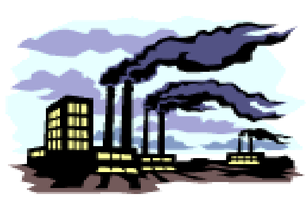
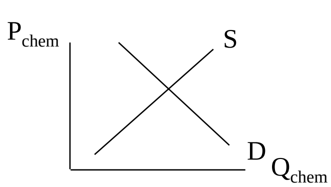
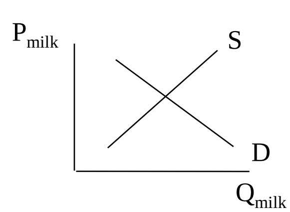
# Overview: Externalities

- Effects of Production/Consumption Not Reflected in Market Transactions.
- Tragedy of the Commons

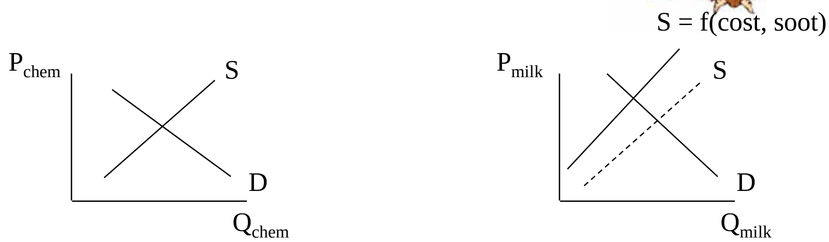
# Markets without Externalities





# Markets with Externalities




# Property Rights and Contracts

- Impact of clear property rights and ability to contract (Coase Theorem)
  - (1) If the farm has a right to clean air?
  - (2) If the chemical plant has a right to dispose in the air?
- More difficult with high transactions costs

# Solving the Difficult Cases

- Government intervention
  - Emissions constraint
  - Effluent taxes
  - Tradable permit
- Tort law

## Recall "Tragedy of the Commons"

- Externality: Individual or firm sees the marginal (private) effect of actions, not the overall effect on the community as whole
- Private cost/benefit ≠ Community cost/benefit
- Addressed via joint ventures (cooperation), taxes, property rights, tradable permits

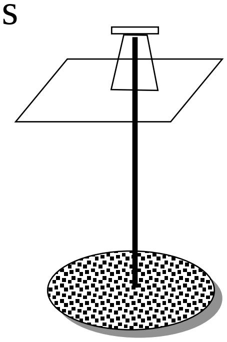
## Common Property Resources: Oil Example (Lecture 15)

- Issue: Drill more wells, pressure drops for all wells
- Unfettered development drives individual profits to zero

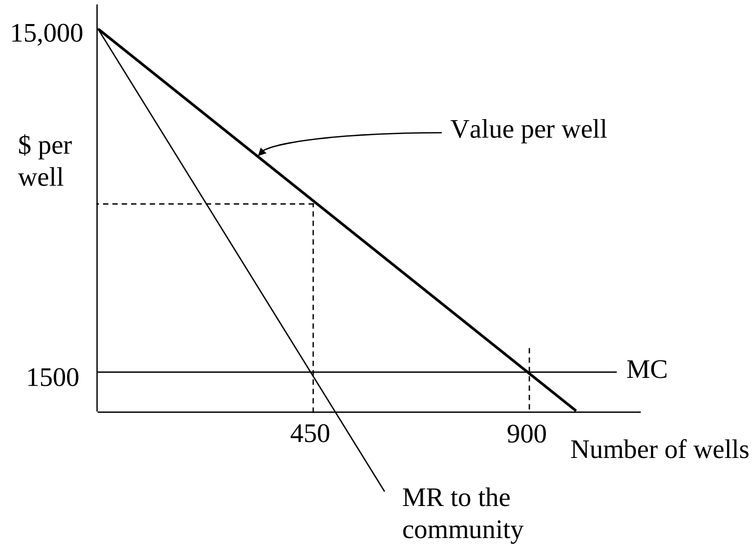
  900 wells, 100 barrels/well, $\Pi_i$ = \$0,
  90,000 total barrels from field

- Joint venture maximizes field profits

  450 wells, 550 barrels/well, $\Pi_i$ = \$3.04 m,
  247,500 total barrels from field



## Common Resource Management




## The "Commons": Practice

- How do you see this problem being dealt with
  - – In oil fields?
  - – In fishing?
  - – Highways?
  - – Air traffic?
  - – Other examples?

## Take Away Points

- Externalities are effects of production or consumption that are not reflected in prices.
- Externalities create distortions.
- Government intervention and mergers or acquisitions are important ways to deal with externalities.