

30th Class

4/13/11

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

[see 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

<http://finance.fortune.cnn.com/2011/04/11/imf-hikes-oil-price-forecast-by-20/>



Market Failure (and Remedies)

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

What is a market failure?

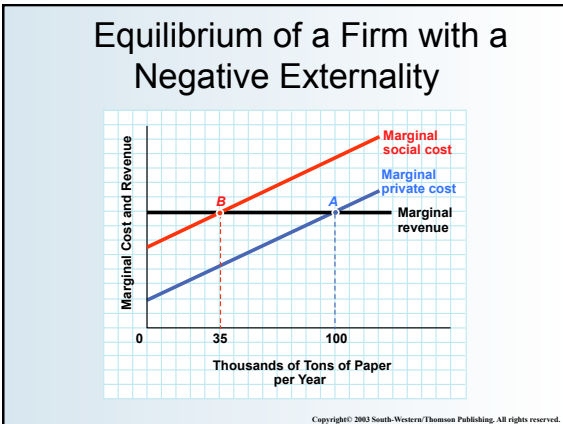
- For an efficient outcome,
Marginal Benefit = Marginal Cost
- For an efficient market outcome,
Marginal Benefit = P = Marginal Cost
- If $MB > MC$, underprovision (Q too low)
- If $MB < MC$, overprovision (Q too high)
- Many markets have structures that are inherently not conducive to perfect competition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



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)

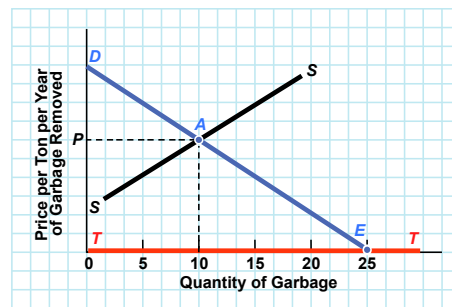
Which is the Coasean solution to the snoring roommate problem?

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

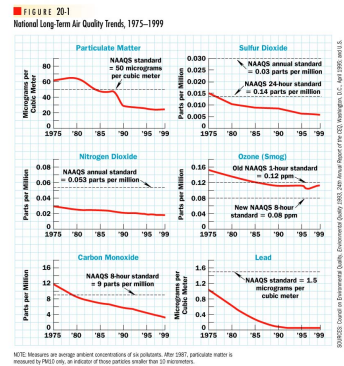
Free Dumping of Pollutants



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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



NOTE: Measures are average ambient concentrations of six pollutants. After 1987, particulate matter is measured by PM10 only, an indicator of those particles smaller than 10 micrometers.

Types of Goods

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

Public Goods

- nonrivalrous/noncongestible/nondepletable
 - $MC=0$
 - 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

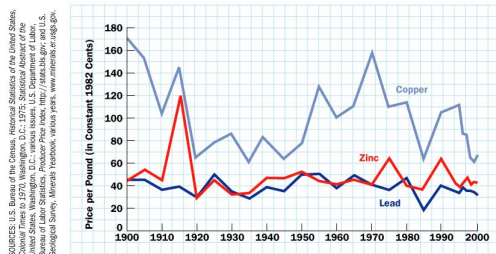
Past Petroleum Prophecies (and Realities)

Date	U.S. Production Rate	Prophecy	Reality
1864	0.05	Synthetics are available if oil production should end. U.S. Revenue Committee	In the next 82 years, the U.S. produces 37 billion barrels with no need for synthetics.
1891	0.85	Little or no chance for oil in Kansas or Texas. U.S. Geological Survey	Production exceeds 14 billion barrels in these two states since 1891.
1914	0.27	Total future production only 5.7 billion barrels. Office of U.S. Bureau of Mines	More than 34 billion barrels produced since 1914, or six times the production.
1920	0.45	U.S. needs foreign oil and synthetics; peak domestic production almost reached. Director, U.S. Geological Survey	1948 U.S. production exceeds consumption and is more than four times 1920 output.
1939	1.3	U.S. oil supplies will last only 13 years. Public Roadways by Interior Department	New oil found since 1939 exceeds the 13 years' supply known at that time.
1947	1.9	Surfacer of cement be found in the United States. Chief of Petroleum Division, State Department	4.3 billion barrels found in 1948, his largest volume in history and now U.S. consumption.
1949	2.0	End of U.S. oil supply almost in sight. Secretary of the Interior	Recent industry data show ability to increase U.S. production by more than 1 million barrels daily in the next five years.

NOTE: U.S. oil production rate in billions of barrels per year.

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FIGURE 20-5
Real Prices of Lead, Zinc, and Copper, 1900–2000



NOTE: Prices are in constant 1982 cents, as deflated by the producer price index for all commodities.

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FIGURE 20-6
Real Price of Domestic Oil at the Wellhead, 1949–2001



NOTE: Price is in constant 1992 dollars, as deflated with implicit GDP price deflators (first quarter only of 2000). Data include first seven months only of 2001.

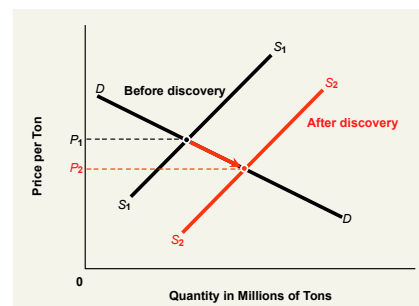
SOURCES: U.S. Department of Energy, Energy Information Administration, www.eia.doe.gov; and Department of Commerce, Bureau of Economic Analysis, www.bea.gov.

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Natural Resource Pricing (cont.)

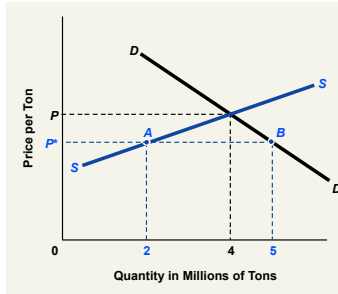
- Why aren't prices of natural resources rising?
 - good reason: new discoveries of reserves
 - good reason: better extraction techniques
 - bad reason: externalities not taxed
 - bad reason: price controls

Price Effects of a Discovery of Additional Reserves



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Controls on the Price of a Resource



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