

Science-based Public Policy in the US SSNet Seminar, 3 November 2008

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The domain: There are many situations in which US policy makers must decide regulations based on both scientific and moral/social factors.

Examples:

Knowledge and Health

Recombinant DNA research
Evolution & intelligent design in schools
AIDS research & patient risk
Tuskegee experiments & test subject risk
Cloning
Embryonic stem cell research

Industry and Production

Carbon emissions & climate change
Oil production (benzene) & leukemia
Nuclear weapons production (beryllium) & lung disease
CFCS & ozone layer
Smog/ozone & crops
Slavery

...

Consumer Products

Smoking & cancer
Second-hand smoking & health effects

Four common features of these diverse situations:

1. There are scientific/empirical uncertainties.
2. There are moral/social uncertainties.
3. There are conflicting interests.
4. There are competing judgments on which regulations to endorse in order to best balance 1, 2, & 3.

Conflicting models for establishing regulation:

David Goldston and Susan Kelly each explore *how* regulations get decided, rather than *which* regulations get decided.

1. *Science*: Let the science decide.
2. *Bargaining*: Each side agrees to give up something.
3. *Consensus*: We decide together, emphasizing creative solutions to promote everyone's interests.
4. *Marketing*: Experts decide on regulations, and then "sell" them to the general public, correcting the public's "misunderstandings of science" (connects to "Public Understanding of Science" model rejected by Jasanoff).

Conflicting Interests

(Values · Ends · Goals · Concerns)

Self-directed

Money (both luxury and living wage)
Power, prestige
Fame (e.g. winning Nobel Prize)
Saving face
Being Re-elected

Other-directed

Public safety & education
Miracle cures
The economy, opportunity costs
Avoiding immoral actions
Avoiding offending anyone
Representing constituents
Loyalty

...

"No one in 2043 should look back and say, how could researchers do what they did? Or, [conversely] how could researchers not take advantage of the opportunities they had in the 1990s?" (reproduced in Kelly 354)

Writing about **the goals of Steve Parrish of Philip Morris:**

"He still thought of himself as an advocate... He thought Philip Morris was **a great company full of good people** and felt a **duty** to help them. He **respected the people** within the company who were insisting that cigarettes weren't addictive, and he understood their reasoning even if he disagreed with it. He figured he had **a better chance of changing their minds by staying than by walking away**. And, of course, the longer he stayed at Philip Morris, the more his own **career ambitions** were tied up with the company... (Last year, for instance, Parrish's compensation package, including salary, bonus and restricted stock, was valued by the company at more than **\$14 million**.) To the outside world, nothing could be more obvious than the fact that cigarettes were addictive... But if you were in the tobacco bunker, **it was easy to feel misunderstood, beleaguered, unfairly attacked**. Parrish felt that, too." - Joe Nocera, NYT 2006, p 3.

EXAMPLE 1: Smog (in particular, ground-level ozone)

1. SCIENCE: The exact concentration of ozone that damages “public welfare” (crops, natural vegetation) is unknown. However, it is known that the effects are accumulative over a growing season.
2. MORALITY/SOCIETY: How valuable are these crops and vegetation? What counts as damage to them?
3. INTERESTS: Cities with limited budgets must pay reduce to ozone levels, and pay fines when the ozone exceeds regulated levels. Other social services would have to be sacrificed. Damage to crops and vegetations is also undesirable (could hurt profits of food industry, wildlife, etc.)
4. REGULATION: In 2008, EPA’s 24 member advisory committee and President Bush recommended conflicting regulations with regard to *level of ozone allowed* and *time period* over which it is measured.

David Goldston argues that when choosing a method for determining regulations, many policy makers advocate the SCIENCE model. Goldston argues that often the SCIENCE model does not apply.

- “What to do in the face of uncertainty is a policy question, not a scientific question... The debate is about what kinds of damage harm the public welfare and what kinds of uncertainty can be tolerated as a basis for decision-making.”
- “Scientists may be able to describe the damage that could result from a given level of ozone, but the decision that such damage is so great that it must be prevented is a policy matter.”

EXAMPLE 2: Embryo research

1. SCIENCE: The health benefits of embryonic research is unknown. There is an X% chance that the research will lead to cures of paralysis, Parkinson’s, heart disease, etc.
2. MORALITY: There is a chance that embryos are morally considerable, and thus destroying them might be murder. [Q: Does disagreement between people about moral action count as moral uncertainty?]
3. INTERESTS: The desire to attain research potential and help current and future adults conflicts with the desire to avoid immoral behavior. [Analogy with slavery: will Americans look back in 30-300 years and wonder at our moral ignorance?]
4. REGULATION: HERP (1994) recommended that federal funded research on embryos be allowed when it is scientifically important, there is no other means for gaining knowledge, and there is no commercial gain for donors of embryos. Vetoed by President Clinton, this recommendation was replaced by a ban on federal funds going to research where an embryo is destroyed. (Kelly 353)

Susan Kelly argues that when choosing a method for determining regulations, the nineteen members of the Human Embryo Research Panel (HERP):

- rejected the *science* model [?]
- rejected the *bargaining* model
- claimed to follow the *consensus* model.
- actually followed the *marketing* model (Kelly’s argument, my label)

Questions

What changes would you make to the framework I presented here? Does it **obscure** any important issues?

Does this framework properly account for the **diversity** of the situations?

Where do **manufactured controversies** fit into this framework?

Is Goldston right that *some* science-based policy decisions can be decided using the *science* model?

Can **Rawls’ veil of ignorance** suggest an additional model for determining regulations?

References and Additional Readings

Goldston, David. "Hazy Reasoning Behind Clean Air: science alone can't determine how regulations are written," Nature Vol. 452 April 3 2008, pp. 519.

Goldston, David. "Technical Advice" Nature Vol. 448 July 11 2007, pp. 119.

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Nocera, Joe. "If It's Good for Philip Morris, Can It Also Be Good for Public Health," *New York Times*, June 18, 2006, p 3.

Stanev, Roger. "HIV/AIDS Activism and the Challenges in Designing & Monitoring Clinically Relevant Trials," Proceedings of the Canadian Society for History and Philosophy of Mathematics 2008 (forthcoming), pp. 1-8.