first of two lectures on government intervention in individual markets as well as laying out a quick statement about why intervene in the macro level, i.e. the whole economy

[rsee powerpoints]

rivalrous vs. nonrivalrous
excludable vs. nonexcludable

r and e gives a private good (e.g. an apple)
nr and e gives a club good (e.g. a club swimming pool)
r and ne gives a common good (overuse) (e.g. Antarctica)
nr and ne gives a public good (underprovision) (e.g. military protection)

go on to do examples of public and common goods
note the problem with common goods is that there needs to be a market!

look up current cash price per pound (and convert to 1982$)
http://www.metalprices.com/FreeSite/metals/cl/cl.asp

as of Tue. Apr. 12, in current$: copper $4.39 zinc $1.12 lead $1.31

use the inflation calculator (note it is CPI, not PPI): http://www.westegg.com/inflation/
in 1982$: $1.88, $.48, $.56

compare to 2000 prices in graph: copper way up, zinc up a couple of cents, lead up about 26c

what about oil?
http://www.eia.doe.gov/dnav/pet/PET_PRI_DFP1_K_A.htm

U.S. wellhead price for a barrel of oil in 2010: $74.71; in 1992$: $48.03

can think of this as the cost of production as opposed to the price the market can bear
so does look pretty high these days! (similar to height in early 1980s)

world price of oil is higher ($106.25 as of Apr. 12; $68.31 in 1992$)
IMF forecast on Monday of higher oil prices made markets drag
Market Failure (and Remedies)

- What is a market failure?
- Types of market failure

What is a market failure?

- For an efficient outcome, Marginal Benefit = Marginal Cost
- For an efficient market outcome, Marginal Benefit = P = Marginal Cost
- If MB > MC, underprovision (Q too low)
- If MB < MC, overprovision (Q too high)
- Many markets have structures that are inherently not conducive to perfect competition and may thus be inefficient

Types of Market Failure

- Externalities
- Public goods
- Common goods
- Natural monopoly (or monopsony)
- Imperfect information/asymmetric information
  - adverse selection
  - moral hazard
  - rent seeking
- Misallocation of resources between present and future
- Business fluctuations
- Income inequality

Externalities

- Positive/beneficial externality
  - Positive side effect of an economic activity
  - Marginal social benefit > marginal private benefit
  - Too little output is produced
- Negative/Detrimental externality
  - Negative side effect of an economic activity
  - Marginal social cost > marginal private cost
  - Too much output is produced

Equilibrium of a Firm with a Negative Externality
Externalities (cont.)

• Remedies
  – Tax in the case of a negative externality
  – Subsidy in the case of a positive externality
  – If a small number of parties on each side of the market, assign property rights and have sides negotiate (Coase theorem)

Which is the Coasean solution to the snoring roommate problem?

1. Pay them to wear an anti-snoring device on their nose
2. Have them pay you every morning after there was snoring
3. Get a new roommate who doesn’t snore
4. Get a single room
5. Get earplugs

Externalities—an example: Pollution

• A Negative/Detrimental externality
• Why might there be more of it now?
  – byproduct of industrial growth
  – lax environmental standards in currently industrializing countries
• Why might there be less of it now?
  – rising incomes: a clean environment is a normal good
  – better technology for reducing pollution
  – More controls on it

Free Dumping of Pollutants

Pollution: Remedies

• Voluntary standards
  – free rider problem
• Direct controls
  – enforcement issues
  – inefficient in firm cost reduction
• Emissions taxes
  – enforcement issues
  – requires adjustment of tax level over time and space; quantity of pollution can vary
• Emissions permits
  – can auction these off to set the price
  – requires setting quantity of pollution ahead of time
Types of Goods

- private goods: rivalrous, excludable
- club goods: nonrivalrous, excludable
- common goods: rivalrous, nonexcludable
- public goods: nonrivalrous, nonexcludable

Public Goods

- nonrivalrous/noncongestible/nondepletable
  - Thus should have P=0
- nonexcludable
  - Thus no way of charging people a fee to cover fixed costs of providing the good
  - leads to “free rider” problem
- Remedy: government provision, paid out of general tax revenues

Common Goods—an example: Global Warming

- A coordination problem in getting nations to agree to reduce carbon emissions
- Nations affected differentially
- Uncertainty in forecasts adds to problem

Information problems

- Adverse selection
  e.g. used car markets (Q of cars sold too low)
- Moral hazard
  e.g. car insurance (Q of accidents too high)
- Rent seeking
  e.g. grant-getting competitions
  (Q of contestants too high, transactions costs high)

Types of market failure (cont.)

- Misallocation of resources between present and future
- Business fluctuations
- Income inequality
- Remedy in all three cases: government intervention
  - Reserving resources for future; changing the interest rate
  - Counterfluctuation policies
  - Income redistribution

Natural Resource Pricing

- As supply decreases, we expect price to rise
- Rising prices cause buyers to search for substitute, cheaper inputs
- Rising prices cause firms to develop new technologies that reduce use of the inputs
Natural Resource Pricing (cont.)

- Are supplies of natural resources dropping?
- Are prices of natural resources rising?
  - Hotelling Theorem: the price of a depletable resource will rise by the interest rate
  - assumes perfect competition in these markets
  - assumes negligible transactions costs, including transportation and extraction costs

Past Petroleum Prophecies (and Realities)

<table>
<thead>
<tr>
<th>Year</th>
<th>Sort</th>
<th>Venue</th>
<th>Source</th>
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<tbody>
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<td>Art Van Buren</td>
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Table 1: Predictions vs. Reality

Price Effects of a Discovery of Additional Reserves

- Why aren't prices of natural resources rising?
  - good reason: new discoveries of reserves
  - good reason: better extraction techniques
  - bad reason: externalities not taxed
  - bad reason: price controls