal to the difference between MSC and MSB for the amount of output that is overproduced $(Q_S - Q_E)$.
  - It is a loss of social benefits due to overconsumption of the good caused by the externality.
  - If the externality were corrected, so that the economy reaches the social optimum, the loss of benefits would disappear.

Demerit goods

- **Demerit goods** are goods that are considered to be undesirable for consumers and are overprovided by the market.
  - Reasons for overprovision are usually that the goods have **negative consumption externalities**, in which case the market overallocates resources for its production.
  - This could occur because of consumer ignorance about its effects or indifference.
    - Consumers may not be aware of the harmful effects upon others of their actions, or they may not care.
  - **Example(s):** Cigarettes, marijuana, alcohol, and gambling

Overuse of common pool resources

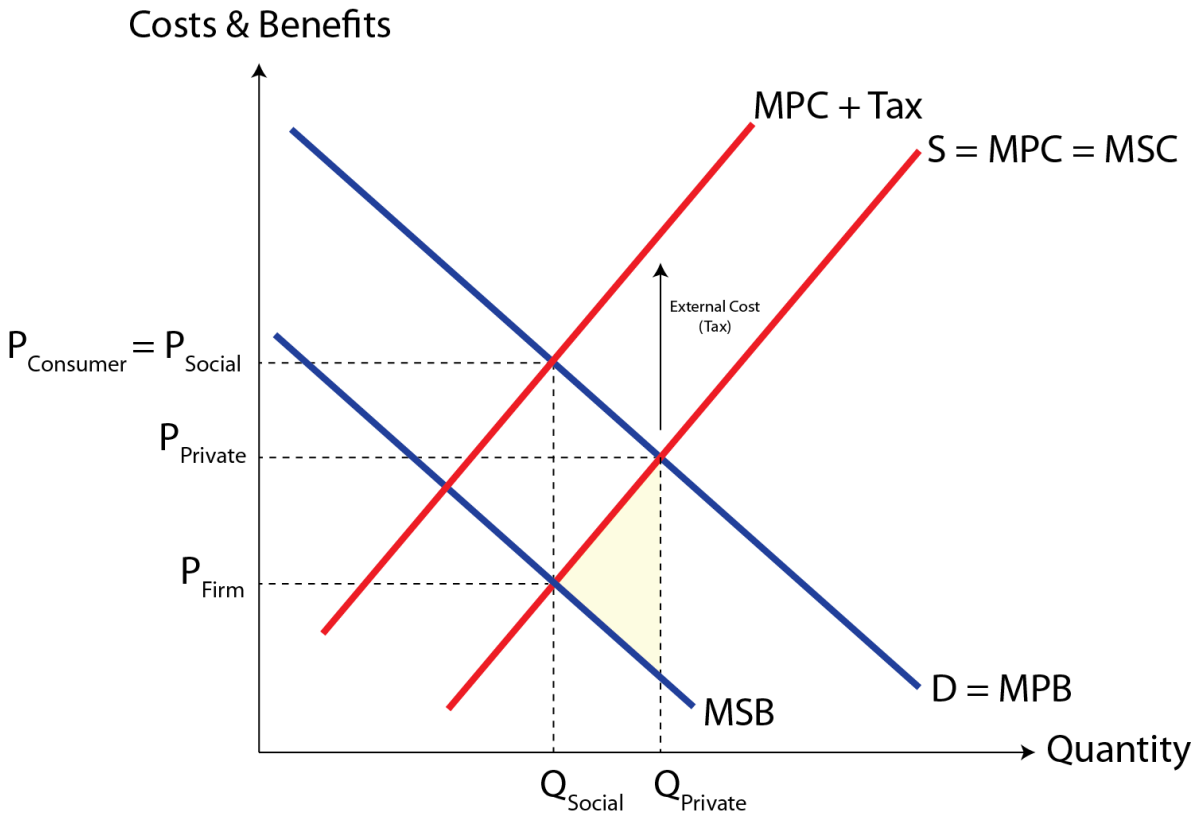
- Overuse of common pool resources is seen as resulting more from production activities than consumption activities, therefore relating more to negative production rather than consumption externalities.
- Overuse of common pool resources results from negative consumption externalities.
- **Example:** The demand for heating oil, represented by the demand curve MPB.
  - The overuse of clear air (the common pool resource) is the external costs that causes the marginal social benefit curve (MSB) to lie below the MPB curve.
- **Example:** Air travel is a consumption activity that results in significant and rapidly increasing greenhouse gases that cause global warming.

Policies to correct negative production externalities

- Market-based policies work by changing the incentives face by firms.

1. **Pigouvian taxes** – indirect taxes designed to correct negative externalities of production or consumption.
   - Indirect taxes can be imposed on the good whose consumption creates external costs.
   - The tax results in an upward shift of the supply curve from S = MPC to MSC = MPC + Tax.
   - If the tax equals the external costs, the MPC + Tax curve intersects MPB at Q_{Social} level of output, and the quantity produced and consumed drops to Q_{Social}.
   - The new after-tax equilibrium results in the lower, optimal quantity of the good produced, Q_{Social}, and higher price, P_{Social}.
   - Indirect tax in the present context permits allocative efficiency to be achieved.

Policies to correct negative consumption externalities



Advantages

- Indirect taxes create incentives for consumers to change their consumption patters; the good that is taxes becomes relatively more expensive and consumption is reduced.

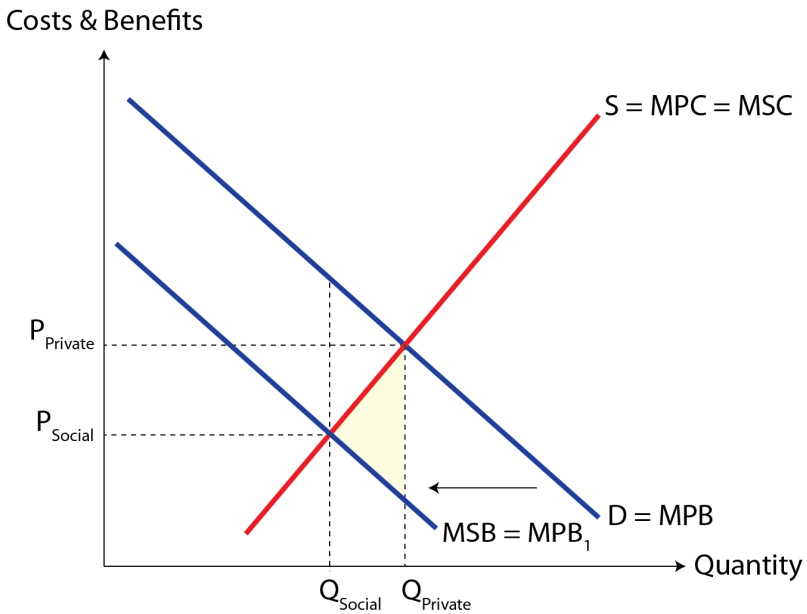
Policies to correct negative consumption externalities

Disadvantages

- Difficulties in measuring the value of external costs.
- There are many technical details involved in trying to assess who and what is affected, as well as to determine the value of the external costs, on the basis of which a tax can be designed.
- Many goods whose consumption leads to negative consumption externalities have an inelastic demand.
- It is possible that imposing a indirect taxes works to increase government tax revenues while not significantly decreasing the quantity demanded of these goods.
- In order to achieve Q_{Social}, a very high tax would have to be imposed, while would very likely be politically unacceptable.
- Large tax revenues can be used for negative advertising and education programmes to discourage consumption of particular goods.

Government legislation and regulation

- Regulations can be used to prevent or limit consumption activities that impose costs on third-parties.
- This has the effect of shifting the MPB curve towards the MSB curve until MPB_1 overlaps with MSB.
- This would eliminate the externality and achieve allocative efficiency, with production and consumption occuring at Q_{Social} and price falling to P_{Social}.



Education and awareness-creation

- Educating the public and creating awareness by the government can be used to try to pursuade consumers to buy fewer goods with negative externalities.
  - The objective is to try to decrease demand for goods giving rise to negative consumption externalities.
  - The effects are the same as government regulation.
  - The MPB curve shifts to MPB_1 after the campaign, where it coincides with MSB, where Q_{Social} is produced and consumed, and the price falls from $P_{Private}$ to P_{Social}.

Advantages and disadvantages

- Education and awareness-creation have the advantage that they are simpler than other methods.
- The cost to the government campaigns, which are funded out of tax funds, meaning there are less funds available for use elsewhere in the economy (there are **opportunity costs**).

Nudges

Nudge is part of behavioural economics, it is a method designed to influence consumers' choice in a predictable way, without offering financial incentives or imposing sanctions, and without limiting choice.

- They can be used in ways similar to education and consumer awareness to encourage consumers to rely less on goods with negative externalities.
- **Example:** Unhealthy foods can be placed in less accessible places in shops.
- In such cases demand for the product falls so that the MPB curve shifts toward MSB.
- Nudges also be used to encourage desirable behaviour.
- **Example:** Creating bicycle lanes to motivate car drivers to use bicycles instead.
- There are difficulties in designing nudges and not enough is known how consumers respond to particular nudges and choice architecture.

Summary

- Correction of negative consumption externalities involve either decreasing supply and shifting the MPC curve upward by imposing and indirect (Pigouvian) tax.
- Alternatively, by decreasing demand and shifting the MPB curve towards the MSB curve through regulations, education, and awareness creation or nudges.
- Both supply decreases and demand decreases are intended to lead to production and consumption at Q_{Social} and the achievement of allocative efficiency.