Externalities

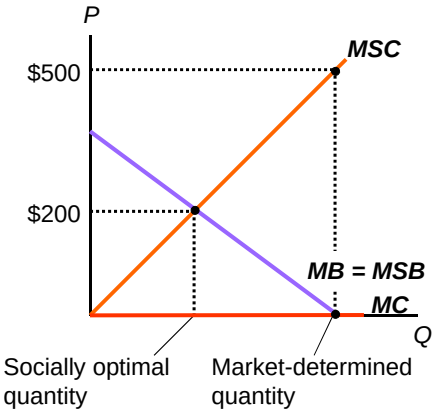
I don't care about you
F*** you!
- Guns N' Roses

Externalities

- An *externality* is an uncompensated cost or benefit that the decision-maker imposes on others.
  - An *external benefit* or *positive externality* is a benefit that comes to individuals other than the decision-maker, for which the decision-maker is not compensated.
    - Example: fixing up house exterior; bees
  - An *external cost* or *negative externality* is a cost imposed on individuals other than the decision-maker, for which they are not compensated.
    - Example: pollution; traffic congestion

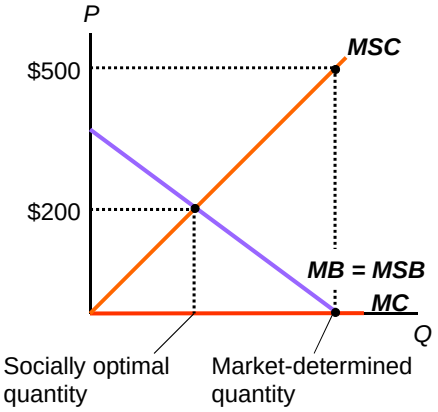
Negative externalities

- An *external cost* or *negative externality* is a cost imposed on individuals other than the decision-maker, for which they are not compensated.
  - The *marginal social cost*, *MSC*, (the cost to everybody) is greater than the marginal cost to the decision-maker.
- Example: pollution



Externalities and efficiency

- The market-determined quantity is inefficient.
  - The marginal social cost is greater than the marginal social benefit.
    - Reducing the quantity of pollution would decrease the social cost more than it would decrease the social benefit.
  - But the decision-maker has no incentive to take the external cost into account.

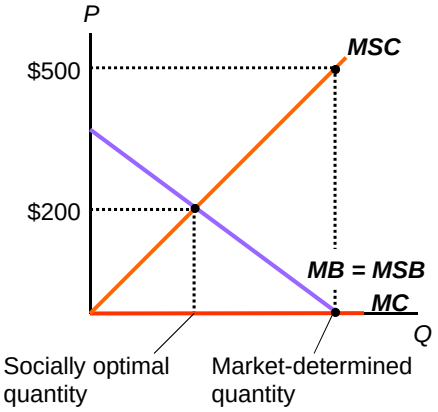


Externalities and market failure

- What's the problem?
  - *Market failure* - there is no market for pollution:
    - If there were a price for pollution (that the polluter has to pay to those who bear the cost of pollution), the polluter would take the external cost into account.
- Can we solve the problem?
  - *Coase theorem*:
    - If *transaction costs* are low, and *property rights* are clearly defined, then we could reach an efficient outcome through negotiation.

Externalities and policy

- A *Pigouvian tax* can eliminate the inefficiency.
  - The optimal Pigouvian tax raises the decision-maker's marginal cost to what the marginal social cost is at the social optimum.
  - Example: tax of $200 per unit of pollution



Tradable permits

- Suppose the government issues permits that allow a certain amount of pollution, and those permits can be traded.
  - There is now a (opportunity) cost to polluting (the price of a pollution permit).
  - If the “right” number of pollution permits is issued, so that …
    - … the market price of a permit is equal to what the marginal social cost is at the social optimum …
  - … then the outcome will be efficient.

The assessment

- When there are externalities (positive or negative), the market outcome creates inefficiency.
  - Government intervention (e.g. taxation) may improve efficiency.
  - Complete efficiency is probably unattainable in practice (finding the right tax is difficult).

That’s it, folks