Optimal Pollution

What do you think?

Baxter argues two distinct but related points: There is an optimal level of pollution, and this should be decided strictly in terms of human well-being. Do you agree? Why or why not?

Baxter, "People or Penguins?"

William Baxter, "People or Penguins?" (1974)

(1) Four criteria for judging environmental policy

(2) Anthropocentrism is reasonable

(3) Arguments for optimal pollution

(4) The costs of pollution abatement

Baxter, "People or Penguins?"

(1) Four criteria for judging environmental policy

      Freedom (maximize liberty)

      Efficiency (maximize preference satisfaction)

      Justice (treat humans as ends)

      Minimal egalitarian constraints (safety nets…)

(2) Anthropocentrism is reasonable

(3) Arguments for optimal pollution

(4) The costs of pollution abatement

Baxter, "People or Penguins?"

(1) Four criteria for judging environmental policy

(2) Anthropocentrism is reasonable

"Realistic" (it's how most people behave)

Ecological (protecting humans will protect the environment)

Spill-over benefits (what's good for humans is often good for penguins)

Just (should not sacrifice humans for non-humans; collective actions cannot favor penguins)

Practical (how much are penguins worth? what do they want?)

Nature as amoral (penguins wouldn't help us)

(3) Arguments for optimal pollution

(4) The costs of pollution abatement

Baxter, "People or Penguins?"

(1) Four criteria for judging environmental policy

(2) Anthropocentrism is reasonable

(3) Arguments for optimal pollution

> The only optimal level of pollution will be in reference to human wants and needs, thus, it will be that level that maximizes human preference satisfaction.

(4) The costs of pollution abatement

Baxter, "People or Penguins?"

(1) Four criteria for judging environmental policy

(2) Anthropocentrism is reasonable

(3) Arguments for optimal pollution

(4) The costs of pollution abatement

Resources that must be forfeited:

Labor

Technical skill

Capital goods

Natural resources

Economics
and the
Environment

Environmental Economics

The Main Question: Can economic policy decide environmental policy?

Further Questions: Does the market system…

… provide the most just distribution of resources?

… adequately protect human health and safety?

… recognize environmental values?

Classical Economic Theory

The Basic Economic Problem: How do we meet our material needs in the face of scarce resources?

Four premises of Classical Economic Theory:
(1) The satisfaction of preferences is to be maximized.
(2) These preferences are subjective,
(3) substitutable, and
(4) unlimited.

Economic Efficiency

Economic Efficiency is understood as "the maximal satisfaction of preferences" (this is the 1st premise of classical economic theory)

Pareto Optimality is what traditionally defines an efficient economy.

An economic system is Pareto optimal ("maximally efficient") if it is not possible to rearrange production and consumption activity so as to make at least one person better off except by making one or more other individuals worse off.

Possible Criteria for Efficiency

Pareto Criterion: Accept only those policies that benefit some people while harming no one.

[Fair, but not practical]

Potential Compensation Criterion (Kaldor-Hicks): Accept only those policies where the benefits outweigh the costs (measured monetarily).

[Practical, but is it fair?]

Problems with the Pareto Criterion

(1) Too strict (not practical)

(2) Assumes the *status quo*

(3) Assumes all transactions are voluntary and well-informed.

(4) Includes only economic players

Market Failure!

A market failure is whenever a market is inefficient (i.e., it is not satisfying as many preferences as possible, within the general constraints of resource scarcity)

Causes of Market Failure:

(1) Imperfect competition

(2) Asymmetric or imperfect information

(3) Externalities

(4) Non-priced goods or values

The most relevant failures regarding environmental issues are externalities and non-priced goods.

Externalities

An externality is some benefit or harm (resulting from the production of some good or service) that is not reflected in the market price of that good or service.

Externalities are either:

Positive: often called free riders (gaining a benefit for free, e.g., from everyone else getting a flu shot)

Negative: e.g., factories dumping pollutants into a common sink for free.

Avoiding Externalities

Three ways to minimize an externality:

(1) Seek voluntary restraints. [not very effective…]

(2) Re-arrange property rights and rely on tort law to control for damages.

(3) Attach penalties and compensation and/or enjoin the nuisance (through government regulation and action).

Pricing the Unpriced

Things we value that have no market-value

Human health and life, a clean and safe environment, etc.

Arriving at a market-value through
shadow pricing

Example: study "bundled goods" — fresh air, not marketed by itself, is marketed when bundled with a house, so compare the market values of comparable homes where one is located in a smoggy area, the other in an area with clean air.

General Criticisms

… of applying economic reasoning to environmental problems

(1) The numbers are soft!

(2) It devalues individuals

(3) It favors the wealthy

(4) It is anthropocentric

(5) Questionable market-system assumptions

Burning
Pintos

Pricing Human Life

Pricing Human Life

Calculating the unit cost of death

Component	1971 Costs
Future Productivity Losses	
Direct	$132,000
Indirect	$41,300
Medical Costs	
Hospital	$700
Other	$425
Property Damage	$1,500
Insurance Administration	$4,700
Legal and Court	$3,000
Employer Losses	$1,000
Victim's Pain and Suffering	$10,000
Funeral	$900
Assets (lost consumption)	$5,000
Misc.	$200
Total cost per fatality:	**$200,725**

Savings	Unit Cost
180 burn deaths	$200,000
180 serious burn injuries	$67,000
2,100 burned vehicles	$700
Total:	**$49.53 million**

Sales	Unit Cost
11 million cars	$11
1.5 million light trucks	$11
Total:	**$137.5 million**

Money saved by not installing the baffles:

$87.97 million