

# **Structuring Disclosure as Environmental Regulation**

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## **Presentation Outline**

- ◆ **Background and History**
- ◆ **Political Analysis**
- ◆ **Economic Analysis**
- ◆ **Communication Issues**
- ◆ **Design Implications**
- ◆ **Conclusions**

## Scope of Disclosure Regimes Covered

- ◆ Information is related to environmental performance
- ◆ Disclosure is mandatory
- ◆ Disclosure is independent of compliance-based systems
- ◆ Information reported by companies and public authorities
- ◆ Broad access is required
- ◆ Disclosure is systematic and in standardized format
- ◆ Purpose is to reduce environmental risks

## Roots of Environmental Disclosure

### *Three trends:*

- ◆ Pressure to refine the existing system
- ◆ Strengthening of “right to know”
- ◆ Opportunities created by IT innovations

## Agreements and Disagreements on Public Disclosure

### *Values promoting disclosure*

- ◆ Strengthen democratic principles and promote economic efficiency
- ◆ Minimize government's intrusion
- ◆ Adaptable to change

### *Values discouraging disclosure*

- ◆ Confidentiality of business information
- ◆ National security concerns
- ◆ Protection of privacy

## Characteristics of Disclosure Requirements Influenced by Political Conflicts

- ◆ Purpose
- ◆ Target
- ◆ Scope
- ◆ Structure
- ◆ Vehicle
- ◆ Audience
- ◆ Enforcement
- ◆ Context/Consequences

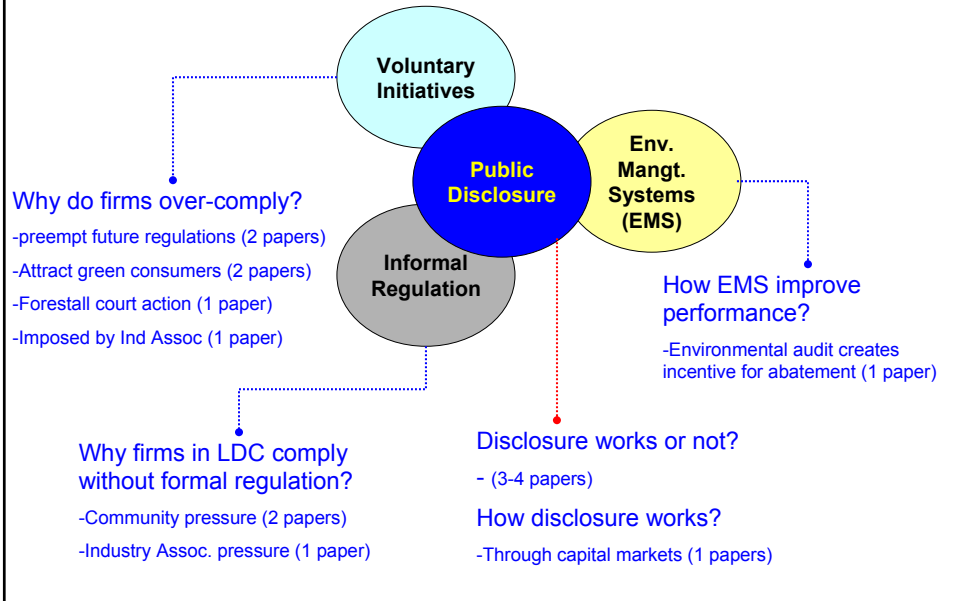
## **Paradoxes Associated with Disclosure**

- ◆ **Workable compromise v. risk reduction**
- ◆ **Benefits of uncertainty v. potential for distortions caused by uncertainty**
- ◆ **Demands of accuracy v. need for simplicity for mass communication**
- ◆ **Accountability v. prevention**
- ◆ **Broad access v. structured disclosure**

## **Economic Analysis: Topics**

- ◆ **Literature review**
- ◆ **Comparative analysis**
- ◆ **Cost effectiveness**
- ◆ **Some remarks**

## Economics of Public Disclosure: Literature Review



## Economics of Environmental Disclosure

### Competing/Complementary Models

#### *Financial incentive model*

- ♦ Driven by external factors
  - Negative Reputation
  - Positive Reputation
  - Informal regulation
  - Informational incentives

#### *Corporate norm model*

- ♦ Driven by internal factors
  - Informational incentives

More .....

# Economics of Environmental Disclosure

## Competing/Complementary Models

### *Financial incentive model*

- ◆ External factors
  - Positive Reputation
    - Product differentiation
    - Attractive to green investors
  - Negative Reputation
    - Product boycott
    - Increased cost of labor and capital
    - Increased regulatory oversight
  - Informal regulation
    - Increased NGO pressure
    - Increased community pressure
  - Comparative Benchmarking
    - Improve control efficiency

### *Corporate norm model*

- ◆ Internal factors
  - Informational incentives
    - Internal benchmarking
    - Increase awareness
    - Promote cross-functional interactions
    - Increase accountability of EH&S operations



## Public Disclosure: Operational Differences With Other Instruments

- ◆ Command & Control and Economic Instruments are mono-channel systems

- ◆ Public Disclosure is a multi-channel system

## Public Disclosure: Structural Differences with Other Instruments

- ◆ **Command & Control:** *Emissions and technology standards set by regulators*
- ◆ **Economic Instruments:** *Tax rate or quantitative limits on permits set by regulators but no technological requirements. Called “Command without Control” system*
- ◆ **Public Disclosure:** *No pre-established standard. We characterize it as a “No Command and No Control” system*

## Public Disclosure: Who Determines the Performance Standards?

- ◆ Performance standards are determined by communities
- ◆ Standard is based on rank rather than volume or pollution intensity
- ◆ Reflects public’s understanding of environmental risks

## **Public Disclosure: Key Features of Rank-Based Standards**

- ◆ **Dynamic rather than static**
- ◆ **Does not depend on environmental characteristics of individual pollutant**

## **Public Disclosure: Environmental Objectives Polluters Pursue**

- ◆ **In Command & Control, a firm aims to comply—uniform reduction by all**
- ◆ **In economic instruments, a firm aims to minimize cost of pollution control—variable reduction across firms**
- ◆ **In public disclosure, a firm aims to get out of the critical rank to stay out of the “list” of large polluters—variable reduction across firms**



## **Public Disclosure: It is Unambiguously Cost-Effective**

- ◆ **Reduces highly toxic chemicals—even at high abatement levels, benefits exceed costs >>**
- ◆ **Makes pollution control more efficient through benchmarking incentives and audit effects**

## **Public Disclosure: Cost-Effectiveness Concerns**

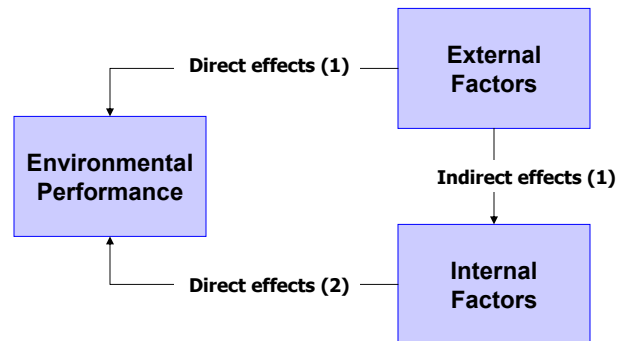
- ◆ **Disregard for Toxicity >>**
- ◆ **Risk of pollution manipulation >>**
- ◆ **Over-burdening large polluters >>**

## Share of Factories that Rank a Channel as 1<sup>st</sup> or 2<sup>nd</sup> Most Important

(Based on Indonesia's PROPER Program)

1. PROPER ratings make owners and senior managers aware of factory's environmental performance (38%)
2. Bad PROPER ratings increase pressure from communities living around the factories (36%)
3. Bad PROPER ratings increases pressure from the news media (25%)
4. PROPER ratings provide clear information about how to improve environmental performance (22%)
5. Good PROPER ratings will help in obtaining ISO 14001 certification (11%)
6. Bad PROPER ratings increase pressure from non-governmental organizations (10%)
7. Bad PROPER ratings increase pressure from the shareholders (8%)
8. Good PROPER ratings will make it easier to comply with future regulation which will be more strict (8%)
9. Bad PROPER ratings increase the chances of court action by the government (8%)
10. Good PROPER ratings help to differentiate our product from our competitors (7%)
11. Bad PROPER ratings increase pressure from our firm's employees (7%)
12. Bad PROPER ratings make our firm less competitive in international markets (6%)
13. Bad PROPER ratings reduce the market value of the company (4%)
14. Good PROPER ratings improve our firm's relationship with BAPEDAL (4%)
15. Bad PROPER ratings make it difficult to obtain credit from banks (2%)
16. Bad PROPER ratings increase pressure from Industry Associations (2%)
17. Bad PROPER ratings make our firm less competitive in domestic markets (1%)
18. Bad PROPER ratings makes it harder to get capital from the International Finance Corporation (0%)

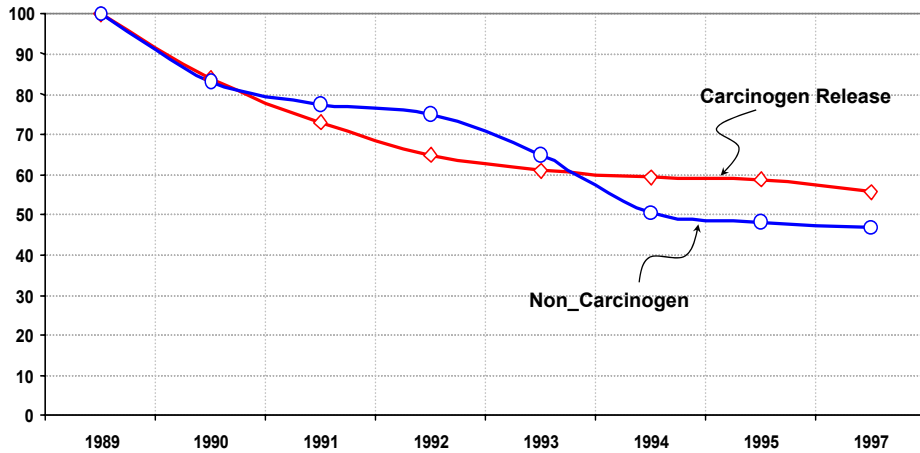
## Public Disclosure: Research Questions?



**Direct effects (1)+ Indirect effects:** Requires credible information AND disclosure

**Direct effects (2):** Requires credible information, disclosure not necessary

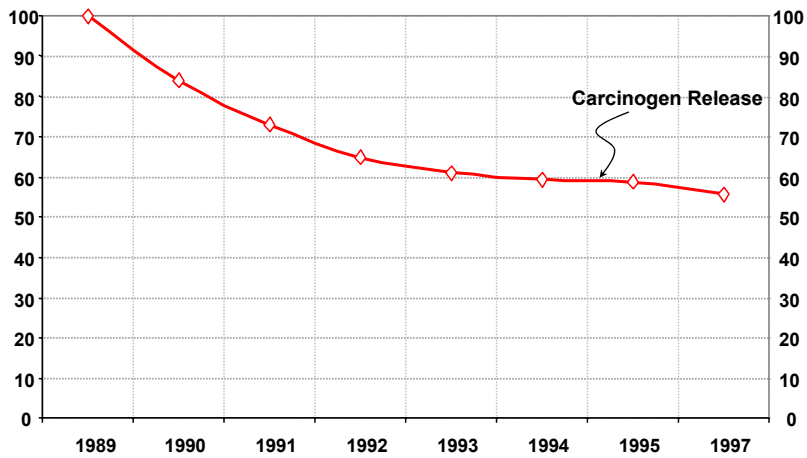
### Reduction Trends by Toxicity



Base Year 1989= 100



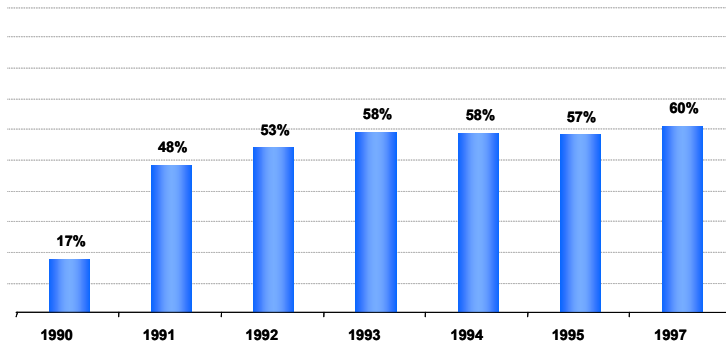
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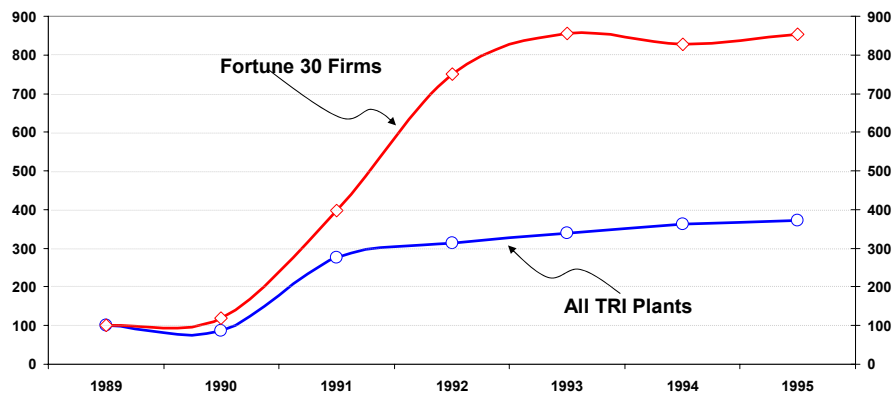
## Share of Toxics Transferred Off-site



Pollution Prevention is not the dominant mode of waste control



## Amount of Waste Managed: By Firms Characteristics



Base Year 1989= 100



## **Public Disclosure: Communications Issues**

- ◆ **Communication is a central mechanism**
- ◆ **Dissemination of complex information to broad audience**
- ◆ **Dissemination of information about uncertainties**

## **Public Disclosure: Communication Distortions**

- ◆ **Overestimate low probability risks**
- ◆ **Overestimate risks due to frequent reminders**
- ◆ **Ignore evidence that contradicts current beliefs**
- ◆ **Overrate less visible, less understood risks**
- ◆ **Overrate high risk assessments**

## Conclusions

- ◆ **Public disclosure is an important policy innovation that requires further refinements—many clear benefits and some inefficiencies**
- ◆ **Disproportionate focus on either the benefits or its shortcomings limits opportunities for improvements**
- ◆ **Economic distortions are caused by the use of mono-metric system**
- ◆ **Helps with managing uncertainties because it creates information intermediaries**
- ◆ **Some areas require further research**

## Public Disclosure: Implications for Design

- ◆ **Is disclosure the most effective regulatory approach?**
- ◆ **Are purposes of disclosure clear?**
- ◆ **Are disclosure metrics comprehensive?**
- ◆ **Are targets and scope comprehensive?**
- ◆ **Does disclosure facilitate comparisons?**