

What do we know about effective enforcement?

June 1, 2015

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What do we know? The big picture

- The basic insights of the Becker (1968) “economics of crime” model explain *a lot* of real world behavior.
 - In this model, regulated entities weigh the expected benefits of a violation with the expected penalties of a violation.
 - Expected penalties are a function of (1) beliefs about the probability of detection and (2) the size of the penalty conditional on a detected violation.
- Within the rational actor paradigm, monitoring and enforcement achieve policy objectives via:
 - A direct reduction in the penalized harm itself.
 - A specific deterrence effect.
 - A general deterrence effect.
 - A beyond compliance effect.

What do we know? The big picture

- Nearly all studies that take causality seriously find at least small specific deterrence effects from enforcement.
 - Nearly all studies of general deterrence effects find that enforcement actions levied towards one facility spillover to affect the behavior of other similar facilities.
 - Rule changes increasing inspection probabilities, sanction probabilities, or sanction magnitudes are often associated with greater overall compliance.
 - Enforcement has been found to encourage both compliance and beyond compliance behavior.
 - All results are found in settings where compliance is low and in settings where compliance is high.
- Traditional monitoring and enforcement actions get results.

What do we know? Details and implications

- *Perceived* monitoring and enforcement frequency and intensity influence compliance behavior more than *actual* monitoring and enforcement intensity.
- Regulated entities tend to misperceive the probability of inspection, often thinking it is higher than it actually is.
 - Monitoring frequencies should not always be publicized and/or regularized.
- Although greater inspection frequencies lead to greater compliance, they typically do so at a diminishing rate.
 - More inspections are not always more cost effective than fewer inspections.

What do we know? Details and implications

- Informal enforcement actions without “teeth” generally have little to no impact on compliance outcomes.
- In contrast, formal enforcement actions (and especially fines) typically lead to greater compliance.
 - Formal enforcement and real penalties are essential.
- While higher formal penalties enhance compliance, they often do so at a diminishing rate.
 - Empirical research suggests more frequent penalties may spur more overall deterrence than a few large penalties.

What do we know? Details and implications

- Enforcement actions at one facility appear most likely to spillover to affect behavior at other facilities when:
 - Facilities are similar (jurisdiction, size, potential harm, industry, etc.).
 - Facilities are linked in product markets (Evans and Gilpatric WP 2014).
- Enforcement spillovers are often large, but their 'reach' is limited (and incompletely understood).
- Spillover effects of enforcement are maximized when randomness across space and time plays a key role.
- Enforcement targeting can improve efficiency, but too much targeting may degrade effectiveness & efficiency.

Going beyond the basic model

- Enforcement frequency and severity DO MATTER in ways predicted by rational actor models.
- But, it is difficult to explain the high levels of observed compliance in many settings with the simplest “economics of crime” model alone.
 - Factors beyond the probability of detection and the size of the penalty alone motivate compliance.
- What else affects compliance & pro-social behavior?
 - Non-regulatory incentives, including input market pressures, output market pressures, and activist pressures
 - Compliance Assistance & Reductions in Regulatory Complexity
 - Social Norms and Perceptions of “Fairness”

Implications of going beyond the basic model

→ Noncompliance and penalties should be well publicized.

- The spillover effects underlying general deterrence require that other regulated entities know about enforcement actions.
- Transparency and public disclosure that leverages non-regulatory pressures by disclosing bad performers can be highly effective.

→ However, publicizing good behavior as the norm - and “the right thing to do” - is also important.

- Social customs importantly influence compliance. Perceptions that noncompliance is the norm can lead to high levels of noncompliance.

→ Regulations and penalty determinations should be clear, consistent, supported by services, & evenly applied.

- Compliance is enhanced when facilities perceive that regulators are: (1) fair, (2) trying to promote compliance, (3) applying rules similarly across facilities, and (4) providing benefits and services for good behavior.

One more thing: Federalism vs. decentralization

- Existing regulations with decentralized enforcement are typically characterized by (very!) large spatial variability.
 - Inspection frequencies, sanction probabilities, & fine distributions vary significantly across states and regions.
 - Decentralization offers both benefits and costs.
 - Potential benefits include fewer information asymmetries (i.e. better regulatory information) and monitoring and enforcement that is more tailored to local circumstances (i.e. facility composition, etc.)
 - Potential costs include regulatory capture, a “race to the bottom,” cross-state spillovers, and failures to capture economies of scale.
- Devolution may be expected to lead to greater variation in enforcement.
- The welfare impacts of such variation are ambiguous.

Key messages

- An awful lot of observed variation in observed real world compliance can be attributed to traditional economic incentives resulting from traditional enforcement. Enforcement actions get results.
- Regulatory innovations that use information and transparency, prevention activities, cooperative partnerships, and non-regulatory pressures as *complements* to traditional enforcement may be effective.
- Regulatory innovations that use information and transparency, prevention activities, cooperative partnerships, and non-regulatory pressures as *substitutes* to traditional enforcement should not necessarily be expected to be effective.

Caveats

- All comments focus on lessons from the US policy environment. Lessons from international contexts, and especially LDCs, may differ.
- All comments are most applicable to regulated firms (rather than individuals), and especially to well-studied larger facilities.
- Compliance is complex! Different metrics and measurements can generate:
 - Vastly different representations of compliance.
 - Vastly different representations of the effectiveness of monitoring and enforcement for compliance.

Knowledge gaps

- Deterrence varies across regulatory settings, industries, facility characteristics, and time. Why, and how?
- How effective are ‘next generation compliance’ tools, including advanced monitoring strategies, new compliance technologies, and public/private partnerships?
- When and where are public monitoring and enforcement actions *efficient* and *cost effective* in the real world?
 - Inspections and enforcement get results, but are the benefits greater than the costs? When does enforcement achieve a high “bang per buck”?
 - Costs, including both regulator implementation costs & plant compliance costs, are not well studied.

Selected Surveys & Some Shameless Self-promotion

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