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CLIMATE CHANGE AND DIFFERENT INSTRUMENTS FOR ENVIRONMENTAL REGULATION

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IMPLEMENTATION FOR CLIMATE CHANGE

- Command-and-control vs. Market based Instruments

- In command-and-control:
  Environmental standards are imposed on polluter
  Common emission limit is imposed on all plants in an industry on all plants in an industry
  Firm-specific or industry sector-on all plants in an industry
  Technology based standards

- Disadvantages:
  Limits freedom to choose method of compliance
  Costly to enforce, costly to comply
  No incentive to reduce pollution below target
  there governance is weak, enforcement likely to fail

Command-and-control vs. Market based Instruments

- Market based Instruments
- Minimizes cost by maximizing flexibility of response
- Price approach: put a price on emissions (e.g. carbon tax); producers adjust quantity (level of emissions)
- Quantity approach: set a maximum quantity of pollution allowed (e g tons of CO 2 emissions); price adjusts according to supply and demand

- Price-based system: 2 effects
- 1 Raises cost of the polluting product/process, thereby lowering consumption demand for it
- 2. Leads producers to seek ways reducing emissions (i.e. by changing energy source or technology) that cost less than the tax

- Quantity based system:
- Similar in effect to standard setting, except the allocated quantity target can be bought and sold
- Polluters are free to find best way to adjust to the target
- Price of the permit has similar effect as pollution tax; leads producers to seek cheaper ways to reduce emissions, thus lowers costs

Tradable Permits: Process

- 1 Set overall quota of allowed
- 2. Allocate to firms via:
- Auction (producers/polluters bid for permits)– fair and efficient
- Allocation according to historical emissions – unduly rewards heavy polluters
- 3. Once allocated, firms are free to buy or sell them; market S&D sets price or sell them; market S&D sets price

- Possible Pitfalls:
- Reduced industrial competitiveness (carbon taxes or tradable permit system raises costs of producers vis-à-vis those in countries with no measures)
- "Carbon leakage" when efforts to reduce CO2 emissions lead to higher emissions elsewhere (Relocation of trade to non-regulating countries; Substitution effects with lower pre-tax oil prices lead to higher use in other sectors)

TRADEABLE PERMITS

- An instrument suited to the environmental problem?
- From an environmental standpoint, greenhouse gas (GHG) emissions can be considered homogenous and substitutable
- A priori, an ideal setting for the introduction of a market instrument
- Potential problem : technology and socio-economic dynamics could constrain future reduction paths
- The benefits of tradable permits hinge on cost-minimising behaviour based on market prices
- Kyoto GHG emission objectives apply to nations
- Sovereign states may not be in a position to, or be willing to act purely on the basis of economic rationale

REMARKS ON EAL APPROACH

We have analysed on a Economic Analysis of Law (EAL) point of view the efficiency of different environmental policy instruments on the base of the achieved targets and taking into account informational problems.

- As a general rule, whenever the nature of the activities carried out by the firms is such that the private parties have better information about the benefits and costs of reducing risks, in such a case market oriented instruments have to be preferred for the advantage of making the private parties directly responsible for the control of risks
- But it may also happen that a public agency has better knowledge of those risks because of the possibility of centralizing information and decisions, in particular when a better knowledge of the risk factors requires a special expertise to be shared through different cases and situations.

THE BEAL APPROACH

- We consider now the Behavioural Economic Analysis of Law (BEAL) Approach
- The growing psychological literature suggests that people behave in ways quite different from what is assumed in economics models
- The task of BEAL is to explore the implications of actual human behaviour for the law stressing three important bounds on human mind: bounded rationality, bounded willpower, and bounded self-interest
- Policy makers interested in designing effective legal systems should combine the deductive reasoning offered by law and economics with the empirical observation produced by the behavioural sciences .
- Interest groups play an important role in shaping environmental law
- They manipulate policy in their preferred directions, sometimes by exaggerating risks, sometimes by minimizing them, sometimes by using heuristics and biases strategically

EX ANTE REGULATION

- People seek law in areas such as environmental legislation on the basis of their judgements about the probabilities associated with certain harmful activities.
- Reliance on the perception of the event occurrence leads to systematic errors in probability assessment.
- Two factors determine how available a particular environmental hazard is:

  1) the observed frequency of the hazard

  2) its salience
- The occurrence of an event, such as an environmental catastrophe, particularly when screened and publicized by media and others actors, will produce a legislative response.
- Public pressure is an effective instrument to obtain regulation of the problems at stake

SELF REGULATION

Taking into account the complexity of people's decision making process, the so called self-interest bound comes into play

- People care not only about material self-interest but also about their reputations: this attitude leads to compliance without enforcement.
- In the environmental context increasing attention to voluntary approaches
- Firms are responsive to public pressure and try to capture people's demand
- Firms show a growing interest in voluntary environmental regulatory instruments because they may face pressure to undertake positive environmental initiatives from citizens and they are anxious to regain society's trust
- The adoption of voluntary technical standards in environmental regulations is an alternative approach, which may be viewed as less "legalistic" than the traditional command and control approach and therefore more acceptable to business, but it is and should be a complement to regulation, not a substitute
- A mix of regulatory instruments is required, tailored to specific policy goals.

DIFFERENT KINDS OF SELF REGULATION

1. PUBLIC AGREEMENTS
between the firms and the goverments

2. CERTIFICATION
organizational schemes

3. ETHICAL CODES
among group of firms

Self-Regulation Vs Traditional Regulation ex

ASPECT	*SELF-REGULATION*	*TRADITIONAL REGULAITON*
Rulemaking	Easier to develop, more flexible and faster to implement, inexpensive	Complex development process, lengthy implementation time, high cost
Agency oversight	Lower administrative resources, more cooperative	High administrative costs, more adversarial
Ease of conformance to standards	Easier to conform, more flexible, less paperwork	More complex, difficult to conform to standards
Public trust	Lower degree of public trust, depends on the amount of government involvement	High degree of public confidence
Stakeholder involvement	Typically low stakeholder involvement, non-inclusive process	More open process, high degree of public involvement
Sanctions for non-conformance	Low or minimal sanctions	High sanctions