Plan for Today

1. Cost-Benefit Analysis
2. Public Goods and Externalities

• Up to $10 will be distributed in class today.
Cost-Benefit Analysis

Current Policy:
- Concern over NOx pollution in Eastern U.S.
  - Respiratory problems (asthma, lost work, death)
  - Reduced visibility
  - Acid rain
- New power plants must meet BACT (Best Available Control Technology)
  - Selective Catalytic Reduction. Fixed cost + marginal cost/kWh
- Cap-and-Trade regulation on all plants (CAIR/NOx SIP Call)

Potential New Policy: Require all power plants to meet BACT

Question: Is this a good policy?

What does economics say?
Discounting the Future

Critiquing Cost-Benefit Analysis
Cost-Benefit Analysis: Takeaways

• We can modify CBA to address many concerns
  • Weighted social welfare functions to address “environmental justice.”
  • Improve measurement of costs and benefits
  • Incorporate uncertainty to address precautionary principle

• CBA forces us to make assumptions explicit instead of implicit

• Not really any better alternatives

• My opinion: should be an integral part of social decision making processes
Externalities and Public Goods

• Externality:

An externality exists when the consumption or production choices of one person or firm enter the utility or production function of another entity without that entity’s permission or compensation.

• Two firm example: Electricity and Tourism
Public Goods

• Excludability

A good is excludable if it is feasible and practical to selectively allow consumers to consume the good.

A bad is excludable if it is feasible and practical to selectively allow consumers to avoid consumption of the bad.

• Examples?
Public Goods

• Rivalry:

A bad (good) is rival if one person’s consumption of a unit of the bad (good) diminishes the amount of the bad (good) available for others to consume,

i.e., there is a social opportunity benefit (cost) to others associated with consumption.

A bad (good) is non-rival otherwise.

• Examples?
• How to get aggregate MWTP curve for rival vs. non-rival goods?
Public Goods Game

• Choose four people
• I give everyone $1
• Each person privately chooses how much to contribute: $c_i$
• I take the “pot” and double it. $P_{\text{total}} = 2 \cdot \Sigma_i c_i$
• I then distribute the pot equally.

• What do you contribute?

• “Free rider problem”: People consume more of a public good than they contribute.
“Free rider problem”: People want to consume a public good, but they don’t want to contribute.

• Everybody hopes that someone else will contribute, and they’ll consume that other person’s contribution.
• I don’t want to contribute, because other people benefit from my contribution.
• Analogy: Team production problem.
• Cleaning my house

How do we solve this?
For Next Class

- We have now completed Kolstad Chapter 1-6
  - Chapter 5 was public goods and externalities.