

H O N O R A B L E M E N T I O N

Cost-Benefit Analysis as a Commitment Device

by Matthew Wansley

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I. Introduction

Cost-benefit analysis purports to calibrate regulation. But the way administrative agencies practice cost-benefit analysis can, at best, calibrate a rule at the moment of its promulgation. As scientific knowledge of regulated health, safety, and environmental risks accumulates—and as technology becomes more affordable—the assumptions underlying a rule’s cost-benefit analysis can rapidly obsolesce. Because of the structural incentives towards agency inaction, pressure from regulated firms, or attention to other priorities, outdated rules persist.

The problem is what I call snapshot cost-benefit analysis: the administrative state’s practice of treating regulation as a one-off game by neglecting to adapt a rule when the best estimate of costs and benefits has changed.

Cost-benefit analysis need not work this way. For many regulations, cost-benefit analysis could be used as a commitment device. When an agency analyzes a proposed rule, it should explicitly anticipate the adoption of a more stringent rule than the one it promulgates. The agency should then precommit to adopting the more stringent rule when a credible demonstration has been made that it has become cost-benefit justified. Just as the expected costs and benefits of a rule determine its initial level of stringency, the observed costs and benefits of a rule should determine when and how it is updated.

In addition to selecting a rule to be promulgated, the regulatory agency would anticipate and precommit to a second, more stringent rule, one that prohibited exposure at levels permitted under the rule to be promulgated. The agency would then specify how a private actor could trigger a reanalysis by credibly demonstrating that its innovation—like unleaded gasoline, lead-free paint, or lead-abatement technology—could bring the cost of compliance down to justify the more stringent rule.

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Cost-benefit analysis as a commitment device could help agencies and administrations set priorities better. Administrations could set a standard figure for the difference in expected benefits (DEB) between promulgated and anticipated rules for agencies to use in setting anticipated rules. If every rule were set using the same DEB, the expected costs and benefits of updating each rule would drive when that rule was reanalyzed and revised.

The commitment device would push the administrative state past retrospective analysis. While retrospective analysis defers to agency discretion in implementation, the commitment device directly addresses the problems of rulemaking ossification and agency inaction.

II. The Problem of Obsolete Rules

Administrative regulation, because of its specificity, is especially brittle. The current system of administrative rule-making in the United States exacerbates this brittleness in two ways. First, regulated firms have taken advantage of its procedural protections to ossify the rulemaking process. Second, there is a structural bias towards agency inaction because courts aggressively scrutinize newly promulgated rules and rarely and deferentially review failures to promulgate rules.

Regulated firms use the threat of judicial challenge to impede the progress of rules they disfavor. The APA provides that courts shall “hold unlawful and set aside agency action, findings, and conclusions found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law,” among other biases. So even if regulated firms are not able to halt agency action altogether, they can often profit from delay.

As a result of the threat of judicial review, “[t]he key to successful rulemaking is therefore to make every effort to render the rule capable of withstanding the most strenuous possible judicial scrutiny the first time around.”

A separate, but related, problem of agency inaction results from an asymmetry in the incentives judicial review creates for agencies. Since *Heckler v. Chaney*, the Supreme Court has generally interpreted the relevant provisions of the APA to mean that agency inaction is

nonreviewable. The Court has also interpreted standing doctrine to preclude most possibilities for judicial review of agency inaction.

After Heckler, it was not clear whether agency decisions that denied petitions for rulemaking were reviewable. In 2007, the Supreme Court resolved the question in *Massachusetts v. EPA*, in which a 5-4 majority held that the EPA had failed to justify its denial of a petition for rulemaking on greenhouse gases. So denials of petitions for rulemaking—“a category of agency decision making that once enjoyed all the benefits of ‘inaction’—will now be ‘treated as if it were ‘action’ and subjected to review.”

Massachusetts v. EPA was an exceptional case. In its aftermath, agencies still face less pressure to avoid inaction, and they are reluctant to begin—or reopen—controversial rulemakings and face onerous judicial review.

Taken together, the rulemaking ossification and agency inaction problems have locked many regulations into technological obsolescence. Using cost-benefit analysis as a commitment device is a strategy for remedying regulatory obsolescence.

III. Cost-Benefit Analysis as a Commitment Device

The commitment device works in three steps. First, an agency conducts an initial analysis with explicit anticipation of a future, more stringent rule and conditions under which reanalysis would be triggered. Second, a private actor credibly demonstrates that it has satisfied the conditions required to trigger the reanalysis. Third, the agency conducts a narrow reanalysis in which the earlier cost and benefit predictions serve as presumptions subject to rebuttal based on the new information. If the new rule has become justified, the agency promulgates it and in turn precommits to a subsequent rule to replace it, if and when an even more demanding trigger is satisfied in the future.

A. Anticipatory Analysis

Anticipatory analysis would start like conventional snapshot analysis. Agencies would acquire information about the expected harm of the risk to be regulated, the potential means to regulate those harms, and the foreseeable effects of the proposed rulemaking, both intended and unintended. They would then select a rule for which the benefits justified the costs.

Anticipatory analysis would differ from snapshot analysis in that the agency would explicitly consider and ultimately select a second, more stringent rule that could be triggered in the future. Some cost-benefit analyses already resemble anticipatory analysis in that an agency does not just conduct an evaluation of one particular rule, but considers multiple alternative rules or multiple levels of strin-

gency for a particular rule. In such a case, all anticipatory analysis would change is that one rule that might “lose” under snapshot cost-benefit analysis would be given an explicit promise of a second shot later.

The critical difference with anticipatory analysis is that the stringency of anticipated rules would be set using the DEB—the administration-wide figure for the difference in expected benefits between each promulgated rule and the anticipated rule the agency would announce simultaneously to it.

Here is how the DEB would work. Imagine a rule that would set the permissible level of emission of a pollutant at 10 units. The rule would have expected benefits of \$200 million, and, because it emerged from cost-benefit analysis, costs at or below that amount. Now assume the administration had set a DEB figure of \$100 million. The agency would set the anticipated rule at whatever level of emission generated expected benefits of \$300 million, a difference of \$100 million from the \$200 million of the promulgated rule. Suppose that the agency predicted that a rule set at 5 units, based on its calculations of the risk created by different levels of exposure to the pollutant, would generate benefits of \$300 million. The 5-unit rule would, by definition, not be cost-benefit justified at the time of the analysis that led to the 10-unit rule. But a private actor would be able to trigger the reanalysis that led to the rule when it could credibly demonstrate that a technological innovation had brought the expected cost of the 5-unit rule below \$300 million.

If each agency sets its anticipated rules using the administration-wide DEB, how frequently an agency updates a particular rule will be partially determined by the benefits the agency should expect the updated rule to achieve. Agencies will be implicitly allocating their time and resources where expected regulatory benefits warrant them. If an administration likewise allocates its resources to agencies in part based on how frequently agencies reanalyze and update their rules, the administration will similarly be implicitly setting regulatory priorities through the DEB, the metric of expected regulatory benefits. Because rules will only be updated if the more stringent version passes the cost-benefit test, the commitment device should lead to increased net regulatory benefits.

B. Triggering a Reanalysis

To trigger a new analysis, a party would need to make a credible demonstration that the conditions for the trigger had been satisfied. In many cases, this would be straightforward. An innovator could simply show that its new technology achieved the specified reduction in risk and commit to market it for a certain cost. The new rule would not necessarily require the particular technology that the party seeking to trigger the new analysis has devised. It

will only require that regulated firms find some means of achieving the reduction in the relevant risk.

In addition to being partially automatic, cost-benefit analysis as a commitment device differs from retrospective analysis in that its pace is set by technological development rather than a calendar. Rates of change in risk-creating and risk-mitigating technologies differ across industries, so we should expect variation in when new rules become cost-benefit justified. Some rules will not need the periodic review of retrospective analysis, and some will need more rapid revision. The trigger mechanism allows actors who have the knowledge about technological change relevant to the particular rule to set the schedule for reanalysis.

C. *Conducting a Reanalysis*

One advantage of the commitment device is its automaticity. Agencies would be forced to act once a credible demonstration has been made that the anticipated rule has become cost-benefit justified. But there are dangers in making the adoption of revised rules too automatic. Agencies need not only account for technological change; they need to respond to informational change as well. The other inputs to an initial cost-benefit analysis—assumptions about the likelihood and magnitude of harms a risk creates, the costs of compliance with the initial rule, and the unintended effects of the regulation, foreseen or not—may have changed by the time a reanalysis is triggered. For the commitment device to work properly, agencies must select a level of automaticity that suffices to create incentives for private actors, but does not bind them to making future decisions that are not cost-benefit justified. Sometimes new information will illuminate an increase in the cost of the regulation or a decrease in its expected benefits that will erase the cost savings of the technology that triggered the reanalysis. For example, new evidence may suggest that the dose-response curve differed from the initial prediction or that the cost of compliance with the initial regulation may have been greater than anticipated. Those cost increases might affect the anticipated rule as well. It is also conceivable that changes in other relevant technologies will have made the regulation more costly. For example, a cost shock to a raw material used in production processes will have made production more expensive. The subsequent cost-benefit analysis must be sensitive to these changes.

So a new analysis will not always result in the adoption of the anticipated rule. It is possible that the existing rule might be maintained, that an even more stringent rule might be justified, or that a rule even less stringent than the initial rule should be adopted. But, on reasonable assumptions, one should expect rules to gradually become more stringent. Risk-mitigating technologies rarely become more costly over time, and even though science continually discovers more associations between industrial activities and harms to our health and the environment, the overall level of background risk is decreasing.

Whether a new analysis results in adoption of the anticipated, more stringent rule or not, the new analysis will be more narrowly focused than the initial analysis. The agency will take the cost and benefit predictions of the initial analysis as presumptions and modify its assessment of the costs and benefits based only on newly presented information and without reconsidering any issues settled in the first analysis for which new information has not been offered. The new analysis should economize on agency time and attention and reduce the costs of participation.

IV. **Fixing Failures in the Market for Innovation**

Under snapshot cost-benefit analysis, economic theory predicts that firms will oppose regulation to the extent they can and will comply with regulation as minimally as they can. The commitment device seeks to change that relationship by co-opting market forces to further regulatory goals.

A. *Incentives for Existing Firms*

The commitment device gives any particular firm in an industry that creates a regulated risk a competitive incentive to innovate in a less risk-creating production process or directly in risk-mitigating technology.

The first firm to implement a less risk-creating production process or develop a new risk-mitigating technology that would satisfy the conditions to trigger a new analysis would achieve a considerable first-mover advantage over its competitors, sometimes significant enough to justify the investment in research and development.

If the competitor firms sought to adopt the innovating firm's risk-mitigating technology or mimic its production process, the innovating firm would gain a new source of revenue in licensing its patented technology to competitors.

In other words, the commitment device allows firms to cash out on the ways in which they are more able to prevent risks to health, safety, and the environment, thereby giving them an incentive to develop those advantages and trigger a new analysis.

B. *Incentives to Anticipate Regulation*

The partially automatic nature of the commitment device also creates the potential that firms might voluntarily comply with the more stringent anticipated rule before the new rule comes into effect. Some law and economics researchers predict that “changes in government policy—or, more generally, changes in the prospects for reforms—will affect the value of investments made prior to those changes to the extent that such changes were not fully anticipated.” Therefore, if the chance of successfully fighting or even significantly delaying the regulation is low, it might be less costly for regulated firms to comply voluntarily and not waste the time and money.

V. Deossifying the Rulemaking Process

Implementing cost-benefit analysis as a commitment device would require that agencies conduct more rulemakings on preexisting rules. But the commitment device would combat rulemaking ossification—or at least aim to avoid exacerbating it—by changing how the politics of the rulemaking process works in four ways. First, because of the new economic incentives the commitment device would create for firms that stood to gain from more stringent rules, it would sometimes break the coalition of firms opposed to more stringent regulation. Second, it would dampen the ideological passions of rulemaking by shifting the focus of the analysis to factual predictions. Third, the iterative nature of reanalysis would provide a record of the accuracy of the predictions of parties to the rulemaking, and in the long run, reward credibility. Fourth and finally, the commitment device would lower the stakes of each particular rulemaking—if a party thinks the agency genuinely erred in its cost and benefit calculations, it could patiently wait to be vindicated or subsidize market efforts to expedite the day of its vindication.

Taken together, these changes could make rulemakings under a commitment device regime less contentious and more productive, even in the absence of reforms to the APA's procedural mandates or hard look judicial review.

VI. Setting Agency and Administration Priorities

Regulatory reformers have repeatedly criticized the administrative state for setting priorities badly or neglecting to set priorities at all. Using cost-benefit analysis as a commitment device should generally guide regulatory priority setting.

The commitment device would set agency and administration priorities through the DEB. It would change existing practice in three ways. First, it would require greater uniformity in cost-benefit analysis across agencies—setting a consistent DEB for reanalyses across agencies requires a minimum consistency in the other numbers agencies use in assessing costs and benefits. Second, it would curtail discretion both at the agency and administration level; private actors would be compelling reanalyses, and agencies would not be able to defer them. Third, and most importantly, it would prioritize the reanalysis of already existing rules over potential rules and thus prioritize already regulated risks over as-yet unregulated risks.

A. *The Case for More Standardized Analyses*

Any difference in how agencies conduct cost-benefit analysis can skew the relative stringency of their rules, and how frequently agencies update their rules can have a parallel effect. The commitment device solves this problem by mandating that cost-benefit analysis dictate when rules are

updated and that agencies use the same DEB in setting their anticipated rules.

B. *The Case for More Automatic Priority Setting*

The commitment device sets priorities automatically and affects administration priority setting in a different way than agency priority setting. Agencies would be compelled to allocate more time and resources to reanalyzing existing rules. The effect on administration priorities is more indirect. Some agencies would submit more updated rules to OIRA, and some agencies would be able to make a better case to the central administration or to Congress for a larger budget and staff. But whether the administration actually acted on those submissions and requests would still be partially discretionary.

Administrations should honor those shifts in priorities. To do otherwise would leave some agencies overburdened with demands for reanalyses and ultimately might undermine the smooth functioning of the commitment device.

C. *The Case for More Attention to Already Regulated Risks*

The commitment device would not only change how agencies and administrations set priorities, but also change the substance of those priorities by compelling agencies to spend more time and resources reanalyzing existing rules. Some experts worry that regulatory agencies already consume too much time and too many resources with existing rules, yet the commitment device would prioritize already regulated risks at the expense of as-yet unregulated risks.

Reanalyses would be limited to processing new information, guided by the presumptions that initial rulemakings set. Initial rulemakings would involve the new element of anticipatory rulemaking, but they would also have lower stakes because of the possibility of updating. To the extent that the option of updating rules reduced the incentive for frustrated parties to seek judicial challenges, it might economize on agency resources.

Thus, the reallocation of resources away from unregulated risks might not be as costly as it initially appears. To the extent that agencies and even administrations are shying away from updating existing rules because of the disproportionate influence of entrenched regulated firms, the commitment device may aid legitimate regulatory goals that would otherwise be thwarted.

The most interesting defense of the shift in priorities is more speculative: the regulatory state has already gone after the big killers. In other words, there is some correlation between the magnitude of threat that risks pose—and, more tenuously, our ability to combat those risks in a cost-benefit justified way through regulation—and the likelihood that Congress will legislate or agencies will regulate. Myriad sources of risk cause cancer, but few are as staggering as tobacco, asbestos,

and lead. Therefore, these risks were more easily observable, and early, less sophisticated epidemiological studies could clearly isolate their effects.

VII. Conclusion

In earlier-generation debates about cost-benefit analysis, proponents of cost-benefit analysis repeated a simple argument: agencies need to have some method for deciding whether and how stringently risks should be regulated. Critics of cost-benefit analysis never converged on a satisfactory competitor, but their repeated slogan—that cost-benefit analysis means deregulation—continues to

resonate. The reason cost-benefit analysis has mostly served to constrain regulation is because administrations and agencies use cost-benefit analysis to calibrate regulation. But snapshot calibration can only constrain, rather than compel, regulation.

Cost-benefit analysis need not be used this way. Using cost-benefit analysis as a commitment device is one possible way that agencies and administrations could use cost-benefit analysis to gradually reduce risks to health, safety, and the environment. Whether the benefits of the commitment device will outweigh its costs can only be determined over time.