

Recycling

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Eric Rasmusen, Department of Business Economics and Public Policy, Kelley School of Business, Indiana University. BU 438, 1309 E. 10th Street, Bloomington, Indiana, 47405-1701. (812) 855-9219. Fax: 812-855-3354. erasmuse@indiana.edu, <http://rasmusen.org>.

The Town of Cheshire Buyout

Two years after the Environmental Protection Agency accused the plant's owner, American Electric Power, of violating the Clean Air Act in this southeast Ohio hamlet, the company, which is contesting that accusation, is solving at least some of its problems by buying the town, for \$203 million. Over the next few months, all 221 residents of Cheshire will pack up and leave. The 90 homeowners here will get checks for about three times the value of houses they probably could not have sold anyway. In return, they have signed pledges never to sue the power company for property damage or health problems.

The Coase Theorem

The idea was never stated as a theorem, or called that, in Coase's 1960 article, which was non-mathematical. But the name caught on. Here is one statement. If property rights are well-defined and information is symmetric and there are no transaction costs, then people will choose efficient actions regardless of whether there are externalities and regardless of who has the property rights. If, in addition, there are no income effects, the actions chosen will not depend on how the property rights are allocated.

But see the next slide and <http://rasmusen.org/g406/readings/Savetoby2005.htm> and <http://www.savetoby.com/>

Pollution Taxes

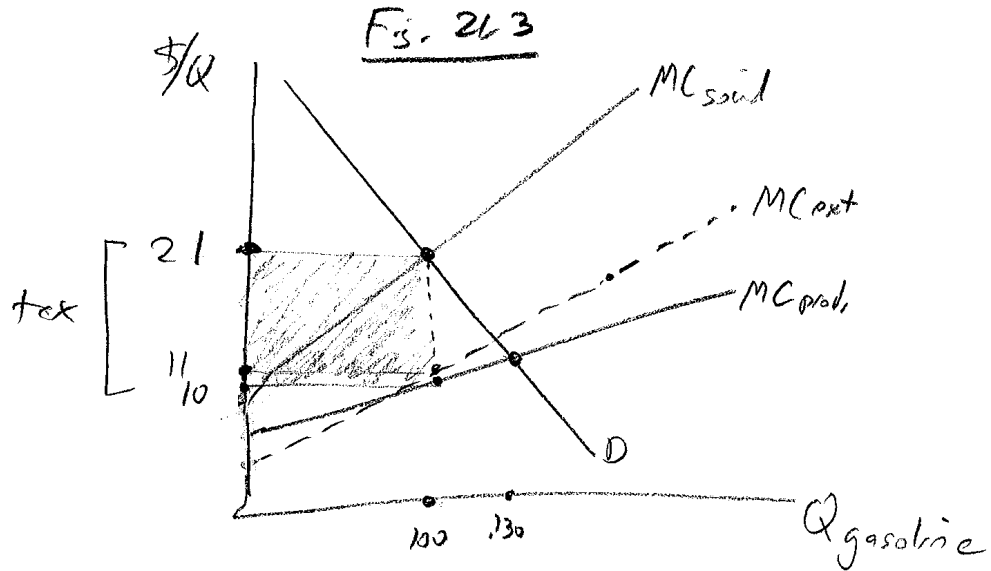
Emissions Trading

1. No trading allowed: $Q=40$ is the limit 2. Trading allowed: Each firm gets 40 licenses, and can buy from or sell to the other. 9 <http://www.epa.gov/airmarkets/trading/so> <http://www.epa.gov/airmarkets/auctions/2005/05spotbids.html> (show this one) 10

Cook on Alcohol Taxes constrain trade, creating triangle losses But we want trade in alcohol to be constrained,

so a tax there is good. How high, though?

Summers Memo: 'Dirty' Industries: Just between you and me, shouldn't



1. Free market?
 2. Socially optimal?
 3. Set $Q=100$. What tax is needed?
- Tax revenue?
- Average externality from pollution?

Figure 1: Pollution Taxes

the World Bank be encouraging MORE migration of the dirty industries to the LDCs? I can think of three reasons: 1. The measurements of the costs of health impairing pollution depends on the foregone earnings from increased morbidity and mortality. those are lower in poor countries 2. The costs of pollution are likely to be non-linear as the initial increments of 15 p y pollution probably have very low cost. I've always though that underpopulated countries in Africa are vastly UNDER-polluted Only the lamentable facts that so much pollution is generated by non-tradable industries (transport, electrical generation) and that the unit transport costs of solid waste are so high prevent world welfare enhancing trade in air pollution and waste. 3. The demand for a clean environment for aesthetic and health reasons is likely to have very high income elasticity. The concern over an agent that causes a one in a million change in the odds of prostrate cancer is obviously going to be much higher in a country where people survive to get prostrate cancer than in a country where under 5 mortality is is 200 per thousand. Polluters in China When a fertilizer plant in southwestern China tried to expand production earlier this month, it inadvertently dumped so much nitrate and ammonia into the local river that the chemicals killed 440,000 pounds of fish, halted farm irrigation in the area and poisoned drinking water for 16 g p g several cities downstream. Three weeks after the fertilizer-factory spill, the region around Chengdu is still suffering. Upstream, power stations have been asked to stop operations to conserve water. Downstream, residents in the city of Neijiang continue to line up daily for clean water delivered by fire trucks. About the only people who haven't felt any fallout so far: senior officials who run the polluting factory "We should have the power to shut down a plant like that immediately, but we don't," says Pan Yue, deputy director of China's State Environmental Protection Administration. "We can only fine them, and such a small amount at that," he said. "They basically decide it's a cost that doesn't matter. Later this week, his agency plans to introduce a policy that, if implemented, would hold officials accountable for spoiling the environment. Under the policy, 17 Chinese officials who fail to clean up local

pollution and water, or to introduce other measures to make the environment more livable, would be docked points in job-performance evaluations. ... A poor rating could hurt officials' chances for promotion. "China doesn't lack laws and regulations. The problem is enforcement," says Wang Yongchen, founder of Green Earth Volunteers, a nongovernmental group based in Beijing. Nukes and the EPA The upgrading of the older Minuteman III missiles has been under way for nearly a decade now. The air force has also replaced decades old solid fuel rockets in its missiles 18 The first six test flights have shown that the new and improved missiles are less accurate and had shorter range than the missiles they replaced. The shorter range can be attributed to Environmental Protection Agency (EPA) regulations. The old motors did not have to comply with EPA rules, the replacement ones do. This meant the new rocket motors were heavier, which resulted in shorter range.

Codfish Game Spreadsheet

Source: http://en.wikipedia.org/wiki/Atlantic_cod

The Codfish The codfish lays ten thousand eggs. The homely hen lays one. The codfish never cackles To tell you when she's done. And so we scorn the codfish. The humble hen we prize. Which only goes to show you: It pays to advertise.

DATE: December 12, 1991 TO: Distribution FR: Lawrence H. Summers
Subject: GEP

'Dirty' Industries: Just between you and me, shouldn't the World Bank be encouraging MORE migration of the dirty industries to the LDCs [Less Developed Countries]? I can think of three reasons:

- 1) The measurements of the costs of health impairing pollution depends on the foregone earnings from increased morbidity and mortality. From this point of view a given amount of health impairing pollution should be done in the country with the lowest cost, which will be the country with the lowest wages. I think the economic logic behind dumping a load of toxic waste in the lowest wage country is impeccable and we should face up to that.

2) The costs of pollution are likely to be non-linear as the initial increments of pollution probably have very low cost. I've always thought that under-populated countries in Africa are vastly UNDER-polluted, their air quality is probably vastly inefficiently low compared to Los Angeles or Mexico City. Only the lamentable facts that so much pollution is generated by non-tradable industries (transport, electrical generation) and that the unit transport costs of solid waste are so high prevent world welfare enhancing trade in air pollution and waste.

3) The demand for a clean environment for aesthetic and health reasons is likely to have very high income elasticity. The concern over an agent that causes a one in a million change in the odds of prostrate cancer is obviously going to be much higher in a country where people survive to get prostrate cancer than in a country where under 5 mortality is 200 per thousand. Also, much of the concern over industrial atmosphere discharge is about visibility impairing particulates. These discharges may have very little direct health impact. Clearly trade in goods that embody aesthetic pollution concerns could be welfare enhancing. While production is mobile the consumption of pretty air is a non-tradable.

The problem with the arguments against all of these proposals for more pollution in LDCs (intrinsic rights to certain goods, moral reasons, social concerns, lack of adequate markets, etc.) could be turned around and used more or less effectively against every Bank proposal for liberalization.

Questions You Should Be Able to Answer

Terms to Know

Homework Questions

HERE PUT EXAMPLES WITH DIFFERENT NUMBERS THAN IN
THE TEXT