

Lecture 1 - ECO4136 - Sources of Economic Inefficiencies

Prior to 1950's - idea was that pollution just goes into the air and disappears
ie) Paint from petroleum & paint thinner
- sentiment of the earth having capacity to take on these bad things and adjust.

1970's - USA: EPA 1st Gov dept. w
mandate to control pollution

Env. Econ & Nat. Res. Econ. are linked
outputs ie) carbon cycle inputs ie) oil reserves market

Sustainability is attached to how we exploit Nat. Res.

Flow Pollutant: ie) Smog

- damage experienced occurs at the same time as it happens
- Solution: Stop doing it.
- Env. Econ. → take on those effects to arrive at the socially optimal level of activity

Stock Pollutant : ie) Persistent — (PCh)

- damage experienced for the rest of forever
- not naturally occurring
- nature has no capacity to assimilate them

ie) enormous blob of PChs in the Hudson river : solution is to just leave it.

- goes into the environment and is never removed
- no optimal level \rightarrow no place in environment
 ξ there are substitutes
 \hookrightarrow economics doesn't support it because cost of substituting is less than the environmental costs.

ie) North Pacific Gyre.

\rightarrow Mass of plastic 30 ft thick ξ km wide

ie) Laundry \rightarrow Polyester shit pollutes the water

Fund Pollutants : ie) Climate Change

Environment has capacity to assimilate it

\hookrightarrow absorbs SO_2 @ this level

\hookrightarrow if we emit above that level it will accumulate

* Assimilative Capacity *

Time horizons are long enough that it is in effect "forever."

Sources of Economic Inefficiencies:

I Externalities

II Public Goods

III Governmental Policy Failures

Externalities

- External costs or external benefits where impacts are felt by agent from an action taken by a different agent.

Private Optimality vs. Social Optimality

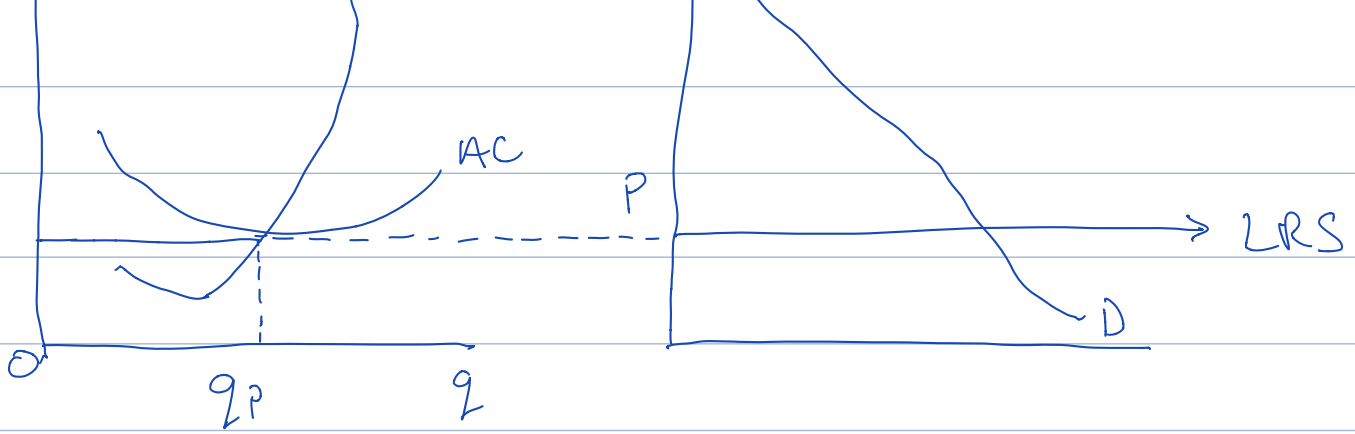
→ find that these decisions do not relate when considering private optimality or social optimality

Case 1: Fixed Ratio between goods production and pollution emission

individual firm

MC

market



$x = \$$ value of emissions (damage) per unit of q