Class Sessions #10
31 October 2019
Copyright: Ronald B. Mitchell, 2018

# F/O/K essays: Lessons for future papers

## Have your intro summarize your argument

## Identify CRITERIA you will use to compare

### Make CRITERIA of comparison your headings

## Use headings!!!

## Within sections, compare CASES/ITEMS/ THINGS as directly as possible

## Rewrite after you know what you are saying

## Have conclusion summarize argument

## Use a professional “voice” in all writing

Economics of Climate Change

# Paris Knowledge Bridge: Unpacking International Climate Governance

## Video: The Science and Economics of Climate Governance (#3 of 4)<http://www.iisd.ca/paris-knowledge-bridge/video-3-the-science-and-economics-of-climate-governance/>

# Basic economic insights relevant to climate change

## Economics is based in “logic of consequences” not “logic of appropriateness”

## People make decisions

### Between alternatives

### By comparing costs and benefits of each alternative

### And choosing one with highest net benefits

## People consider the c0sts and benefits to them:  The PRIVATE costs

## But they disregard the costs to others:  The SOCIAL costs

# 4 basic economic insights relevant to climate change

## Costs & benefits influence behavior

## BUT we do not assess all costs & benefits the same

## Insight #1: My costs/benefits matter more than yours

## Insight #2: Current costs/benefits matter more than future costs/benefits

## Insight #3: “For sure” costs/benefits matter more than uncertain costs/benefits

## Insight #4: Not Action vs. No Action but Action A vs. Action B

# Insight #1: My costs/benefits matter more than yours

## People are fundamentally self-interested

## To the extent altruism exists, it is limited in “distance” and “strength” as move out from the individual and out in time as well

### Self

### Family

### Friends

### Fellow citizens

### Citizens of other countries

### Future citizens of other countries

# Negative externalities: Costs/benefits outside market transaction

## Intuition: When a “market transaction” (purchas) benefits people involved but harms people who are not involved

## Math version:

### Actor “A” making a decision

#### “A” decides to take action if their benefits exceed their costs Benefits(private) > Costs(private)

#### BUT, if costs of action affect others, its an externality Benefits(social) < Costs(social)

## Those taking action are made better off but by taking action they make society worse off AND so people do that action too much and harm society

# Prices often ignore social costs

## Think of price as the amount you must pay for someone to accept you imposing a cost on them

### PRIVATE price of gas: how much you must pay someone so they allow you take a gallon of gas from them

### SOCIAL price of gas: how much you must pay gas station PLUS the costs of climate change (or pollution or whatever) imposed on those who never drive a car

# Insight #2: Current costs/benefits matter more than future costs/benefits

## Money today is worth more than money in the future

### Because you can invest it and have more in the future

### So, therefore, tend to delay action

## Climate change involves an ***investment***: we incur COSTS TODAY to get FUTURE BENEFITS

### We focus more on costs == even if the benefits were “for sure”

## Marshmallow test idea: even when waiting has clear benefits, its hard to do

# Insight #3: “For sure” costs/benefits matter more than uncertain costs/benefits

## Costs of addressing climate change are for sure (we have to pay them now)

## Benefits that come from addressing climate change are NOT positive / certain / “for sure”

### Depends on how much we reduce emissions

### Depends on other human actions, including adaptation

### Depends on how natural system responds

## So, investment is a risky one

# Insight #4: Not Action vs. No Action but Action A vs. Action B

## Choice is NOTMitigation (emission reduction) vs. “Do Nothing”

## Choice isMitigation vs. Adaptation

## Options for responding to climate change: Mitigation vs. Adaptation

# Need to compare costs of ACTION to costs of NON-ACTION:

## How much would taking action cost?

### “Current estimates suggest that it might cost a couple percent of GNP to postpone the doubling of carbon in the atmosphere by several decades. Is 2 percent a big number or a small one?”

### “Subtracting 2 percent from GNP in perpetuity … postpones the GNP of 2050 until 2051. I say this not to belittle the loss of 10 trillion dollars from the American GNP over the next 60 years, but only to point out that the insurance premium, if we choose to pay it, will not send us to the poorhouse” (Schelling, 1992).

### These are similar to Stern report estimates in 2008.

## How much would NOT taking action cost?

### “a delay that results in warming of 3° Celsius above preindustrial levels, instead of 2°, could increase economic damages by approximately 0.9 percent of global output. To put this percentage in perspective, 0.9 percent of estimated 2014 U.S. Gross Domestic Product (GDP) is approximately $150 billion. The incremental cost of an additional degree of warming beyond 3° Celsius would be even greater. Moreover, these costs are not one-time, but are rather incurred year after year because of the permanent damage caused by increased climate change resulting from the delay” (White House report, 2014).

## Delaying action increases costs

### Obama White House Report

### Waiting longer means experiencing higher and higher costs due to damage of climate change

#### Costs of climate change increase with temperature

#### Costs of climate change increase nonlinearly (i.e., each year you wait the larger percent increase in costs you face)

### Waiting longer means that actions to “rein it back in” will also be higher

#### Getting to a given level faster is more expensive

# Carbon tax: The political obstacles at the international level

## “A carbon tax sufficient to make a big dent in the greenhouse problem would have to be roughly equivalent at least to a dollar per gallon on motor fuel, and for the United States alone such a tax on coal, petroleum, and natural gas would currently yield close to half a trillion dollars per year in revenue. No greenhouse taxing agency is going to collect a trillion dollars per year in revenue; and no treaty requiring the United States to levy internal carbon taxation at that level, keeping the proceeds, would be ratified by the Senate. Reduce the tax by an order of magnitude and it becomes imaginable, but then it be-comes trivial as greenhouse policy” (Schelling, 1992).

## Source: Komanoff and Rosenblum (Carbon Tax Center) Powerpoint on Carbon Tax