Targeted Enforcement

Presentation to
Research on Effective
Government: Inspection and
Compliance Workshop

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Mark A. Cohen
Owen Graduate School of
Management
Vanderbilt University

First Four Panels

1. Targeting (monitoring)
2. Enforcement (fines, closures, etc.)
3. Inspectors (incentives, structure, etc.)
4. External Stakeholder Pressure (role of information)

My remarks focus on Targeting/Monitoring, however, none of these issues can be fully analyzed in isolation…

Should agencies target likely offenders?

More fundamental question: What is the goal of the enforcement agency?

Possible goals:

- Maximize compliance rates
- Catch the most violators
- Maximize “social good” (environmental protection, food safety, fair wages, etc.)

Bottom line => different goal suggests different targeting!

This suggests two basic questions related to "targeting"

① Should enforcement agency target "externality" or "firms" (or "industries")?

② If target is firm, should agency differentiate by likelihood of violation (or most harmful violations)?

(1) Should enforcement agency target "externality" or "firms"?

- Evidence that Firm-level Monitoring can be Effective (effectiveness very context specific)
  - Air Pollution
    - Gray & Deily (1996); Nadeau (1997); Gray & Shadbegian (2005)
  - Water Pollution
    - Magat & Viscusi (1990); Laplante & Rilstone (1996); Earnhart (2004); Shimshack & Ward (2005)
  - Hazardous Wastes
    - Stafford (2003)
  - Restaurants/Food Safety
    - Jin & Leslie (2003)
  - Taxes
    - See recent review by Alm and Shimshack (2015)
  - Occupational Health (mixed)?
    - See recent review by Alm and Shimshack (2015)

However, firm-level monitoring might not be optimal (sometimes the target should not be the firm at all…)

- Example: oil tanker/barge transfer operations
  - » Cohen (1987); Anderson & Talley (1995)
- Performance Metric: Oil spill volume (externality)
- Three types of monitoring activity:
  - – Compliance inspections (no effect)
  - – Monitoring of transfer operations (significant)
  - – Random port patrols (largest impact)

Notes:

(1) Compliance inspections might yield more "violations" and perhaps even prevent more smaller spills…but did not appear to be effective in reducing volume of spills

(2) This question might be more relevant in the case of pollution where it is a clear public good. Might not be as relevant for food safety, fair labor, etc. where harm is more focused on individuals.

(3) Have results been replicated outside oil spill context in 1980s?

If target is firm, should agency differentiate by likelihood of violation?

Theory of targeted enforcement:

- Stage 1: Inspect random firm
  - Group 1: No violation
    - “Reward”: Low inspection probability in future
  - Group 2: Violation
    - Penalty = Small (but placed into “high monitor” group 2
- Stage 2: Target Group 2
    - Penalty = Large if not in compliance

    - Harrington (1988) for pollution; based on earlier income tax literature

Model suggests opportunities for targeting

- Theory is stylized model that appears to explain some agency behavior
- However, why wait for prior violation to put into "high monitoring" group?
  - Question => can other firm or industry characteristics be used to target potential offenders?
  - Note: I ignore any "due process" legal or fairness issues if there are any…

What is Known about potential targets? (Why do firms comply/violate?)

- Theory not well developed & scattered across literatures
- Need to integrate economics & sociology/criminology
  - Cohen and Simpson (1997); Cohen, Simpson, Lee (forthcoming)

Compliance = f (incentives, culture/norms, ability/ knowledge, opportunities to violate)

- Individual Decision makers w/in Corporation
- Corporation as an Actor (internally & externally)
- Principal-Agency Relationships

Where are potential “targeting” opportunities? (Which firms are more likely to violate?)

Some evidence exists (consistent w/theory):

(1) Prior history of violations (+)
- Simpson et al. (2007) water pollution violations
- Muehlenbachs, Cohen, Gerarden (2011) oil drilling violations & incidents [also note, firm-specific variables significant – culture?]

(2) Financial pressures/distress (+)
- Alexander & Cohen (1996) environmental crimes

(3) Firms going beyond compliance (-)
- Potoski & Prakash (2005) - ISO 14001 certified firms have fewer air pollution violations
- Naveh & Marcus (2007) ISO 9000 certified trucking companies lower accident rates

(4) Managerial/Agency conflicts within organization (+)
- Alexander & Cohen (1999) corporate crime
- Question: How could this be operationalized for targeting?
- One possible application related to “prior history” is to consider what governance changes have taken place following violation

Where are potential "targeting" opportunities? (Which firms are more likely to violate?)

Theory & Evidence is mixed…(very few studies, results often contradictory):

(1) Firm size
- Principal-Agency Costs (+) vs. Reputation/Economies of Scale (-)
- Larger firms often found to have lower violation rates, but very mixed evidence

(2) Single plant versus multi-plan firms
- Principal-Agency Cost (+) s vs. Reputation/Economies of Scale (-)
  - Gray & Deily (1996) multi-plant firms lower compliance (steel industry)
  - Gray & Shadbegian (2006) single-plant firms lower compliance (mfg. industry)

(3) Foreign owned
- Less knowledge of regulation (+) higher agency costs (+)
  - King & Shaver (2001) found higher waste generation (butnot compliance issue)
  - Recher (2007) found no evidence

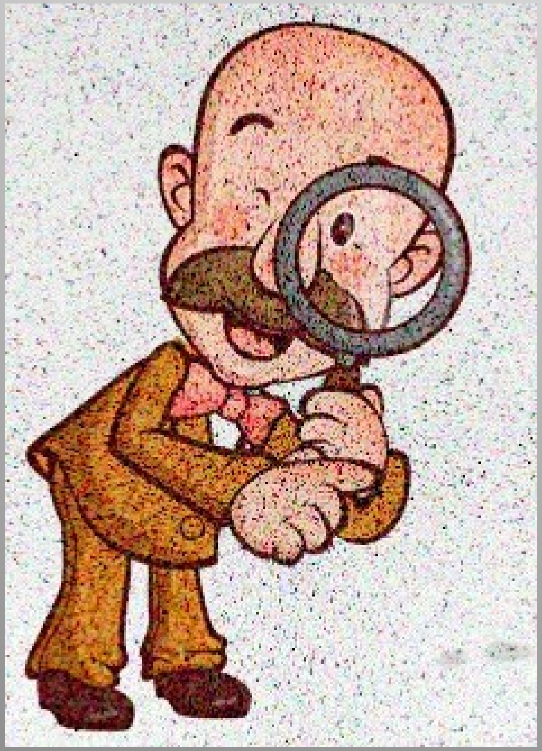
(4) Publicly traded vs. private vs. government
- Reputation incentives?
  - Recher (2007) found no difference between publicly traded & private for air compliance
  - Bennear & Olmstead (2008) found mixed results for publicly-owned water facilities

(5) Lack of strong community organization/legal pressure
- Pargal et al. (2007); US and Indonesia; role of community pressure
- Langpap & Shimshack (2010) Private citizen suits for wastewater treatment

(6) Firms in new industries w/o well developed regulatory structures
- Evidence is anecdotal (e.g. subprime mortgage, global trade in electronic waste)
- Suggests "industry" targeting, not just firm-level

Final Thoughts…

- Strong theoretical basis for targeted monitoring
  - However, don't forget more basic question of whether to focus on "externality" vs. "firm" vs. "industry"
- Empirical evidence is mixed on which firms to target
- Endogeneity issues abound
  - How do you separate out effect of monitoring versus size of penalty?
  - If agencies target, are higher violation rates for prior offenders explained by "bad actors" or "more stringent" monitoring (more frequent, more inspectors, etc.)
  - Information & external stakeholder pressures
  - Are enforcement goals aligned with agency & society?



Thank you!