

# Over-compliance, Voluntary Approaches and Environmental Reputation

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# Outline

- VAs within environmental policy
- Institutional background: OECD taxonomy
- What is special about VAs → reasons for over-compliance
- Environmental reputation
- Empirical results: testing for the reasons of over-compliance and environmental effectiveness
- Some conclusions affecting policy concerning VAs

# Standards, Economic Instruments and Voluntary Approaches

- **Standards and fines** → Command and control approach → Imposed by Public Bodies → Economic Analysis of effects
- **Economic Instruments** (taxes, subsidies, & pollution markets) → From economic research to policy makers
- **Voluntary Approaches** → adopted by firms, sometimes regulators are involved (since the '80) → A puzzle for traditional environmental economics → theoretical research first (since the '90) and empirical studies afterwards

# Voluntary Approaches and Over-compliance

- **Over-compliance:** efforts to reduce pollution either beyond the legal requirements or in absence of a legal requirement (standards or taxes)
- **Enforcement issues** → Do voluntary approaches lead to self-enforcing mechanism to internalize the externalities? Only some Vas are legally binding
- To what extent the environmental regulator is involved?

# OCDE Classification: 1)Regulator Involvement 2)Constraints on Firms

## ■ **Regulatory Control:**

1. R. just promotes the VA and registers results
2. R. provides a standard protocol and firms can join it or not
3. R. negotiates a specific agreement with mutual commitments

## ■ **Constraints Imposed on Firms**

1. Firms disclose achievements without assuming commitments
2. Firms assume binding commitments concerning objectives, deadlines and sanctions (taxes or standards may be imposed)

# UNILATERAL COMMITMENTS (Self Regulation)

- Voluntary efforts to reduce pollution without any obligation
- Regulatory body announces objectives, controls the results and disseminates information about environmental performance
- Any threat of taxes or standard is just hypothetical, not a sanction
- What is the enforcement mechanism?
- EXAMPLES: Responsible Care –  
Environmental Management Systems –  
Environmental Certification (ISO 14001)

# PUBLIC VOLUNTARY PROGRAMMES

- Environmental regulators define a program with requirements concerning commitments, deadlines and rewards
- Firms can join the program and the regulator controls if it is carried out according to the requirements
- Certification and labels can be awarded
- The degree of enforcement depends on rewards
- EX.: Eco-label; EMAS (European ENV. Man. Scheme); Green Lights and Program 33/50 by EPA in the U.S

# NEGOTIATED AGREEMENTS

- Individual negotiation between a regulator and either a firm or an industry (trade association).
- “Tailor made” voluntary program with specific aims, deadlines, benefits and sanctions (tax exemptions & tax threats).
- Ex.: Dutch Covenants

# What is special about VAs as a policy tool?

- Explicit cooperation with the regulator – different from consultation process preceding taxes or standards
- Flexibility: targets and tools can be easily renegotiated (useful also to the regulator if environmental impacts are uncertain)
- Better coordination with multiple sources of pollution 1) benefit: information sharing 2) Cost: burden-sharing and free riding issues
- Very Low impact on public finance
- Main problems: environmental aims and abatement efforts are significant? – target definition- Where is the incentive? What is the enforcement mechanism?

# As V<sub>as</sub> are costly, look at the benefits!

- Finding more efficient input combination while reducing pollution (*win-win opportunities*)? → ex. energy savings
- Financial incentives? if subsidies or tax exemptions are awarded
- Regulatory relief → exemption from existing or future regulation or substitution with tailor made rules → Abatement costs can be reduced and in the meantime more ambitious aims are reached

# Otherwise...firms want to build an ENVIRONMENTAL REPUTATION

- Assume green preferences
- Benefits of increasing environmental quality is due to (vertical) product differentiation (Arora & Gangopadaya1995)→with perfect information
- But environmental characteristics may be experience goods or credence goods→ information issues
- Firms need to build their environmental reputation to be credible (their dominant strategy is to produce low quality goods and claim to sell high quality goods)

# Over-compliance due to investments in environmental reputation

- With **experience goods** → discounted stream of profits due repeated sales give the incentive → it is better to invest in consumers goodwill than to deceive them to reap a very high profit just once → An Infinite horizon should be assumed
- With a finite horizon assume not only **imperfect information** about quality but also **incomplete information** by consumers about regulatory or market constraints (Cavaliere 2000- Caplan 2003)
- **Consumers beliefs**: probably regulation or competitive threats will prevent firms from neglecting environmental quality → firms do find worthwhile to confirm these beliefs by actually producing higher quality products

# From implicit contracts to VAs

- If products are **credence goods** monitoring and controlling procedure are necessary for information certification, disclosure and dissemination → VAs protocols
- VAs are finite → at the end firms may exploit consumers beliefs and **milk their reputation** (risk for environmental effectiveness)
- Firms may not if there are **sunk costs** due to investments in pollution abatement (lumpiness contributes to over-compliance) IF NOT: introduction of tighter standards after expiration
- Reputation concerns can be extended to other stakeholders → shareholders fear liability damages to affect firm value

# Empirical findings: Public Voluntary Programs

- Arora & Cason ('95) Public recognition and competition in environmental quality **explain participation** to the EPA 33/50 Program to reduce release of toxic chemicals → **signal** to the regulator to tighten standards and **raise rivals' costs** (Denicolò, 2000)
- Khanna & Damon ('98) participation to the program lead to 1. **significant decline** in toxic releases over 1991-93 2. **positive impact on expected long run profitability** BUT total release reduction (38%) lower than reduction due to the VA (28%)

# Empirical results: unilateral commitments

- Unilateral Commitments (Khanna et al.2004)→ EMS adoption (sample 500 S&P firms) motivated by liability threats and public recognition→ consumer pressures increase comprehensiveness of EMS /most environmental effects due to firms with very high emission intensity
- Responsible Care: impact ambiguity→ positive environmental effectiveness for the **chemical industry** as a whole BUT subscribers are not distinguished for greater environmental performance→ Risk: Without sanctions some firms can hide their worst performance under the VA

***VA increase the environmental performance but also assure protection from stakeholders pressures at the risk of diluting incentives***

- Environmental effectiveness depending on:
  1. Impact on abatement costs (with respect to standards)
  2. Likely-hood that standard and taxes be imposed if targets not respected
  3. Negotiation power of firms vis-à-vis regulators
  4. Willingness of regulators to subsidize pollution reduction (cost of public funds)
  5. Strength of consumer groups
  6. Willingness to pay for greener products (with respect to minimum quality standards)