Creating new markets

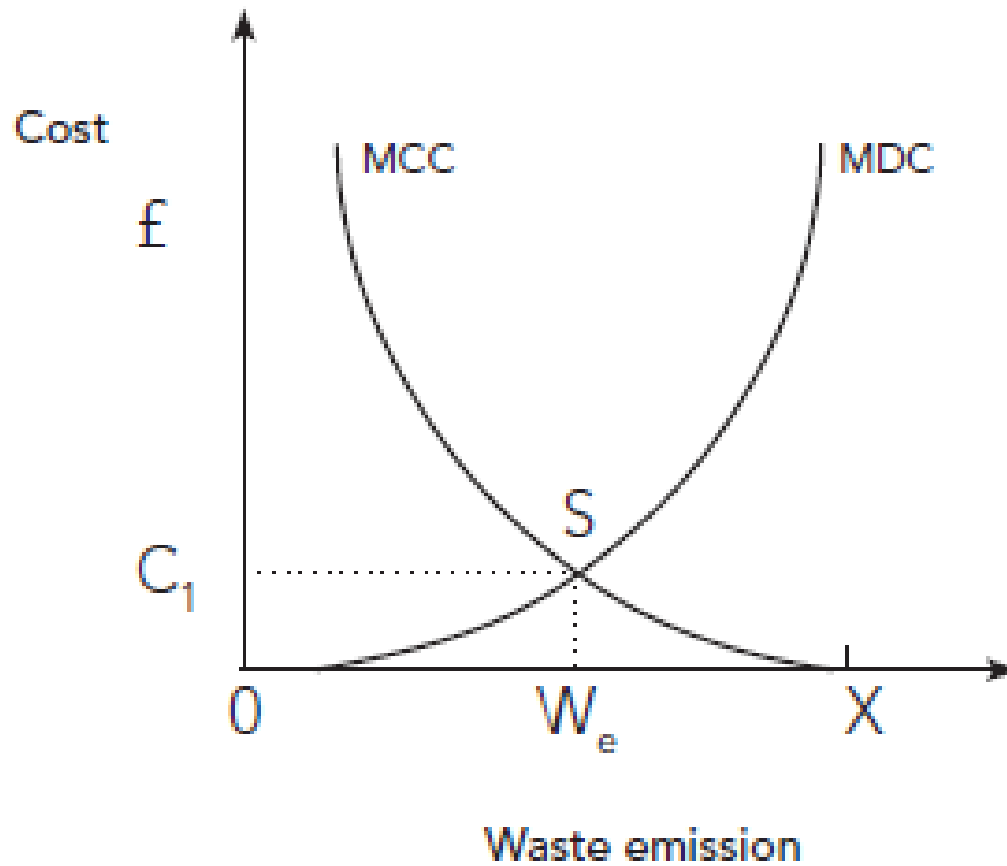Can property rights save the planet?

Why are some habitats still unspoiled?

For an environmental economist. . .

- The reason the planet is being destroyed is that it does not belong to anybody

- If property rights could be clearly established then ecosystems could be protected

- But where are the unspoiled habitats?

Coase Theorem

- The MCC curve is the cost the paper mill will face in using other means of cleaning rather than the river; the MDC curve is the marginal cost of damage caused to the fish farm by discharges from the paper-mill.

- The natural equilibrium is at point S, where pollution is at level W_e.

- If we first try assign the ownership of the river to the fish-farm it would prevent all emissions from the paper-mill (position 0 in the graph). But if the mill were to discharge less than W_e of waste, the cost of alternative means of cleaning would be greater than the damage to the fish-farm (MCC > MDC), giving the mill an incentive to pay the farm for the damage resulting from some level of pollution. There is a range of costs for this compensation (in the range from 0 to C_1 on the diagram) representing the range of options where the marginal cost of alternative clean-up is greater than the damage to the fish-farm.

- If we assign the property right to the paper-mill, it could discharge all its waste into the river, polluting the river to a level represented by the point X on the axis. But for all levels of waste between W_e and X (MDC > MCC) the paper-mill would gain more financially by engaging in a negotiation to reduce its level of its emissions and take a fee from the fish-farm in return. So from this perspective also the optimum level of pollution is W_e, where MDC = MCC.

  - Hussen, Principles of Environmental Economics, 2000

Problems?

- Do the two businesses have equal power?
- Do they have equal access to the law?
- Can we always measure the pollution accurately?
- What about those without property rights who are affected by pollution?
- Is any level of pollution necessary?

Eco-system services: UNEP

- How to establish their value?
- Millennium Ecosystem Assessment (MA) reported that '60 to 70% of our world's ecosystem services are deteriorating, with dramatic consequences for those who are most dependent on their steady provision, such as subsistence farmers.'
- 'The attractiveness of the "ecosystem services" concept is also largely due to its capacity to provide a unifying language between the economic, business and environmental communities; as beneficiaries of valuable services are identified, previously uninvolved actors are recognizing that they have a stake in conserving the environment'

Type of mechanism	Compensating benefit to host country	Global environmental benefits
Bio-prospecting	Share of commercial returns from pharmaceutical and other products	Biodiversity, protected areas
Carbon offsets	Foreign capital investment	Reducing CO_2 pollution
Debt-for-nature swaps	Purchase of secondary debt in exchange for protected areas	Biodiversity, carbon store
Transferable development rights	Alternative rights to areas with less environmental value	Protected areas

Discussion

- Which aspects of your local environment are under threat?

- Could you create a market that would save them

- What would the product be?

- Who would trade it?

- Where would the trade take place, and what money would be used?

Recipe to create a 'missing' market

Alexandre Meneghini / AP

- A preference for something and a willingness to pay to secure it

- Creating a product:
  - supply of resources, e.g. drugs from the Amazon
  - assimilation of wastes, e.g. forests
  - direct source of 'utility' in terms of enjoying the view or feeling spiritually uplifted, e.g. an unspoilt view

'Values' created by the environment

- *Direct* values relate to resources that can be physically extracted from the ecosystem and then sold or made into wood from rainforests, medicinal plants
- *Indirect* values relate to other 'services that the ecosystem provides but do not have a solid physical existence': trees that can absorb CO_2
- *Option* values money people will pay to protect the environment so that they can have future direct or indirect value in future
- *Existence* values are an attempt to put into monetary terms the intrinsic value of a species or environment

Whose life is worth more?

- Land in the countries of the South was valued at one tenth of the rate of the land in rich Western countries by IPCC economists

- The cost of a lost life in Western countries was US$1.5mfor the rest of the world it was US$100,000

Conventional market approach

- Pay the actual cost of restoring the environment, e.g. to clean up pollution from a factory
- Could add more for the intrinsic value of the watershed which absorbs the pollution, using a 'shadow pricing' technique
- If a crop destroyed by pollution, pay the farmer the value he would have received

Household production function

- Cost the substitute that can be offered to the consumer who has lost out because something they value in the environment has been destroyed

- Examples might be the cost of installing insulation to prevent noise from aircraft destroying the peaceful enjoyment of the home or the cost of travelling to a park that is far from a person's home because the nearby park has been used as development land by a supermarket.

Hedonic pricing methods

- Hedonic pricing involves using markets that do exist that approximate to the goods or services that are destroyed and using the prices that are paid in that market to impute a price to the non-tradable commodity. The price that exists in the real market is considered as an implicit price for the missing market

- A popular example is the 'hedonic housing market', which relates the price premium for homes in a certain area to the value people place on the peace, proximity of green space for leisure, low levels of noise pollution and so on in the local environment.

Experimental methods

- Go out and ask people directly what they would be prepared to protect it

- In a method known as 'contingent valuation' people are asked what they would be willing to pay to protect their local park or to avoid having a nuclear power-station built in their community, for example

  - The method known as 'contingent ranking' or 'stated preference' involves how much they value an environmental good relative to other goods which are actually bought and sold in a market

Preparation for fieldwork

- What do you make of these techniques?
- What are the pressing local environmental issues?
- How would you phrase questions to assess people's willingness to pay to protect them?
- How will you choose people to ask?
- How will you report your results?

Market solution: Carbon Trading

- Allocate permits to companies based on their existing emissions
- Those who can control these most efficiently will sell surplus to others
- Market efficiency

STUCK ON AN ELEVATOR WITH THE U.S. AT THE U.N. GLOBAL WARMING CONFERENCE

The EU Emissions Trading Scheme

Repentance and Redemption
Forgive me, for I have S.U.V.'d
Go thy way. Thy sins are offset.
Ron Barrett

- The EU-ETS was set up to:

-reduce greenhouse gas emissions emitted in the EU

-do so at least cost by allowing trading in the right to emit carbon

-keep under a cap set by the Kyoto treaty

The European Emission Trading Scheme

- Aimed to:

  reduce greenhouse gas emissions emitted in the EU

  do so at least cost by allowing trading in the right to emit carbon

  keep under a cap set by the Kyoto treaty

- It did this by:

  - Issuing a limited number of permits to emit carbon dioxide

  - giving them to 5,000 of the EU's biggest emitters

  - allowing trading between the recipients

EU-ETS: A Corporate Bonanza

- Firms have charged consumers for emission rights they received for free
- This has increased their profits. The WWF estimates that German utilities will make windfall profits of between €31-€64 billion to 2012 because of allowances.
- It has also increased the cost of electricity to consumers and businesses
- Bureaucratic expenses associated with National Allocation Plans, verification and compliance are being paid for by the public

EU-ETS: An Invitation to Corruption

- Meeting the demands of powerful utility companies and acting in the perceived national interest creates a high moral hazard

- The system is open to corruption at a national level. Finland, Lithuania, Luxembourg, Slovakia allocated 25% more than their recent emissions.

- The system is open to corruption at the firm level since company allocations are set by governments.

- A per capita sharing of permits would be much more transparent, and much fairer