Regulation under Uncertainty
by
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Comment by
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Ideas in this Paper

- Monitoring and recursive regulation
- Modularity
- Norwegian oil safety – takes up most of paper
Monitoring’s Two Basic Regulatory Tasks

• Be smart about finding complex risks
  – Induce firms to help find risks, both process and substance

• Induce ongoing monitoring and update regulations and safety practices based on new information
  – “big data” techniques
March of Big Data

• Advertisizing

• Health  http://www.cdc.gov/nchs/

• Driving
Big Data

• **Workforce Science**
  – Collect data on workforce
  – Figure out whom to hire, promote, train, fire
  – Collect more data . . .

• **Shameless Plug for Searle Center**
  – Our Workforce Science Project
Regulation and Big Data

• Collect lots of data
• Model (recursively) relationship of data to events of interest.
• Adjust regulatory environment to reduce risk
CBA on Big Data and Regulation

• There are costs to acquiring and analyzing the data
• Need to find areas where one anticipates that the value, in terms of the likelihood of being able to predict and intervene, times the value of avoided problems, is greater than the costs.
• See Masur and Posner; Farber; everyone else.
Example

• When might collecting the data not be worth the cost?
• Example: old method of distributing broadcasting licenses by FCC
FCC’s 1965 Policy Statement

- Integration of Ownership and Management,
  - local residence, civic affairs, broadcast experience
- Diversification of Control of the Media
- Program Proposals
- Past Broadcast Record
- Engineering Efficiency
- Character
Implementing Integration of Ownership and Management

• FCC used formula for credit:
  • $1000 \times (\text{ownership share}) \times (\text{hours per week}/40)^2 = \text{credit}$

• “Clear” advantage $> 1250$, cannot be “overcome” by qualitative advantage.

• Owner must work $> 20$ hrs/wk to count.

• This is hard data which can provide clarity and consistency.
Why was Susan Bechtel upset with the FCC?

It had denied her application for the license to operate an FM station in Selbyville, Del. (on I113, just north of the Maryland border).

Other three applicants promised to integrate ownership w/ management, but not Susan.
Bechtel v. FCC, (DC Cir 1993)

• Bechtel was not going to work at the station. So, under the formula, she gets 0, and loses.

• How did Judge Williams handle the claim that the use of the integration criterion was arbitrary and capricious?
Arbitrary and Capricious?

• Partly factual. When 1965 Policy Statement was adopted, the effects of the criterion were predictive, and much deference is owed. 30 years later the court wants facts, but the FCC has none. They have done no monitoring.

• This is by no means the only case of the DC Circuit claiming annoyance with the FCC’s failure to check, after decades, to see if its policies are working.
Arbitrary and Capricious?

- Partly theoretical: “One should still be skeptical when regulatory agencies promote organizational forms that private enterprise would not otherwise adopt.”
FCC Irrational?

• Was the FCC irrational for failure to monitor and revise regulation on the basis of the data?

• Probably not, IMO. Integration of Ownership was a silly regulation in the first place, implemented only because of judicial pressure, and trying to implement an internally inconsistent and silly regulatory system.
Value of Data?

• It is likely that the value of data would have been small.

• There would be no clear connection between the data and the ultimate objective, the “public interest,” because no one can agree on what public interest means.
Other Settings?

• Exploding oil derricks, pandemics, and similar disasters more obvious costs, and more likely to be worth the cost.
Modularity and Risk Increase Value of Big Data in Regulation?

• In the beginning of the paper the authors make two claims
  – Production of many (most?) things have become more modular
  – Increasing modularity produces more risks that are hard to anticipate – herein of “Deep” Uncertainty
More Modular Production?

• Almost certainly correct
• Automobiles are great example
  – Many different manufacturers of modular parts
  – Auto companies design and assemble, but do less manufacturing
  – We learned about this in many ways:
    • Auto parts price-fixing cases
    • Air bag scandal – Takata faked safety and BMW, Chrysler, Ford, GM, Honda, Mazda, Mitsubishi, Nissan, Subaru, and Toyota all had recalls
Greater “Deep” Uncertainty

• Argument is that interactions between modules can produce unanticipated risks
• But does modularity exacerbate or reduce such risks?
  – Standard setting requires focused attention
  – Different divisions in large companies produce modules for each other
  – Worst cars in history – pre 1965 Chevy Corvair and Ford Pinto – produced before modularity
I am skeptical that modularity increases, systemically, deep uncertainty.

Still, bringing big data to regulation could be very valuable.

Or, not. It depends.
Critique of Norwegian Gas Regulation (pgs 26-30)

• The safety agency oversight of offshore drilling is not as effective as it could be because
  – PSA talks only to “operators” at the top, and not to the independent contractors who are performing functions
  – PSA uses wrong type of risk analysis
    • Small risk events predict catastrophic events; lack of small damage events not probative.
Critique of Diffusion of New Technologies in Norwegian Gas

• New technologies produce data flows, but
• Poor coordination between parts of industry (modules?) prevents efficient use of data and responses to data (pg 34-38), and regulatory responses produce incentives to adopt slowly.
• Lots of detail.
Thick Description

• Lessons from case studies?
  – Bureaucratic structures matter?
  – People Matter?
  – Corporate coordination matters?

• All of this is true, but unclear exactly how they fit together
That’s All, Folks!