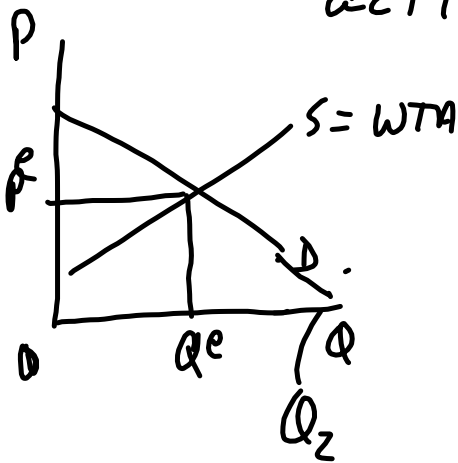


Property Rights -  
- incomplete property rights -  
- right to exclude  
absent - so market won't  
provide good  
can't recover cost  
- rule of law.

## Intellectual property rights

- copyright - royalty
- patents - royalty / license
- trademarks
- right to exclude → right to get paid
  - incentive to create it
- without rights - invention / creation too little -

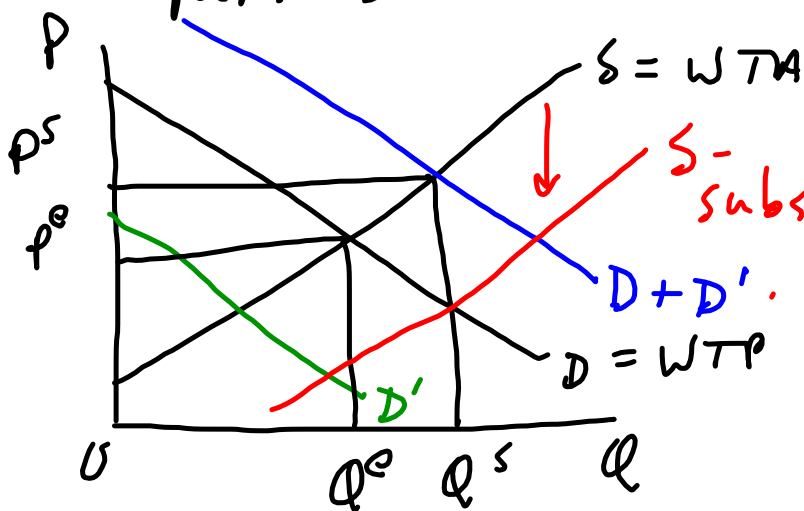
- consequences of absent property rights → inefficient level of activity



- inadequate supply  
- excessive demand.

- over exploitation  
result of lack  
of property right.

- Externality - (spillover)  
 - cost (benefit) imposed  
 on a party not contracting  
 parties

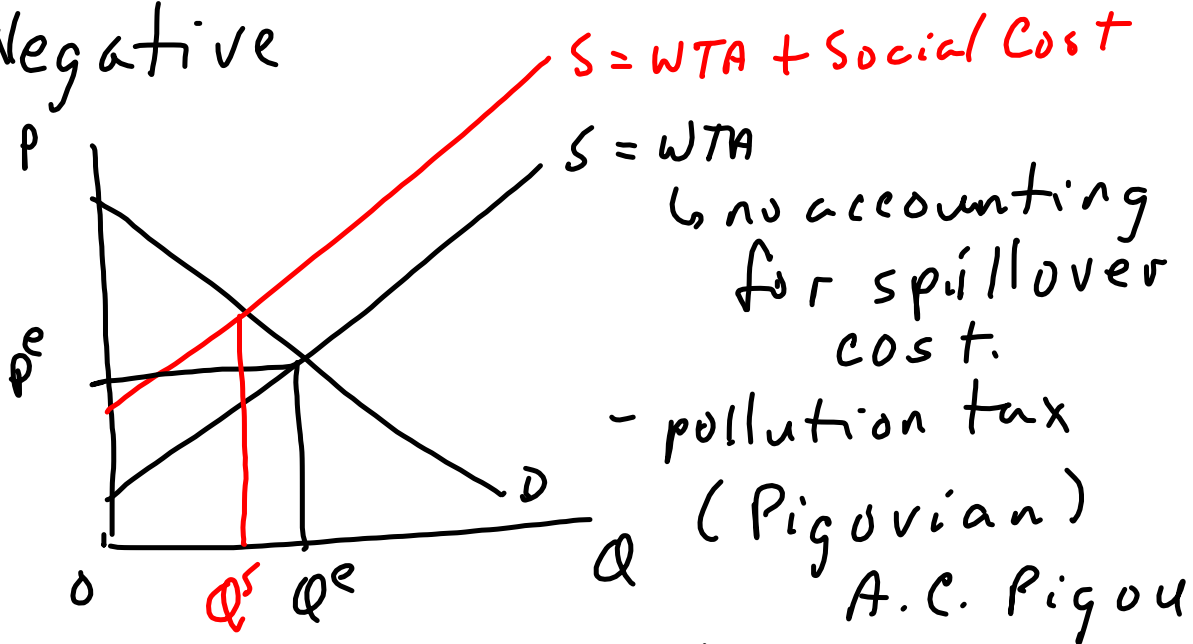


'socially optimal.'

examples

- flu shot
- education
- fix up house
- R & D
  - ↳ grants
  - ↳ tax ↓

Negative



tax ↑ cost to Social Cost

$$\text{Private WTA} = \text{WTA} + \text{Social Cost (tax)}$$

Environmental policies

- pollution taxes
- command regulation - technology
- cap & trade

River Fire 1969 - mayoral election

publicity

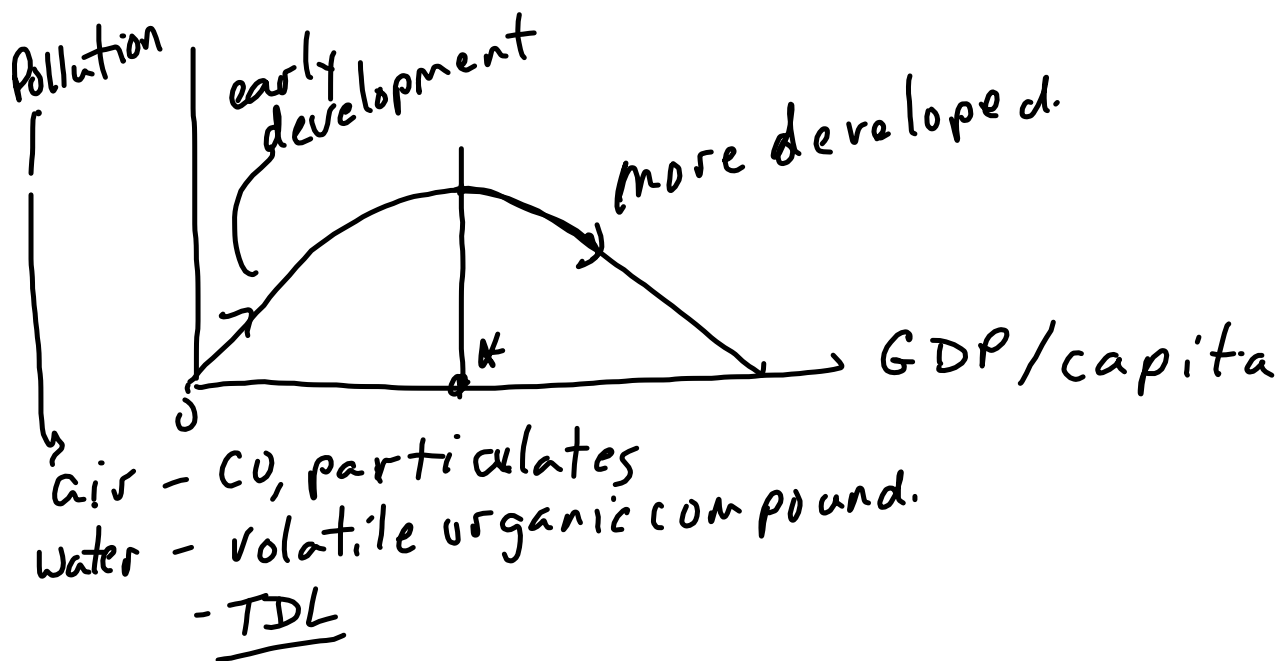
Clean Water Act 1970

Clean Air Act 1973

EPA  
1973

Demand for amenity (clean water  
clean air, views)

Environmental Kuznets Curve



- instruments - tax

- gas tax - us - low  
 - earmarked for roads  
 (Benefit tax)

- Europe - high -  
 externality tax

- regulations

→ fuel efficiency - mpg

→ energy efficiency

Energy Star

} info  
 buy



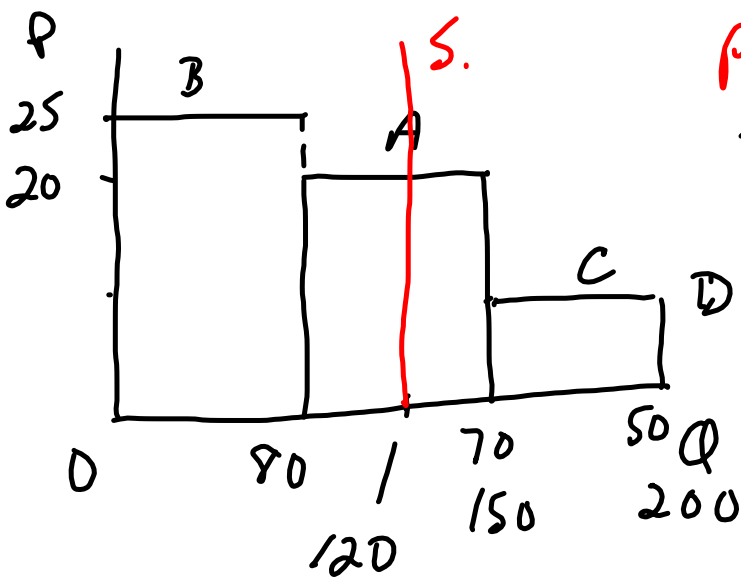
- problem with uniform reg. is ignores diff. in cost across firms.
- permit market - high cost buy low " sell.

Q10 Chapter 10

SO<sub>2</sub> - ton of SO<sub>2</sub>

- trade on Chicago Board

of Trade  
\$200/permit.



$P = 20$

B buy  $WTP > P$

D = WTP

C sell  $WTP < P$

initially ~~each~~ each gets 40 permits

B - cost if no trading reduce by 40 @ 25 \$1000

C cost is 10 @ \$10 = 100

A " is 30 @ \$20 600 \$1700

figl. p 217, & read.