

The Tragedy of the Commons: Perspectives from the economics of Governance

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Collective vs. Private Goods

Tragedy of
the Commons:
i.e. Free Riding

Econ. Characteristics	Exclusion (Low Cost Rationing)	Non-exclusion (Costly rationing)
Rival ($C_m > 0$) Desirable rationing	A Private Good	D Common Pool
Non-rival ($C_m = 0$) Undesirable rationing	C Club Good	B Pure Collective (Public) Good

Caveats 1: the diversity and progressive nature of the issues in practice

Depending upon technical and social technologies
(also of comparative cost of exclusion vs. value of resources)



Continuum

from >>>0
"Exhausting Goods"

to < 0 (goods of collective concern)

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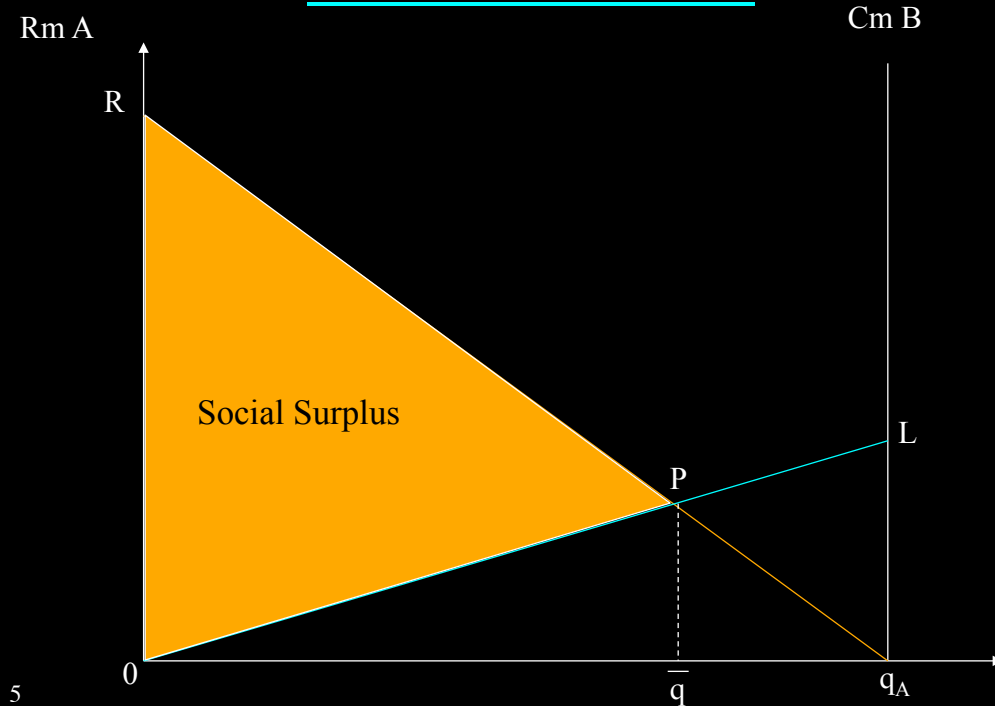
Depending upon technical frontier and population density

Public Good might be "localized" resulting in asymmetric benefits to users

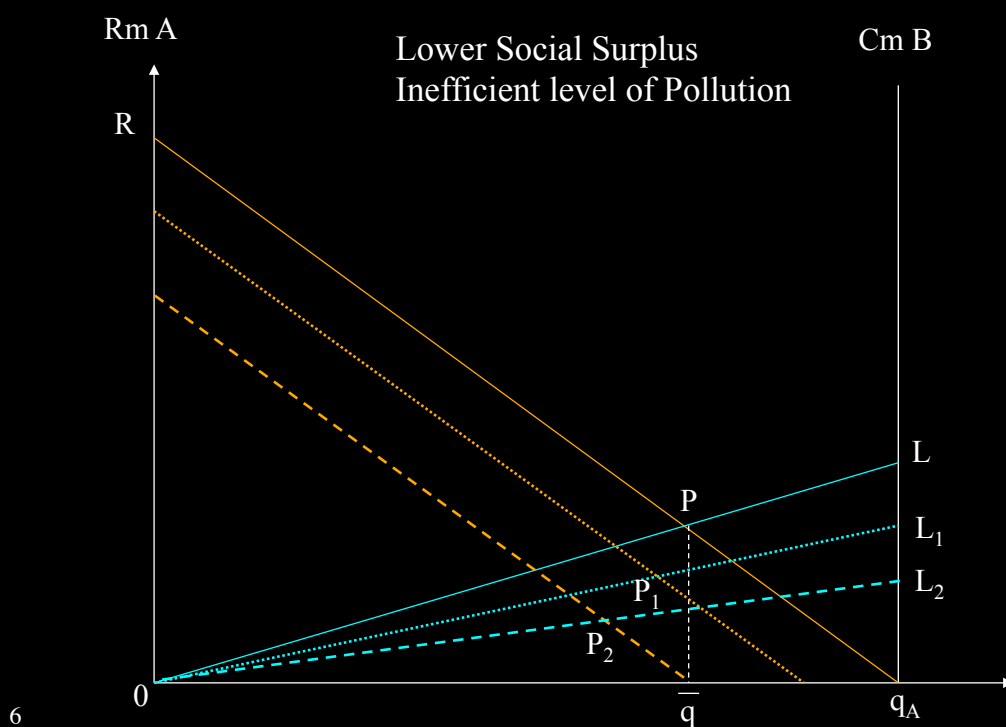
Usual Solutions

Econ. Characteristics	Exclusion (Low Cost Rationing)	Non-exclusion (Costly rationing)	Usual Solutions
Rival (desirable rationing)	A Private Good	D Common Pool	Externalities: <ul style="list-style-type: none"> • Regulation • Tax • Voluntary Agreements
Non-rival (Undesirable rationing)	C Club Good	B Pure Collective (Public) Good	Governmental Provision

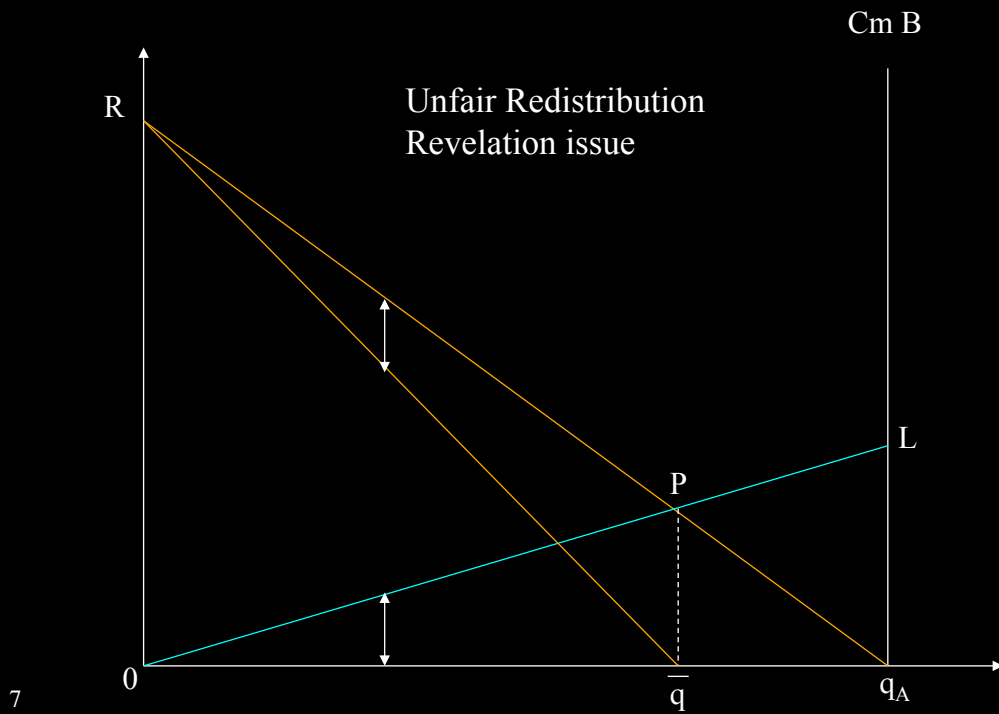
Usual Solutions for Externalities: The Framework



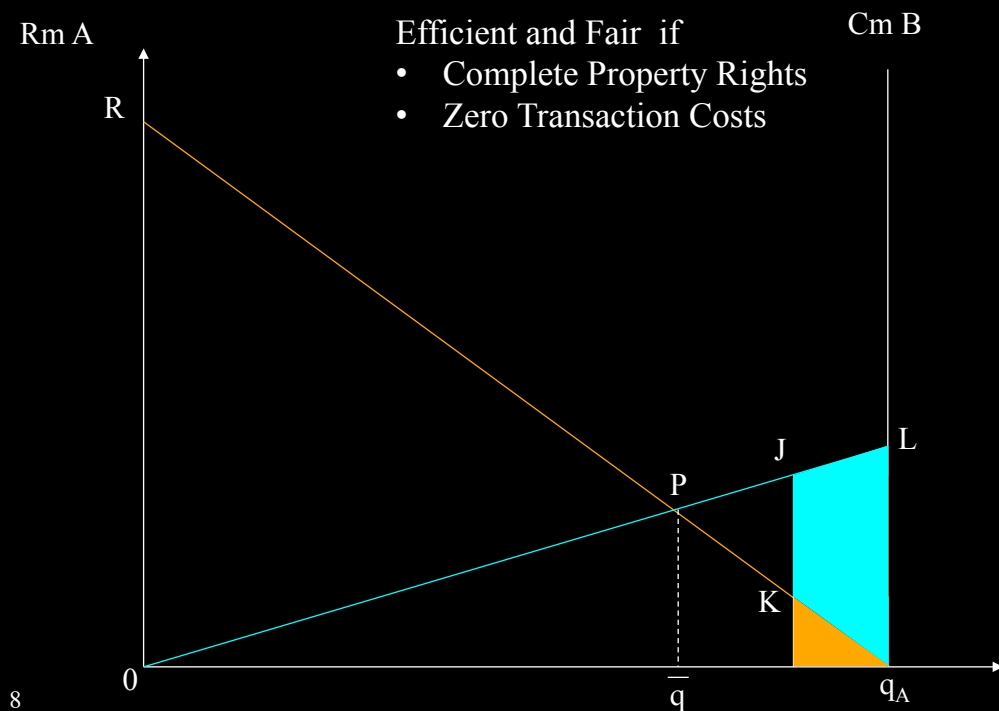
Regulation (of Emissions)



“Pigovian” Tax



Voluntary Agreements



Allocating Property Rights

- Two Allocations Mechanisms
 - First Possession or Grandfathering
 - Pros
 - Knowledge & Incentives (past investments to efficiently manage the resource)
 - Cons
 - FP: Over-investments in the race to get access/Wrong selection of “winners”
 - GF: (Un)Equity of distribution of wealth & power
 - Auctions
 - Pros
 - Efficient Selection and Distribution
 - Efficient valuation of common wealth
 - Cons
 - Revelation (non-manipulation)/Complexity Dilemma
 - Distribution of Windfall profit by political processes

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The Distributive and therefore Political Nature of PR implementation

- Market tend to reveal Shadow Price (and therefore surpass command and control), but
 - PR systems tend to be implemented too late, when the resource is near to depletion
 - Complex Mech. of transmission to the final users: Sequential Political Conflicts => little chance to align Efficiency & Justice
- Asymmetric logics
 - Goods: Grandfathering > Auction (because of alignment of Incentives and Knowledge)
 - Bads: Auctions > Grandfathering because better selection of operators while costs are always born by taxpayers

Usual Solutions

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Usual Solution for Public Good Provision: Issues with Governmental Provision

1. Revelation & Aggregation of Individual Preferences
2. Ability to Provide: Provision vs. Production & Incentivizing producers (in the absence of market sanction)
3. Political & Bureaucratic failures
4. Discrepancies between the Scope of Public Goods and the scope of Jurisdictions
 - Fiscal Federalism & Polycentric Governance
 - International & Global Governance

Caveats 2: Behavioral and Cognitive Assumptions

- Selfishness (Narrow vision of short term individual material benefits)
 - vs. ‘internalization of interdependencies’ [rational altruism] & pluridimensional social game [prestige, self-esteem, etc.]
 - vs. Moral and Ethical Values [Altruism]
=> *Cooperation & Compliance might Prevail*
- Rational Agents
 - vs. non informed players
 - vs. non conscious players
=> *Generation and Distribution of Knowledge matter*

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Establishing Collective Preferences for Environmental Goods

- Issue: to build norms to make collective decision in matter of GPG
 - How to build collective pref. ?
 - Traditional issue of aggregation in the case of Public Goods due to the strong heterogeneity of the global pop
 - Do individuals have preferences for environmental goods?
 - issue of social norms, beliefs,
 - Issue of knowledge
 - (Mechanisms for the) Revelation of preferences
 - The crisis of representative democracies and the limits for contingent valuation (i.e. how are established hedonic prices ?/ costs ? Do current relative prices/costs take into account technological innovation ?
 - Transaction costs due to the size of the community
- => Building collective Knowledge to form preferences

Intricated Issues

- Mismatch between ecological and socio-economic paces of evolution
 - The Inter-Generational Challenges
 - How to weigh the interest of future generations?
 - The Inequality Challenge
 - How to share the burden of adaptation between
 - The developed and the developing countries
 - The wealthiest and the poors
- Both an ethical and an efficiency issue
- Cf. Consequences of inequalities on cooperative strategies
(Cooperation tends to benefit more to countries/individuals with highest human capital)
- => Redistribution might be an imperative

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There is no silver bullet

- The gap is not between command and control vs. market based incentives
All tools have their own limits : liability and tort law, ex-ante regulation, environmental taxation, emissions trading schemes
=> Toward second best mixes ?
- Property Rights yes but
 - Pbms of distribution: First possession rule, uniform distribution, auction
 - Pbms of transaction costs ex ante (delays) /ex post (efficiency)
- The Consequences of the multi-faceted aspects of Environmental Goods
=> Possible Cross Subsidization among services (e.g. watershed)
 - Property Rights over natural resources to Public-Private Corp. ... but pbm of corporate governance

Toward efficient and manageable processes of evolutions ?

- Impossibility to settle efficient solutions from scratch, even if the structure of the problem is known
 - Wrong incentives in establishing an efficient solutions : early and formal implementation involves high resource and political costs relative to their expected gains
 - Delays: Step by step process
 - Generate information / Incentives to solve the problem and accept solutions
 - Resources becomes more valuable
 - New technology and techniques are developed to lower the cost of closing externality
 - Pbm: delays can cause depletion
- Research Question Are there optimal Step by Step Process to avoid
 - Crises and costs of transition
 - Resources depletion and irreversibilities
- Reply
 - Science
 - Managing incentives to negotiate and cooperate

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Agility in practice

- The need for *Reflexive Governance*
 - Assessing Policies & Institutional Arrangements
 - Enabling and Inciting to Adaptation

The Key Role of Information Circulation
...and of Citizens's Involvement
...and of Watchdogs

- What are the conditions under which the *scientific community* can
 - Establish credible alert
 - Propose legitimate solutions
 - Structure of the scientific debate (but problem of timing)
 - Education of stakeholders to interpret scientific results and debates (education since scientific knowledge is « provisional »)
 - Alternative modes of funding science and involving scientists in the decision process

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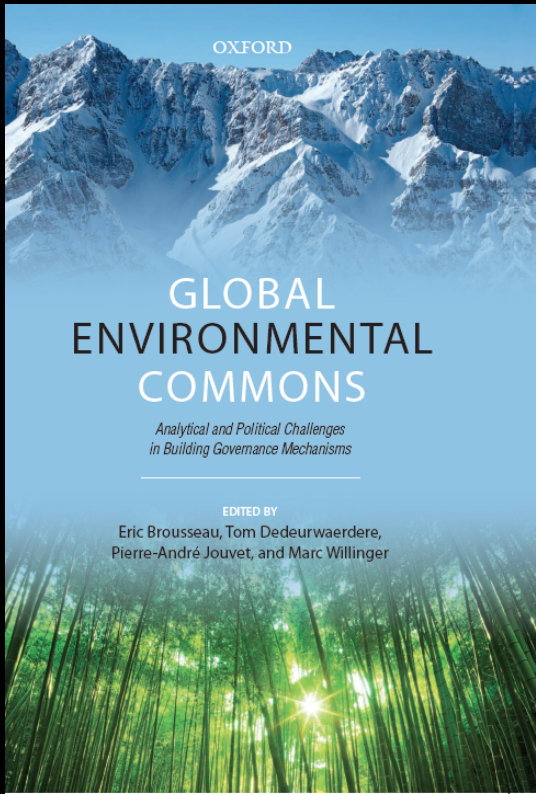
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Multilevel Governance

- Some good news
 - Polycentric Governance / Heterarchic Governance: Access to local knowledge, Reduced Heterogeneity (hence agreements), Voluntary cooperation (hence compliance)
 - International cooperation
 - The power of minimal coalitions
 - ... while a dilemma between stability and effectiveness when considering heterogeneity
 - The influence of citizens...and public opinion
 - ≠ Public goods (Aggregation Tech.) => ≠ Cooperation process
 - Weighted sum vs. Best shot PG vs. Weakest Link PG
 - In practice : multi-facets public goods
- Centralization/United Government
 - Remains more efficient (Cf. European ECTs)
 - Useful to manage emergency and systemic crises: the facilitated cooperation among Watchdogs

The central issue of Beliefs and Values

- Individual preferences matter
 - For compliance
 - At the individual level especially for all Weighted sum PG and for best shot PG
 - At the collective level though pressure on Governments
 - and for the formation of collective preferences
- Hence formation and transformation of beliefs are a central issue
 - Role of the media, the science community, the leaders...and social networks => and problems of hierachization, manipulation, credibility
 - Impact on Policy instruments (see later)



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GLOBAL ENVIRONMENTAL COMMONS

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