Retrospective Analysis: Finding Regulations That Work (and Those That Do Not)

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Why Retrospective Analysis?
Why Retrospective Analysis?
Three Sets of Reasons

1. Cognitive
2. Institutional
3. Policy learning
1. Cognitive
Two Systems of the Human Mind

System 1: reflexive, automatic, intuitive
System 2: conscious, deliberate, rational

“System 2 is mobilized when a question arises for which System 1 does not offer an answer, [such as] the multiplication problem 17 x 24.”

Kahneman (2011)
When to Blink?

“I think that the task of figuring out how to combine the best of conscious deliberation and instinctive judgment is one of the great challenges of our time.”

Gladwell (2007)
“Our most important policy decisions – about the economy, jobs, health care, defense, the environment, and foreign relations – require that smart people spend long periods of time thinking strategically.”

Partnoy (2012)
Two Modes of Policy Decision Making

Synoptic (Rational Comprehensive)
- Values and goals are broad but comprehensible
- Every alternative is explored, every factor considered
- Based on well-confirmed theory

Incremental (Boundedly Rational)
- Values and goals are narrowly defined, sometimes unclear
- Limited number of alternatives examined
- Builds on prior experience more than on theory

Source: Lindblom (1959)
Two Types of Policy Analysis

**Prospective:**
Regulatory Impact Analysis/Assessment (RIA)

**Retrospective:**
Regulatory Impact Evaluation (RIE)
2. Institutional
Statutory Requirements

Regulatory Flexibility Act (1980)

• Agencies must review regulations having “a significant economic impact upon a substantial number of small entities”

Specific Statutory Mandates

• For example, Clean Air Act Amendments of 1990 mandated that EPA conduct a retrospective analysis of its air pollution regulations.
Retrospective review is “robust feature” of rulemaking

New regulations, “where appropriate,” should “establish a framework for reassessing the regulation in the future.”

“The level of rigor of retrospective analysis ... should be tailored to the circumstances.”

Agencies should try to “employ statistical tools to identify the impacts caused by regulations”
### Table 1. Executive Orders and Related Administration Announcements on Retrospective Review of Regulations

<table>
<thead>
<tr>
<th>Administration</th>
<th>Administration Policy Document</th>
<th>Date</th>
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<tbody>
<tr>
<td>Carter</td>
<td><strong>Executive Order 12044: Improving Government Regulations</strong></td>
<td>March 23, 1978</td>
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<td>Reagan</td>
<td><strong>Presidential Task Force on Regulatory Relief</strong></td>
<td>January 22, 1981</td>
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<tr>
<td>Reagan</td>
<td><strong>Executive Order 12291: Federal Regulation</strong></td>
<td>February 17, 1981</td>
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<tr>
<td>Bush I</td>
<td><strong>Memorandum on Reducing the Burden of Government Regulation</strong></td>
<td>January 28, 1992</td>
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<tr>
<td>Clinton</td>
<td><strong>Executive Order 12866: Regulatory Planning and Review</strong></td>
<td>September 30, 1993</td>
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<td>Bush II</td>
<td><strong>Draft Report to Congress on the Costs and Benefits of Federal Regulations</strong></td>
<td>May 2, 2001</td>
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<tr>
<td>Obama</td>
<td><strong>Executive Order 13563: Improving Regulation and Regulatory Review</strong></td>
<td>January 18, 2011</td>
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<td>Obama</td>
<td><strong>Executive Order 13579: Regulation and Independent Regulatory Agencies</strong></td>
<td>July 11, 2011</td>
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<td>Obama</td>
<td><strong>Executive Order 13609: Promoting International Regulatory Cooperation</strong></td>
<td>May 1, 2012</td>
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<tr>
<td>Obama</td>
<td><strong>Executive Order 13610: Identifying and Reducing Regulatory Burdens</strong></td>
<td>May 10, 2012</td>
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Notes: All documents accessible via hyperlinks in electronic version of this report.

Source: Aldy (2014)
Trump Executive Order 13,771 (2017)

“[A]ny new incremental costs associated with new regulations shall, to the extent permitted by law, be offset by the elimination of existing costs associated with at least two prior regulations.”

Q: Can agencies use previously estimated costs from an original Regulatory Impact Analyses (RIA) in determining the cost savings generated by an eliminated regulatory action?

A: In general, no. While the original RIA may have information that will be useful in calculating cost savings, the most current information available on projected cost savings (e.g., new information on the cost of operating compliance technologies) must be included to the extent feasible. Agencies are also strongly encouraged to use program evaluations and similar techniques to determine the actual cost and other effects of eliminating regulatory actions.

Each Regulatory Reform Task Force shall evaluate existing regulations ... and make recommendations to the agency head regarding their repeal, replacement, or modification, consistent with applicable law.

Burden-Reduction Focus

Agencies should “consider how best to promote retrospective analysis of rules that have become outmoded, ineffective, insufficient, or excessively burdensome, and to modify, streamline, expand, or repeal them in accordance with what has been learned.”

Obama Executive Order 13,563
3. Policy Learning
THE GOOD, THE BAD AND THE UGLY
“Agencies should seek opportunities to collect data to learn the most effective way to design their rules and analyze the effects of their rules.”
(a) Likelihood of improving attainment of statutory objective;
(b) Likelihood of increasing net benefits and magnitude of those potential benefits;
(c) Uncertainty about the accuracy of initial estimates of regulatory costs and benefits;
(d) Changes in the statutory framework under which the regulation was issued;

…

(f) Changes in underlying market or economic conditions, technological advances, evolving social norms, public risk tolerance, and/or standards that have been incorporated by reference;

…
A “Simple” Causal Map of How Regulation is Supposed to Work

Source: Coglianese (2012)
Types of Evaluation

1. Regulatory Administration
2. Behavioral Compliance
3. Outcome Performance
Types of Indicators in Regulatory Evaluations

Source: Coglianese (2012)
The Role for Causation in Outcome Performance Evaluations

(Non-Attributional) Lookback:
• Not concerned with causation
• Asks: To what extent are outcomes getting better

(Attributional) Evaluation:
• Seeks to attribute causation
• Asks: To what extent did policy/program cause any change in outcomes
Bennear (2007)

• Data on toxic emissions from 30,000+ facilities across the United States

• **Differences-in-differences statistical analysis**, comparing facilities in states with and without planning laws

• *Management-based regulation associated with a 30% decrease in toxic emissions*

Illustration of Differences-in-Differences Estimation Technique
FDA’s fruit juice HAACP

Metric: Juice related foodborne illnesses

Fig. 1. Annual incidence of juice-bearing product foodborne illnesses. Notes: The vertical line at 2002 represents the effective date of the Final Juice Rule.
Minor & Parrett (2017)

- FDA’s fruit juice HAACP
- Metric: Juice related foodborne illnesses
- Difference-in-differences analysis
- Finding: HAACP associated with an annual reduction in 462-508 juice-related foodborne illnesses
Why Evaluation is Vital

“Only evaluation can begin to explain reliably why problems are getting better (or worse) and whether the work of the regulator has anything to do with whatever change occurred.”

Coglianesi (2017)
Better Prospective Analysis….. Depends on Retrospective Evaluation

Source: Coglianese & Bennear (2005)