

University of Chicago Law School

Chicago Unbound

Journal Articles

Faculty Scholarship

2001

Controlling Agencies with Cost-Benefit Analysis: A Positive Political Theory Perspective

Eric A. Posner

Follow this and additional works at: https://chicagounbound.uchicago.edu/journal_articles



Part of the [Law Commons](#)

Recommended Citation

Eric Posner, "Controlling Agencies with Cost-Benefit Analysis: A Positive Political Theory Perspective," 68 University of Chicago Law Review 1137 (2001).

This Article is brought to you for free and open access by the Faculty Scholarship at Chicago Unbound. It has been accepted for inclusion in Journal Articles by an authorized administrator of Chicago Unbound. For more information, please contact unbound@law.uchicago.edu.

The University of Chicago Law Review

Volume 68

Fall 2001

Number 4

© 2001 by The University of Chicago

Controlling Agencies with Cost-Benefit Analysis: A Positive Political Theory Perspective

Eric A. Posner†

INTRODUCTION

In *Corrosion Proof Fittings v EPA*,¹ the Fifth Circuit struck down an EPA regulation on the ground that the cost-benefit justification was inadequate. The EPA committed a multitude of cost-benefit sins: discounting costs but not benefits, using inconsistent valuations for statistical lives, refusing to quantify certain benefits, and refusing to repeat the analysis with better data supplied by industry. The court remanded for a more adequate analysis.²

In *American Trucking Associations, Inc v EPA*,³ the D.C. Circuit struck down an EPA particulate matter regulation on the ground that the vague statute authorizing the regulatory activity amounted to an unconstitutional delegation. The court said that in the next round of rulemaking the EPA needs to provide a quantitative justification for the regulation. The court evidently believed that cost-benefit analysis would be an adequate decision procedure, but precedent barred the EPA from using that procedure. If the EPA could not come up with an

† Professor of Law, The University of Chicago. My thanks to Matthew Adler, Beth Garrett, Doug Lichtman, Jonathan Nash, Richard Posner, Cass Sunstein, Emerson Tiller, and Adrian Vermeule for their comments, to Scott Farrow for allowing me to use data he collected, to Tana Ryan for helpful research assistance, and to The Sarah Scaife Foundation Fund and The Lynde and Harry Bradley Foundation Fund for generous financial support. Special thanks to Anup Malani for very helpful early discussions as well as comments on a draft.

¹ 947 F2d 1201 (5th Cir 1991).

² *Id* at 1218–19, 1227–30.

³ 175 F3d 1027 (DC Cir 1999), *revd in part as Whitman v American Trucking Associations, Inc*, 121 S Ct 903 (2001).

alternative quantitative procedure, it would not be able to regulate particulate matter pollution unless Congress created a narrower standard for justifying regulations.⁴

Although the Supreme Court subsequently rejected the D.C. Circuit's nondelegation argument,⁵ these cases reflect a trend toward greater recognition of cost-benefit analysis among the circuit courts as an appropriate and possibly even necessary part of the regulatory process.⁶ This judicial trend parallels developments in other parts of the federal government, where cost-benefit analysis has taken hold and expanded in influence.⁷ But the academic literature has lagged behind these developments. Although many commentators criticize or defend cost-benefit analysis as an abstract normative principle,⁸ few look at its role in an institutional context, that is, as a device whose justification depends on its capacity to help authoritative institutions such as Congress, the presidency, and the courts monitor subordinate institutions such as agencies.⁹ Yet it was the institutional role of cost-benefit analysis—as a means to limiting the discretion of agencies—that concerned the D.C. Circuit.

The article most directly concerned with the institutional aspect of cost-benefit analysis is Cass Sunstein's evaluation of the emerging jurisprudence of cost-benefit analysis.¹⁰ His approach is pragmatic: he identifies the standards that courts apply when they review cost-benefit analyses, and supports them because they are reasonable and likely to enhance the consistency of regulations. He avoids connecting his defense of cost-benefit "default rules" to a theoretical justification of cost-benefit analysis, arguing that cost-benefit analysis is en-

⁴ *American Trucking Associations v EPA*, 175 F3d at 1034–40.

⁵ *Whitman v American Trucking Associations*, 121 S Ct at 913–14.

⁶ See Cass R. Sunstein, *Cost-Benefit Default Principles* 18–32, Chicago John M. Olin Law & Economics Working Paper No 104 (Mar 6, 2001), available online at <http://papers.ssrn.com/paper.taf?abstract_id=247884> (visited Sept 27, 2001).

⁷ See Douglas Jehl, *Regulations Czar Prefers New Path*, NY Times sec 1, 1 (Mar 25, 2001) (discussing John Graham's nomination as the administrator of the Office of Information and Regulatory Affairs as an indication of growing acceptance of cost-benefit analysis).

⁸ See, for example, Robert H. Frank, *Why Is Cost-Benefit Analysis So Controversial?*, 29 J Legal Stud 913 (2000) (defending cost-benefit analysis from a variety of philosophical criticisms); Martha C. Nussbaum, *The Costs of Tragedy: Some Moral Limits of Cost-Benefit Analysis*, 29 J Legal Stud 1005, 1032–34 (2000) (noting the limits of the use of cost-benefit analysis to answer certain social questions, such as identifying which basic entitlements a citizen of a state should possess).

⁹ See Matthew D. Adler and Eric A. Posner, *Implementing Cost-Benefit Analysis When Preferences Are Distorted*, 29 J Legal Stud 1105, 1116–25 (2000) (evaluating the ways that agencies modify cost-benefit analysis in order to deal with preferences that are uninformed, adaptive, morally objectionable, or motivated by moral commitments); Cass R. Sunstein, *Cognition and Cost-Benefit Analysis*, 29 J Legal Stud 1059, 1060–61 (2000) (arguing that cost-benefit analysis may be justified because its narrow procedures help overcome the cognitive biases of the public and of administrative officials).

¹⁰ Sunstein, *Cost-Benefit Default Principles* (cited in note 6).

trenched in the government, that the time for defending and criticizing the decision procedure is past, and that the proper focus is implementation.¹¹

Sunstein is right about the entrenchment of cost-benefit analysis in American government. Although President Reagan's famous 1981 executive order directing regulatory agencies to comply with cost-benefit analysis was met with a storm of protest,¹² the Democrats did not reverse this policy when they took control of the presidency in 1993. Instead, President Clinton issued an executive order that endorsed cost-benefit analysis in a slightly modified form.¹³ President George W. Bush to all appearances plans to continue and possibly strengthen cost-benefit oversight.¹⁴ Meanwhile, the annual number of cost-benefit reports in the Federal Register has increased about six-fold since 1980, with no slowdown during the Clinton years.¹⁵ Bills requiring agencies to use cost-benefit analysis have been routinely proposed in Congress since 1995.¹⁶ Some federal regulatory statutes already require it and many more are interpreted to allow it.¹⁷ Finally,

¹¹ Robert H. Frank and Cass R. Sunstein, *Cost-Benefit Analysis and Relative Position*, 68 U Chi L Rev 323, 323-24 (2001) (arguing that cost-benefit analysis has been generally accepted by Congress, courts, and the executive and suggesting an approach for implementation).

¹² Exec Order No 12291, 3 CFR 127, 128-29 (1981) (stating that "[r]egulatory action shall not be undertaken unless the potential benefits to society for the regulation outweigh the potential costs to society"). See Marc Granetz, *Deregulation Rodeo: Reagan's Rulebusters Get Ready to Ride*, New Republic 9 (Nov 12, 1984) (noting the "severe backlash" following the reform efforts); David Hoffman, *Election '84: The Reagan Record*, Wash Post A6 (Jan 31, 1984) (noting the "outcry" over the Office of Management and Budget reviews for cost-benefit analysis of agency regulation, required by Executive Order 12291).

¹³ Exec Order No 12866, 3 CFR 638, 639 (1993) (requiring agencies to "assess both the costs and the benefits of the intended regulation").

¹⁴ See Jehl, *Regulations Czar Prefers New Path*, NY Times at sec 1, 1 (cited in note 7) (noting that President Bush's nomination of John Graham is "a sign that the new administration intends to give more weight to strict cost-benefit tests").

¹⁵ Searches on Westlaw in the Federal Register database of "cost /2 benefit," "cost-benefit [or] benefit-cost," and "cost-benefit analysis [or] benefit-cost analysis" yielded hits of 211, 103, and 53 for 1980, and 1257, 556, and 378 for 1999. During the same period the total number of annual entries appears to have increased between two and three times (based on neutral search criteria like "household," "mandatory," and "substance"). Accordingly, cost-benefit analysis has become more important both relatively and absolutely.

¹⁶ See, for example, Regulatory Improvement Act of 1999, S 746, 106th Cong, 1st Sess (Mar 25), in 106 Cong Rec S 3481 (ordering that all major rules issued by any agency be subject to a cost-benefit analysis); Regulatory Reform and Relief Act, HR 926, 104th Cong, 1st Sess (Feb 14, 1995) (same); Comprehensive Regulatory Reform Act of 1995, S 343, 104th Cong, 1st Sess (Feb 2), in 104 Cong Rec S 2057 (same).

¹⁷ See, for example, Federal Insecticide, Fungicide, and Rodenticide Act, 7 USC § 136(bb) (1994 & Supp 1996) (defining "unreasonable adverse effects on the environment" as "any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide"); Toxic Substances Control Act, 15 USC § 2605(c) (1994) (requiring EPA administrator to "consider and publish a statement with respect to the effects of [the] substance on health [and] . . . the environment, the benefits of such substance . . . for various uses," and "the reasonably ascertainable economic consequences of the

cost-benefit analysis has spread from the federal government to the states.¹⁸

But the popularity of cost-benefit analysis is not a sufficient reason for ignoring its theoretical justification. A proper analysis of the roles of agencies and courts requires both a theory of cost-benefit analysis and evaluation of judicial and agency practice in light of this theory.

This Article analyzes cost-benefit analysis as a method by which the President, Congress, or the judiciary controls agency behavior. It uses a model from the literature on positive political theory to show why the President and Congress will often want agencies to perform cost-benefit analyses. It also uses the model to explore the impact of cost-benefit analysis on courts and interest groups. The model generates testable predictions, including the prediction that introduction of cost-benefit analysis will increase the amount of regulation.

Several arguments emerge from the model. The first argument is that a common way of justifying cost-benefit analysis—as a decision procedure that minimizes the sum of error costs and administrative costs compared to other procedures—is incomplete. The difficulty with this way of thinking is that the variable, error cost, covers two very different problems: (1) the problem that even an agency loyal to the President and Congress may make technical errors, such as discounting the future too much or undervaluing health benefits; (2) the problem that even an epistemically perfect agency that makes no technical errors may implement projects that diverge from the goals of the President and Congress because the agency, or its chief, or its personnel, *have their own divergent goals*. The second problem is one of strategic behavior, and provides a basis for thinking of cost-benefit analysis as a technique for monitoring and disciplining agencies.

The second argument of this Article is that cost-benefit analysis may serve a valuable role even if the proper social goal is not efficiency. This point is important, as it resolves puzzles that confront three radically different perspectives on agency regulation. Cost-

rule, after consideration of the effect on the national economy, small business, technological innovation, the environment, and public health"). For cases that interpret statutes to permit cost-benefit analysis, see Part IV.C. The Unfunded Mandates Reform Act of 1995, Pub L No 104-4, 109 Stat 48, codified at 2 USC §§ 1501-04 (Supp 1996), is the only statute that creates a general cost-benefit obligation directed to all agencies, but it has had little effect because of exemptions. See United States General Accounting Office, *Unfunded Mandates: Reform Has Had Little Effect on Agencies' Rulemaking Actions*, 3 GAO/GGD-98-30 (1998). There have been efforts in the other direction, however. See Arthur Fraas, *The Role of Economic Analysis in Shaping Environmental Policy*, 54 L & Contemp Probs 113, 116-17 (1991) (describing legislation passed in the late 1980s that limited the use of cost-benefit analysis in environmental statutes).

¹⁸ See Robert W. Hahn, *State and Federal Regulatory Reform: A Comparative Analysis*, 29 J Legal Stud 873, 873-74 (2000) (noting that many states have started to require agencies to assess the economic impact of proposed and existing rules).

benefit analysis is a puzzle for interest group theory because interest group theory assumes that the President and Congress seek to transfer resources to interest groups rather than to maximize efficiency.¹⁹ Cost-benefit analysis is a puzzle for welfare economists because it does not implement a plausible welfare standard such as the Pareto principle.²⁰ And cost-benefit analysis is a puzzle for critics from the left, who point out that it undervalues environmental goods and the interests of the poor.²¹ This Article will show that these puzzles are solved when cost-benefit analysis is put in the proper institutional context. The purpose of requiring agencies to perform cost-benefit analysis is not to ensure that regulations are efficient; it is to ensure that elected officials maintain power over agency regulation.²² Evaluation of cost-benefit analysis should be based on its usefulness for disciplining agencies and enhancing the control of elected officials, not on its instantiation of ethical principles that elected officials may or may not share.²³ Many criticisms of cost-benefit analysis confuse the institutional justification of cost-benefit analysis and the normative goals of those who elect to use it.

¹⁹ See Matthew D. Adler and Eric A. Posner, *Introduction*, 29 J Legal Stud 837, 839–41 (2000) (noting that, under a government driven entirely by public choice factors, it is hard to imagine a normative argument in favor of cost-benefit analysis); Eric A. Posner, *Cost-Benefit Analysis as a Solution to a Principal-Agent Problem*, 53 Admin L Rev 289, 291 (2001) (discussing cost-benefit analysis as a device for reducing moral hazard); Gary S. Becker, *A Comment on the Conference on Cost-Benefit Analysis*, 29 J Legal Stud 1149, 1151–52 (2000) (discussing cost-benefit analysis as it applies in the interest group competition model of political choice).

²⁰ See Robin Boadway and Neil Bruce, *Welfare Economics* 26–27, 292–328 (Basil Blackwell 1984); I.M.D. Little, *A Critique of Welfare Economics* 84 (Oxford 2d ed 1957).

²¹ See, for example, Steven Kelman, *Cost-Benefit Analysis: An Ethical Critique*, 5 Reg 33, 35–36, 38–40 (Jan–Feb 1981).

²² See Matthew D. McCubbins, Roger G. Noll, and Barry R. Weingast, *Administrative Procedures as Instruments of Political Control*, 3 J L, Econ, & Org 243, 246 (1987) (arguing that the purpose of administrative law is not fairness, as is often argued, but that “of helping elected politicians retain control of policymaking”).

²³ Many criticisms of cost-benefit analysis miss this point. See, for example, Henry S. Richardson, *The Stupidity of the Cost-Benefit Standard*, 29 J Legal Stud 971, 972–73 (2000) (arguing that cost-benefit analysis’s “underlying normative standard of choice makes no room for intelligent deliberation about how best to use our resources”); Nussbaum, 29 J Legal Stud at 1032–33 (cited in note 8) (arguing that cost-benefit analysis does not account for questions “that involve serious ethical wrongdoing”); Lisa Heinzerling, *Regulatory Costs of Mythic Proportions*, 107 Yale L J 1981, 2042–64 (1998) (noting flaws with cost-benefit analysis, such as an improper discounting of future lives and the lack of quantifiability of many risks and benefits); David Copp, *The Justice and Rationale of Cost-Benefit Analysis*, 23 Theory & Decisions 65, 74–77 (1987) (arguing that cost-benefit analysis incorporates an unacceptable principle of justice, giving greater weight to the welfare of better-off members of society than the welfare of the poor); Kelman, 5 Reg at 35–36 (cited in note 21) (arguing that cost-benefit analysis does not consider the fact that some actions should be undertaken even if the benefits are seemingly less than the costs). Others who take a moderate view, and argue only that cost-benefit analysis should be broadened, also neglect the institutional question. See, for example, Amartya Sen, *The Discipline of Cost-Benefit Analysis*, 29 J Legal Stud 931 (2000).

The third argument is that the literature on cost-benefit analysis overlooks the different ways that enforcement of cost-benefit orders can occur—namely, through political sanctions or through legal sanctions. Political sanctions are punishments inflicted on agencies by the political principals themselves, including the President disciplining the agency head, or blocking or delaying the regulation, and Congress enacting a statute that reverses the regulation or that reduces the agency's budget. Legal sanctions are judicial decisions vacating the regulation. Both approaches are used in the U.S. government, and each has distinctive implications for the regulatory process.

The plan of the Article is as follows. Part I introduces a model of the relationship between the President and an agency. This simple auditing model shows that cost-benefit analysis can improve the outcomes of regulatory decisions from the President's perspective even in the absence of enforcement by the courts. Part II complicates the model by considering different goals that a president might have; introducing Congress, the courts, and interest groups; and accounting for cost-benefit analysis's relationship with other devices used by the President and Congress for disciplining agencies. After a brief discussion of empirical evidence in Part III, Part IV examines the normative implications of the analysis. It argues among other things that cost-benefit analysis may be justified as a device for institutional control even if the standard criticisms of this methodology (for example, that it undervalues hard-to-measure goods or that it overvalues the interests of the wealthy) are valid. It also argues that the proper role of the judiciary is to require agencies to perform cost-benefit analyses competently but not to force agencies to comply with them.

I. MODEL

The best-developed work on the relationship between agencies, the President, Congress, and the courts can be found in the literature on positive political theory. The literature treats this relationship as a principal-agent problem, in which the "principal"—usually Congress, a congressional committee, a legislative coalition, or the President—delegates authority to the "agent," that is, the regulatory agency. Delegation is attractive because the agency can develop expertise and use this expertise to implement projects that best satisfy the principal's goals. But delegation has this attractive result only if the agency is loyal to the principal. The problem with delegation is that the agency may use its power to pursue its own goals—that is, the goals of the agency's chief or personnel—rather than the goals of the principal. To minimize these "agency costs," the principal sets up laws and institutions designed to monitor the agency and then sanction the agency when it acts improperly. Well-studied examples include the congress-

sional committee system and notice and comment rulemaking under the Administrative Procedure Act.²⁴

A simple way of understanding how cost-benefit analysis changes the relationship between principals and agencies is to imagine that it converts a relationship of asymmetric information to one of full information. Without cost-benefit analysis, the principals are not at a complete loss, because they can infer that certain projects benefit or harm them; but they will refuse to consent to other projects that may or may not make them worse off. With cost-benefit analysis the principals now can accept or reject the project on the basis of direct observation of its consistency with their interests. Understanding cost-benefit analysis, then, involves comparing a model in which principals have complete information about the agency's activities and a model in which they have incomplete information. In both models the agency can take advantage of its expertise and position to propose new projects, and the principals can punish an agency that proposes projects that the principals do not like. All that varies between the two models is how much information the principals have about the agency's actions.

The comparison, as we shall see, yields a number of surprising results. Because agencies retain their agenda-setting power even after the cost-benefit analysis requirement is imposed on them, the projects they choose will often fail cost-benefit analysis and nonetheless be approved by the principals. In addition, because cost-benefit analysis allows the principals to trust agencies more than when agencies have an information advantage, there should be more regulation—not less—after cost-benefit analysis is introduced. Further, cost-benefit analysis will be desirable even when the principals do not seek efficient outcomes. The reason is that cost-benefit analysis only reduces the information asymmetry: it remains in the principals' discretion whether to punish agencies that fail to abide by it. If the principals do not seek efficient outcomes, they will still find cost-benefit data useful in determining whether a particular project serves their interests. Finally, it turns out that the proper role of courts may be to force agencies to conduct good cost-benefit analyses, but not to force agencies to comply with them.

²⁴ For an overview of this research, see David Epstein and Sharyn O'Halloran, *Delegating Powers: A Transaction Cost Politics Approach to Policy Making under Separate Powers* 18–29 (Cambridge 1999). A critical review by a legal scholar can be found in Jerry L. Mashaw, *Greed, Chaos, and Governance: Using Public Choice to Improve Public Law* 118–30 (Yale 1997).

A. What Is Cost-Benefit Analysis?

The Administrative Procedure Act requires agencies to describe the purpose and effect of proposed regulations.²⁵ The object of this requirement is to facilitate review of regulations by courts and political superiors. If the agency is forced to explain the purpose of the regulation, then the agency can be criticized if the stated purpose is inconsistent with the statute under which the regulation is issued, or if the regulation itself is inconsistent with the stated purpose.

The problem with the APA requirement is that verbal descriptions of the purposes and anticipated effects of regulation are inherently ambiguous. Suppose an agency says that a certain regulation would reduce workers' exposure to a chemical, that this chemical is a known carcinogen, and that employers would be required to make certain changes in the workplace. A court cannot determine from this description whether the regulation is socially beneficial, because the regulation's social value depends on how much the exposure would be reduced, how carcinogenic the chemical is, and how costly the workplace changes would be. Quantification of the benefits by itself does not solve the problem. Suppose that the agency says that the exposure will be reduced by a certain amount, that a particular exposure to the chemical would produce a certain risk of disease or death, or even that this regulation would reduce mortality by a certain amount. None of these figures can be used by a court to determine the social value of the regulation because they do not permit the benefits to be compared with the costs. And this is true even if the agency estimates the cost to employers. Suppose the agency said the regulation will reduce lung cancer by 1 percent and cost employers twenty million dollars. A court given this information would have great difficulty evaluating the regulation, because the effects of the regulation (reduction of the incidence of disease, increase in costs) are described in terms that are not comparable.²⁶

Review of a subordinate's decisions is greatly eased when the decision is based on a procedure in which the advantages and disadvantages of a regulation are reduced to a numerical metric. Cost-benefit analysis is not the only available metric. Others include the use of quality adjusted life years, in which the alternative regulations are compared according to how many years of life they save, adjusted for the "quality" of those years (for example, the health of the person during the additional years of life); and risk-risk analysis, in which the

²⁵ Administrative Procedure Act, 5 USC § 552(a) (1994).

²⁶ For a discussion of the problems with this kind of multidimensional assessment, see Matthew D. Adler and Eric A. Posner, *Rethinking Cost-Benefit Analysis*, 109 Yale L J 165, 229-38 (1999).

regulations are evaluated in terms of the risks they pose. The problem with these alternatives is that they focus on a narrow range of regulatory effects and thus ignore other regulatory effects that people care about.²⁷ Life years and risks are not the only things that matter to people. People also care about art, entertainment, convenience, and the quality of the environment. Cost-benefit analysis, by contrast to the other decision procedures, measures all these things. Among all of the proposed single-metric or unidimensional decision procedures, cost-benefit analysis is the one that accounts for the broadest range of welfare effects that a regulation might have.

Cost-benefit analysis is sometimes treated as a loose balancing of the advantages and disadvantages of a project. But this is not what is at stake in the policy dispute. The policy dispute concerns the process by which the welfare effects of projects are determined. When an agency conducts a cost-benefit analysis, it may spend thousands or millions of dollars collecting and analyzing data. The data usually come from studies of market behavior or surveys of consumer preferences, and the analysis often involves a great deal of extrapolation. Consider a proposed regulation to require the installation of scrubbers in the smokestacks of certain factories. The cost of the regulation will be calculated from market data on the price of the scrubbers, which must also take account of potential technological advances that may reduce that price.²⁸ The benefit of the regulation will be determined using scientific studies on the effects of the pollutant on people's health and property. Health benefits will be calculated in terms of reduction of medical costs, and, if lives or life years are saved, in terms of the value of statistical lives—which themselves are calculated from studies that determine from market data how much money people are willing to pay to avoid small risks of death. If the pollutant causes damage to the environment, surveys will be used to determine how much people are willing to pay for clean air, or to preserve wildlife. The costs and benefits also must be discounted to reflect the passage of time. And alternative regulations must be considered; for example, shutting down the plants or installing another kind of scrubber may be more cost-effective. When the hard work of data collection and analysis is completed, the comparison of costs and benefits is straightforward.

²⁷ See *id.* at 230–31. See also Part II.E.6 for a more thorough discussion of alternatives to cost-benefit analysis.

²⁸ See Winston Harrington, Richard D. Morgenstern, and Peter Nelson, *On the Accuracy of Regulatory Cost Estimates* 16–18, Resources for the Future Discussion Paper (Jan 1999), available online at <http://www.rff.org/disc_papers/1999.htm> (visited Sept 27, 2001) (finding that agencies frequently overestimate costs because of technological innovations).

Converting this messy procedure into an assumption in a model is difficult, but there are three reasonable approaches. The first approach is to assume that an agency can perform an accurate cost-benefit analysis at no cost, and the agency is incapable of producing a fake cost-benefit analysis, that is, a cost-benefit analysis that justifies an inefficient regulation. The second approach is to assume that cost-benefit analysis is expensive but accurate. A cost-benefit analysis will reveal that a regulation is cost-justified or not at a certain cost; to falsify the results, for example, to show that an inefficient regulation is cost-justified, the cost is higher or infinite. The third approach is to assume that cost-benefit analysis is costly but relatively easy to fake. Any regulation can be justified with a cost-benefit analysis, but finding data and making calculations are always costly.²⁹

All three assumptions have support in the literature, and no doubt the truth lies somewhere in between. In some cases data are already available, studies have been completed, and the cost of compiling these sources and publishing them is trivial compared to the other administrative costs incurred by the agency. In other cases, data must be gathered through expensive surveys and studies, but the regulation affects only goods and services whose values are easy to measure. When consensus among experts can be achieved because the data are clear and the procedures are uncontroversial, it would be very expensive—perhaps infinitely expensive—to show that an inefficient regulation is cost-justified.³⁰ In still other cases the regulation affects the value of hard-to-measure goods, like environmental amenities, and so a plausible cost-benefit justification or critique can always be made. Cost-benefit analysis is expensive because surveys must be conducted and experts retained, but the intangibles are significant enough to leave the agency with wide discretion.

It is important to understand the relationship between cost-benefit analysis, efficiency, and the normative goals of elected officials. When I say that a project or regulation is “efficient,” I mean that it passes the Kaldor-Hicks standard: the beneficiaries of the project gain enough that they could overcompensate those who are harmed by the project. A project that passes a cost-benefit analysis is not necessarily efficient for several reasons. One is that cost-benefit analysis monetizes the costs and benefits, whereas Kaldor-Hicks does not, and

²⁹ The fourth possibility—that cost-benefit analysis is cheap and easy to fake—would undermine the argument, but does not seem plausible.

³⁰ See W. Norton Grubb, Dale Whittington, and Michael Humphries, *The Ambiguities of Benefit-Cost Analysis: An Evaluation of Regulatory Impact Analyses under Executive Order 12291*, in V. Kerry Smith, ed., *Environmental Policy under Reagan's Executive Order: The Role of Benefit-Cost Analysis* 121, 154–59 (North Carolina 1984) (discussing the quality of cost-benefit analyses from the early 1980s).

under certain conditions a project whose benefits and costs are monetized will fail a cost-benefit analysis while passing the Kaldor-Hicks standard, and vice versa.³¹ More important, cost-benefit analysis in the real world unavoidably involves estimates of hard-to-measure things, like human lives and environmental amenities, so that in practice a cost-benefit analysis may provide support for inefficient regulations.³² The accuracy of a cost-benefit analysis depends on the conditions under which it is used.

Accordingly, when I say that a project is efficient, I mean that it is efficient in ordinary conditions, that is, where there are no special problems of monetization or valuation. But this leads to a further point, and that is that efficient projects are not necessarily socially desirable ones. For example, projects that redistribute wealth to the poor are not efficient but may be desirable, and these projects include those whose redistributive effect are a small component of a larger purpose, like health regulations that assume that the statistical value of the lives of the poor is as high as the statistical value of the lives of the wealthy. Projects that are designed to change people's preferences because these preferences are distorted or poorly informed will also frequently be inefficient (because efficiency always is measured on the basis of existing preferences) but socially desirable.³³

Efficiency, then, is not used in the current inquiry as a normative criterion but as an analytic concept in a positive analysis. One of the main points of the argument is that government principals who are interested in goals other than efficiency will in many situations want agencies to perform cost-benefit analysis, even though cost-benefit analysis evaluates projects on the basis of efficiency or an approximation.

B. The Model

We use a model developed by Epstein and O'Halloran to examine the role of interest groups in congressional oversight of agencies.³⁴ The model, as reinterpreted for current purposes, involves two characters: President and Agency. Later we will assign the role of principal to

³¹ See Robin W. Boadway, *The Welfare Foundations of Cost-Benefit Analysis*, 84 *Econ J* 926, 926–27 (1974).

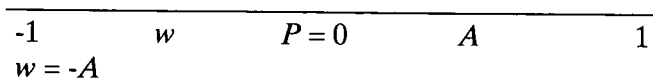
³² See Adler and Posner, 109 *Yale L J* at 172–76 (cited in note 26) (giving examples of cost-benefit analyses in practice that monetized hard-to-measure benefits).

³³ See *id.* at 220 (giving the example of a ban on narcotics).

³⁴ David Epstein and Sharyn O'Halloran, *A Theory of Strategic Oversight: Congress, Lobbyists, and the Bureaucracy*, 11 *J L, Econ, & Org* 227, 232–46 (1995). An alternative, equally plausible approach, would hold that the principal can audit the agent at some cost. See Jeffrey S. Banks and Barry R. Weingast, *The Political Control of Bureaucracies under Asymmetric Information*, 36 *Am J Pol Sci* 509, 512–15 (1992). But this would require a more complex model, and does not yield different insights.

Congress and sometimes to general “government principals,” that is, either President or Congress. There are three events: (1) Agency, but not President, observes the status quo; (2) Agency proposes a project; and (3) President approves or rejects the project.³⁵ The relevant variables are depicted in Figure 1.

FIGURE 1
LOCATIONS OF THE STATUS QUO AND PARTIES’ IDEAL POINTS



The line extending from -1 to 1 represents the degree to which there is under- or overregulation along a particular policy dimension, with w representing the status quo at time 1.³⁶ When $w = 0$, the efficient level of regulation exists. When $w > 0$, too much regulation exists. For example, environmental regulations prevent the production of goods whose value exceeds the cost of pollution. When $w < 0$, too little regulation exists. For example, industry pollution causes significant harm to health and the environment when pollution control devices could be installed at low cost. Thus, in Figure 1 the status quo is one of underregulation.

The letters P and A represent the “ideal points” of President and Agency. When $P = 0$, as depicted, President seeks efficient outcomes. But President may seek outcomes that are inefficient from a cost-benefit perspective but desirable for other reasons. $P < 0$ when President values environmental goods less than the average person does; $P > 0$ when President values these goods more. For the time being, assume that $P = 0$. As for Agency, assume that $A > P$ on the assumption that agencies are generally more interventionist than presidents are.

The players want to minimize the distance between the policy outcome and their ideal point; they do not care whether the outcome

³⁵ The President does not always have the legal authority to reject a regulation proposed by an agency. Viscusi notes that OMB has been unable to block regulations that are based on valuations of statistical lives significantly above the accepted range. W. Kip Viscusi, *Risk Equity*, 29 J Legal Stud 843, 854 (2000). But the White House can almost always hold up the regulation for a period of time. See W. Kip Viscusi, *Fatal Tradeoffs: Public and Private Responsibilities for Risk* 265–70 (Oxford 1992) (giving examples drawn mostly from automobile regulations in the 1980s); Thomas O. McGarity, *Reinventing Rationality: The Role of Regulatory Analysis in the Federal Bureaucracy* 282–88 (Cambridge 1991) (describing delay as one of the ways OMB controls the substantive policy output of regulations). And, as the Article discusses below, the President may have other ways of punishing an agency that proposes an undesired regulation. See Part II.E.

³⁶ The value w is uniformly distributed with mean equal to 0. However, the value of w is fixed once the game has begun.

exceeds or falls short. For example, a president with an ideal point of 0 is indifferent between policy outcomes 0.5 and -0.5, and prefers 0.4 (or -0.4) to either.

At time 1, Agency but not President observes the value of w . Agency's informational advantage is due to its institutional expertise. At time 2, Agency proposes a regulation or project. This agenda-setting power is due to Agency's special legal authority to issue regulations. The regulation is represented by a number r . If $r > 0$, then the project increases the amount of regulation. An example is the requirement that scrubbers be used in smokestacks. If $r < 0$, then the project reduces the amount of regulation—for example, eliminating the rule that scrubbers must be used. If $r = 0$, the status quo does not change. The outcome of the regulation is simply $w + r$: the regulation moves the world along the number line away from the status quo.³⁷

At time 3, President approves or rejects the project. Rejection means that the status quo prevails (w). Acceptance means that the regulation is implemented ($w + r$). Because President does not directly observe w , the decision to accept or reject must be based on inferences from the values of r and A , which President does observe. It should be mentioned that in reality a president does not have the power to reverse a project, but may fire the agency head if the agency is not an independent agency. Part II.E discusses this complication.

Because $A \neq P$, Agency and President do not have the same goals, but neither are their interests completely conflicting. Consider the location of w in Figure 1. Both President and Agency prefer a regulation, $r > 0$, because both seek a more regulated environment. President's ideal regulation is $r = -w$, for such a regulation would bring the status quo to 0, President's ideal point. Agency's ideal regulation is $r = -w + A$, because this higher value regulation would bring the status quo to A , Agency's ideal point. Observe that President would be willing to accept a regulation up to $r = 2w$. The reason is that $+w$ is no worse for President than $-w$; each outcome is the same distance from 0. And a similar point can be made about Agency. Each player is willing to accept a range of outcomes superior to the status quo, but their ideal outcome is just one point within that range.

Finally, it should be observed that the degree to which Agency's and President's goals converge or diverge depends on the location of the status quo. We have already seen a case in which their goals partially converge: when $w = -A$. Their goals diverge when w is, say, $A/2$. When $w = A/2$, Agency benefits only when $r > 0$, while President bene-

³⁷ Formally, President's utility is $U_p = -(r + w)^2$. Agency's utility is $U_A = -(r + w - A)^2$, where President's ideal point is $P = 0$, and Agency's ideal point is $A > P$. Squaring the expressions ensures that parties do not attach special importance to whether the policy outcome is negative or positive; it also creates risk aversion.

fits only when $r < 0$. For example, President believes that pollution controls are too strict, and Agency believes that they are too lax. In the earlier case, President and Agency believe that pollution controls are too lax, but Agency wants to strengthen them more than President does.

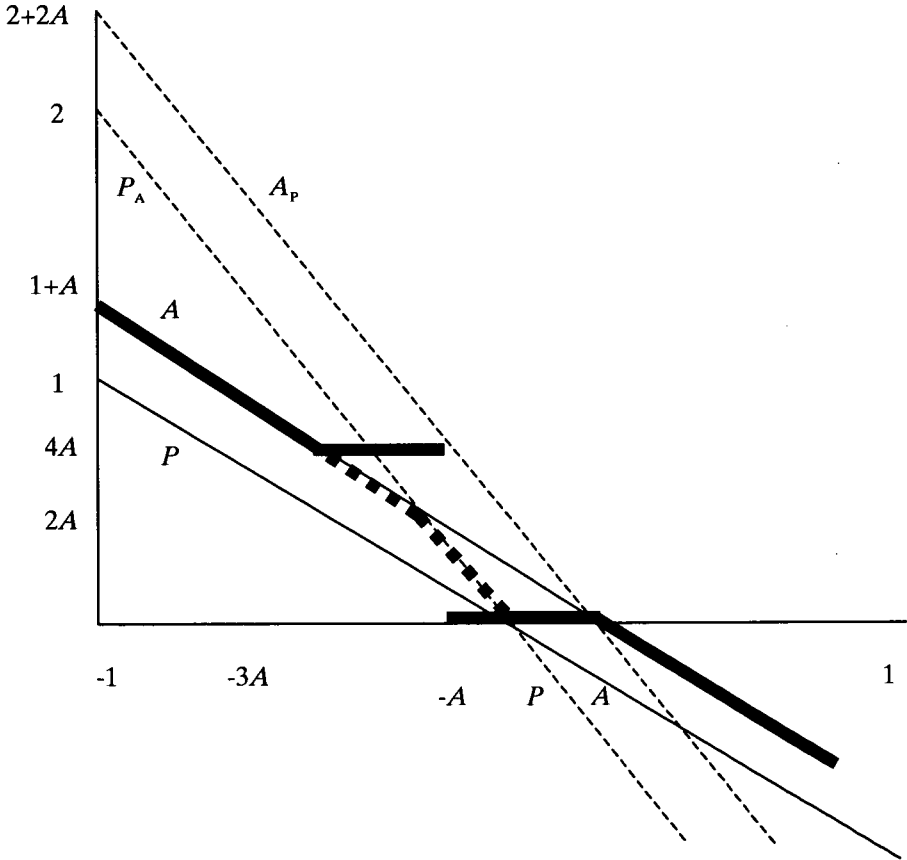
C. The Equilibrium without Cost-Benefit Analysis
(Incomplete Information)

Given the assumptions described so far and some technical assumptions that need not detain us,³⁸ an equilibrium can be described in which outcomes are a function of w , A , and P . The equilibrium is represented graphically as the thick line (not the line of dashes) in Figure 2.³⁹

³⁸ See Epstein and O'Halloran, 11 J L, Econ, & Org at 248–49 (cited in note 34) (setting forth formal assumptions needed to solve for equilibrium).

³⁹ The figure is taken from id at 236 fig 2. The complete information equilibrium has been added to Epstein and O'Halloran's figure. The incomplete information equilibrium was derived by Thomas W. Gilligan and Keith Krehbiel, *Collective Decisionmaking and Standing Committees: An Informational Rationale for Restrictive Amendment Procedures*, 3 J L, Econ, & Org 287, 302–25 (1987).

FIGURE 2
INCOMPLETE AND COMPLETE INFORMATION
EQUILIBRIUM REGULATIONS⁴⁰



The horizontal axis represents the status quo, w . The vertical axis represents the value of the regulation, r . The lines labeled A and P represent the ideal regulations for Agency and President. For example, when $w = -1$, Agency's ideal project is $r = 1 + A$, which produces the outcome $(-1 + 1 + A) = A$. The President's ideal project is $r = 1$, which produces outcome $P = 0$. The lines labeled A_p and P_A represent the limits of the regulations that Agency would be willing to propose and that President would be willing to accept. When $w = -1$, Agency would be made no worse off by regulation, $r = 2 + 2A$, which would produce the outcome $1 + 2A$, which is no farther from A than the status quo ($1 + 2A - A = 1 + A = A - (-1)$). President would be made no worse off

⁴⁰ $P = 0$. The incomplete information equilibrium is represented by the unbroken thick line. The complete information equilibrium is the same except where the thick line is broken.

by regulation, $r = 2$, because $+1$ is no farther from 0 than is -1 . In short, regulations along A_p are the worst (from Agency's perspective) that Agency would be willing to propose, and regulations along P_A are the worst (from President's perspective) that President would be willing to approve.

To understand the equilibrium, observe that there are four regions in which the outcome bears a different relationship to the status quo, w . These are summarized in Table 1. Each row corresponds to one of the four distinctive regions on the graph in Figure 2.

TABLE 1
INCOMPLETE INFORMATION EQUILIBRIUM REGULATIONS

Row	Value of w	Value of r	Outcome
1	-1 to $-3A$	$A - w$	A
2	$-3A$ to $-A$	$4A$	A to $3A$
3	$-A$ to A	0	$-A$ to A
4	A to 1	$A - w$	A

Imagine that President desires efficient outcomes ($P = 0$), and Agency is the EPA and controlled by liberal but not extreme environmentalists. Let's say that $A = 0.3$. Even though President does not directly observe w , in some cases President can infer the value of w , and thus make an informed decision about whether to accept or reject the project. Suppose, for example, $r < 0$. Let us say that $r = -0.2$. President can infer that $w = 0.5$, and thus will approve the project because it produces an outcome closer to 0 (namely, 0.3). How does President make this inference? If w were less than 0.5 , say $w = 0.4$, then Agency would propose $r = -0.1$, not $r = -0.2$. If w were greater than 0.5 , then Agency could do better by proposing a more extreme (negative) project. Because Agency's proposal of $r = -0.2$ is rational only if $w = 0.5$, and because under these circumstances the regulation makes President better off, President approves the regulation. Anticipating this, Agency would be willing to propose the regulation in the first place. This is like the liberal EPA proposing a deregulatory project because it believes that existing regulations do more harm than good. A conservative President has no reason to doubt the rationale for the regulation. Note that Agency does not choose the best project for President ($r = -0.5$), but instead uses its agenda-setting power to choose a regulation that is ideal for itself and good but not ideal for President. This is the situation in Row 4.

Imagine now that Agency proposes an extremely high-value regulation of $r = 1.3$. President can infer that $w = -1$. The reason is sim-

ply that given $w = -1$, $r = 1.3$ produces an outcome equal to Agency's ideal of 0.3. President would approve this project because 0.3 is closer to 0 than -1 is. This is like the liberal EPA proposing an expensive ban on chlorofluorocarbons because of their great threat to the environment and human health. The conservative president believes the EPA because a moderately liberal EPA would not benefit from such an extreme project unless the environmental problem were serious. This is the situation in Row 1.

The moderately liberal EPA now proposes a low-value project of $r = 0.1$. President might fear that $w = 0.2$, in which case the project would make President worse off, and for that reason President might want to reject the project. However, it is also possible that $w = -0.2$, in which case President would want to approve the project. Unlike the cases involving negative value projects and very high-value projects, President cannot infer the value of w , and so will assume that it equals its average over the range of value of w for which r does not reveal the location of w , namely 0. But if $w = 0$, which is President's ideal point, any project would make President worse off. Accordingly, President rejects low-value projects. Anticipating these rejections, Agency does not propose these projects in the first place. This is the situation in Row 3.⁴¹

Finally, for a range of values of w , Agency can provide limited information to President about the status quo by proposing regulations that are higher valued than Agency's ideal. In Row 2, $r = 1.2$ ($4 \cdot 0.3$) when $-0.9 < w < -0.3$. To see why this is an equilibrium, observe that when Agency proposes $r = 1.2$, President knows that w is on average -0.6 .⁴² President approves the regulation because $r + w$ is no farther from $P = 0$ than w is. Given that President will approve this regulation, Agency has an incentive to propose it. If $w = -0.8$, the outcome is 0.4. The reason that Agency cannot propose the superior (for both President and Agency) regulation of $r = 1.1$ is that if President approved such regulations—that is, if President approved any regulation r , regardless of how low r is—then Agency would be able to propose and obtain approval for (for example) $r = 0.5$ when $w = -0.2$.

⁴¹ This is like the lemons equilibrium: because of incomplete information it is impossible to "trade," that is, agree on a project that would make both parties better off, when $-0.3 < w < 0$. See George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q J Econ 488 (1970) (describing the lemons model in which jointly desirable sales of certain goods and services are not possible because of information asymmetries between seller and buyer).

⁴² This figure is the average value of w given that $-0.9 < w < -0.3$ and w is chosen from a uniform distribution.

This latter regulation makes President worse off than in the status quo. Agency cannot issue a regulation $0 < r < 1.2$, because on average such regulations will make President worse off given that President assumes that $w = -0.6$ when it is not the case that $r > 1.2$ ($w < -0.9$) or $r \leq 0$ ($w > 0.3$). Row 2 contains the cases in which Agency overregulates in order to persuade President that there is a serious problem.

The last point is that A could be higher or lower than 0.3. When A is close to 0, President and Agency have similar interests. When A is close to 1, President and Agency have very different interests. When their interests converge, President knows that Agency will propose projects that President likes. Rows 1 and 4 expand to cover nearly all the cases. Most projects will be approved, and few will be distorted by signaling. When their interests diverge, President cannot trust Agency except in cases of negative value regulations or high value positive regulations. Rows 2 and 3 expand to cover nearly all the cases. Few projects will be approved, and those that are will usually be distorted by signaling.

From President's perspective, three things are preventing Agency from making optimal choices. First, the divergence between Agency's interests and President's interests causes Agency to prefer different projects.⁴³ Second, Agency's agenda-setting power—which results from its ability to move first and make a take-it-or-leave-it offer—enables it to choose nonideal projects for President even when President can infer the value of w . Third, incomplete information prevents some mutually beneficial projects from being proposed, and causes Agency to distort other beneficial projects in the direction of greater-than-necessary regulation.

D. The Equilibrium with Cost-Benefit Analysis (Full Information)

Now let us introduce cost-benefit analysis, which is initially conceived to be costless and perfectly accurate. Agency can, without expending any resources, produce a cost-benefit analysis, which will be understood as a statement about whether $r = -w$. If $r = -w$, the project passes; otherwise the project fails.⁴⁴ This follows from our assumption that the efficient outcome is 0 on the policy line. For now, assume that Agency is obligated to produce the cost-benefit analysis, perhaps on the theory that if it does not, it will be punished by President.⁴⁵

⁴³ This is true even when $P \neq 0$. The argument assumes for expository convenience (but does not depend on) President seeking efficient outcomes.

⁴⁴ An alternative assumption is that the cost-benefit analysis reveals only whether the project improves the status quo in the direction of efficiency; that is whether $|w+r| < |w|$.

⁴⁵ The Article returns to this issue in Parts I.E, I.F, and I.G.

These assumptions transform the incomplete information game described above into a full information game. For many values of w , the equilibrium project with cost-benefit analysis is the same as the equilibrium project with incomplete information. But for a range of values, the equilibria diverge. In Figure 2, the thick line of dashes represents the outcomes for which the complete information equilibrium diverges from the incomplete information equilibrium. Otherwise, the equilibria are the same (note the thick unbroken line). The two equilibria are also compared in Table 2.⁴⁶

TABLE 2
INCOMPLETE AND COMPLETE INFORMATION
EQUILIBRIUM REGULATIONS

Row	Value of w	Value of r (incomplete info)	Value of r (full info)	Difference for Agency	Difference for President
1	-1 to $-3A$	$A - w$	$A - w$	0	0
2	$-3A$ to $-A$	$4A$	$A - w$	$3A + w$	$3A + w$
3	$-A$ to 0	0	$-2w$	$2w$	0
4	0 to A	0	0	0	0
5	A to 1	$A - w$	$A - w$	0	0

In comparing the complete and incomplete information equilibria, notice that there is no change in Rows 1 and 5.⁴⁷ The reason is that when w is high or low enough, Agency's proposal of a high (positive or negative) value project reveals the location of w . Because President has full information (although this is endogenous rather than the result of the cost-benefit analysis), a cost-benefit analysis cannot reveal additional information to President, and thus will not change behavior. For example, imagine that $A = 0.3$, and Agency proposes a project $r = 1.3$. President knows that $w = -1$ for the reasons given in Part II.C. Accordingly, a cost-benefit analysis that revealed that $w = -1$ would not give President new information, and thus would not change behavior in equilibrium.

Also notice that there is no change in Row 4. Suppose that $A = 0.3$ and $w = 0.1$. Agency can improve its utility only by choosing r

⁴⁶ The description of the complete information equilibrium is taken from Epstein and O'Halloran, 11 J L, Econ, & Org at 234-36 (cited in note 34); it was derived originally by Thomas Romer and Howard Rosenthal, *Political Resource Allocation, Controlled Agencies, and the Status Quo*, 33 Pub Choice 27, 29-35 (1978).

⁴⁷ A fifth row has been added to the table because the full information equilibrium has an extra partition between $-A$ and A .

> 0 , but any $r > 0$ would move the outcome farther from President's ideal point of 0. With full information, President will not approve any project that Agency would want to propose. With incomplete information, the similar result has a slightly different reason. President knows that any low-value project, given a relatively high A , might make President worse off, and accordingly rejects any low-value project. The region of rejection is larger in the incomplete information case (Rows 3 and 4) because President's uncertainty leads to rejection of projects that *on average* make President worse off. With full information, the subset of projects that in fact make President better off are approved.

Continuing with Row 3, it is necessary to explain why with complete information Agency proposes $r = -2w$ (which is greater than 0, given that w is negative), rather than $r = A - w$. The reason is that if $-A \leq w \leq 0$, President would reject Agency's ideal project, $r = A - w$, because such a project would produce an outcome farther from 0 (but positive rather than negative) than w .⁴⁸ If $A = 0.5$, and $w = -0.2$, President would not approve $r = A - w = 0.7$, because the resulting outcome, 0.5, is farther from 0 than is -0.2. President would approve at most $r = -2w = 0.4$, because the resulting outcome, 0.2, is no farther from 0 than the status quo of -0.2. President and Agency both benefit from a project, $r > 0$, when w is close to, but less than, 0. President will not, however, approve a project of such high value that it implements A if A is worse for President than the status quo.

Row 2 concerns the case where, in the incomplete information model, Agency signals to President that w is relatively low by implementing a higher than ideal (from Agency's perspective) project. With complete information, signaling is no longer necessary. When $w < -A$, President will approve Agency's best project, $A - w$. This project will result in outcome A , which is of course closer to President's ideal point, 0, than a status quo that is lower than $-A$. The reasoning is the same as it was for Row 1.

The comparison of the two equilibria yields a number of insights. As one would expect, introduction of cost-benefit analysis results in better projects from the perspective of President and of social welfare.⁴⁹ However, even with full information, Agency can exploit its bargaining power—that is, its power to propose a project, which President can only accept or reject—and it will do so by biasing most projects in

⁴⁸ For example, for $w = A/2$, Agency's ideal project, $r = (3/2)A$, would give President utility of $-A^2$, whereas the status quo gives President utility of $-A^2/4$. See note 37 for the definition of President's utility function. To avoid rejection, Agency must propose a project that President is willing to accept, namely, $r = -2w$. In the example, project $r = -2w$ yields presidential utility $U_p = -A^2/4$, which is no worse than the status quo.

⁴⁹ President benefits from cost-benefit analysis even when $P \neq 0$, that is, even when President does not care about efficiency. See note 37.

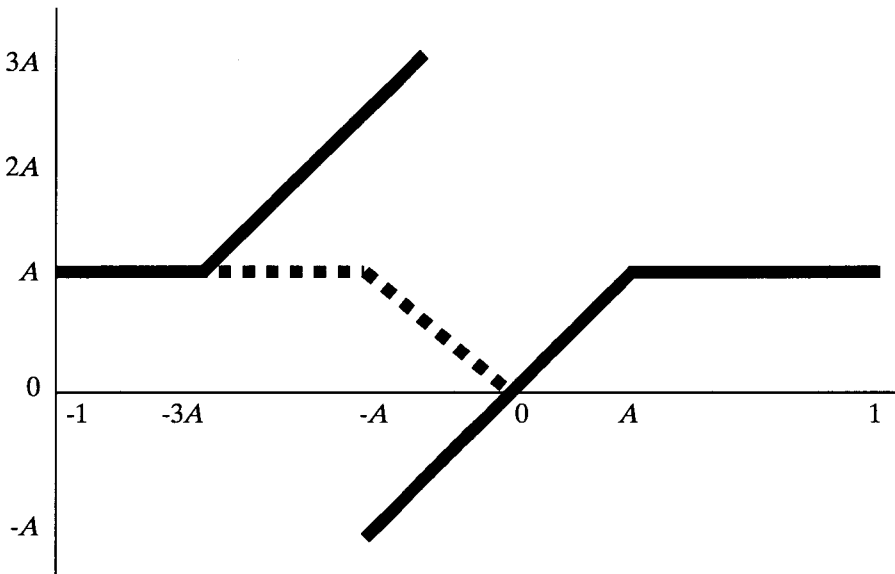
favor of greater regulation. In other words (see Row 3), introduction of cost-benefit analysis will result in the approval of some projects that fail cost-benefit analysis.

Another insight is that the introduction of cost-benefit analysis will result in more regulation but less extreme regulation (see Rows 2 and 3). The reason is that without cost-benefit analysis President cannot trust the agency much. A President who does not trust Agency will reject low-value projects, and thus Agency has no incentive to propose them in the first place. In a moderate range, Agency will propose more aggressive projects than even it wants, as a way to signal to President that the status quo is bad. Introducing cost-benefit analysis enables President to trust Agency more, so more regulation will occur. But because signaling is no longer necessary, the regulation will exhibit less variance. Both President and Agency are made better off, and Agency more so than President because of its bargaining power.

This result can be seen in Figure 3, in which outcomes rather than project values are indexed on the y-axis. President wants a horizontal line along the x-axis, which is also the efficient outcome. Agency wants a horizontal line at A . The complete information equilibria are on average closer to A and to $P = 0$ than the incomplete information equilibria, but the complete information equilibria, like the incomplete information equilibria, are on average closer to A than to P .⁵⁰ One can see that regulation with cost-benefit analysis occurs for more values of w —that is, for more states of the world—and that the regulation is less extreme.

⁵⁰ It is also more likely that agencies will be created when cost-benefit analysis is an available tool than when it is not. The reason that cost-benefit analysis leads to more regulation and/or more agencies is that the President and Congress can trust agencies to engage in less rent extraction, and to choose projects closer to their ideal points. There is a related point much discussed in the literature. When politicians can exert greater control over agencies, they are more likely to create agencies in the first place. Inability to control agencies—for example, because the agencies do not affect organized interest groups that will inform politicians when the agencies go astray—results in fewer agencies than would exist in a world with lower monitoring costs.

FIGURE 3
EQUILIBRIUM OUTCOMES⁵¹



Although the analysis is still at a preliminary stage, it should be clear that cost-benefit analysis should not necessarily be objectionable to agencies or even to proregulation interest groups like environmental organizations. The reason is that when the President cannot determine what an agency is doing, the likely response is not to give it free rein but, on the contrary, to rein it in. An agency and its supporters might prefer a world in which the President lets it do whatever it wants, but that is not an option. Given the choice between submitting to cost-benefit analysis and losing the President's support, the agency and its interest groups will prefer the former. That cost-benefit analysis improves outcomes for *both* the agency and the President is clear from Table 2 and Figure 3. That may be why, despite many complaints, cost-benefit analysis has persisted as a major instrument of regulation.

E. Endogenizing Cost-Benefit Analysis

The analysis so far takes a shortcut by assuming that cost-benefit analysis transforms an incomplete information game into a complete information game, rather than directly modeling the agency's use of cost-benefit analysis. This was done for expository clarity. Allowing the agency to choose cost-benefit analysis does not change the results

⁵¹ Outcomes are on the y-axis; status quo values are on the x-axis. The nondotted line represents incomplete information equilibria; the dotted line represents values where complete information equilibria diverge from incomplete information equilibria.

much, although it discloses a new puzzle about why agencies need to be ordered to perform and report cost-benefit analyses rather than being willing to do so on their own.

Imagine that Agency has the option of issuing a cost-benefit analysis at the same time that it proposes a project. Let us suppose that cost-benefit analysis does not cost zero, but does have some small cost k which is invariant with respect to the efficiency of the project.⁵² President may, as before, accept or reject the project. Initially, observe that Agency has no incentive to issue the cost-benefit analysis when $w < -3A$ and when $w > A$. In these regions the negative or high positive value of r , along with knowledge of the value of A , enables President to infer the value of w . Issuing a cost-benefit analysis thus would be costly, but it would not reveal any information. President has no incentive to demand the cost-benefit analysis—that is, threaten to reject any project that is not accompanied by a cost-benefit analysis—because in these regions President does better as a result of the project than in the status quo. In addition, the outcome does not change when $0 < w < A$, the region in which President and Agency cannot both be benefited by a project because they have conflicting interests. With or without cost-benefit analysis, even with $k = 0$, Agency could not issue a project that benefits itself and that President would approve.

When $-3A < w < A$, Agency's use of a high-value project ($r = 4A$) results in outcomes that are higher than both President and Agency want. If k is sufficiently small, Agency would perform and report the cost-benefit analysis voluntarily, and President would approve the project. Suppose, for example, that $w = -2A$. Without cost-benefit analysis, the project is $r = 4A$, and the outcome is $2A$. With cost-benefit analysis, Agency could choose project $r = 3A$, in which case the outcome, A , is the same as Agency's ideal point and closer by A to President's ideal point of 0. Given the assumption that k is small, Agency would voluntarily issue the cost-benefit analysis.

The same argument can be made about the region in which $-A < w < 0$. Incomplete information prevents Agency from issuing a project that makes both Agency and President better off. If k is low enough, Agency can issue the same project with a cost-benefit analysis, and President will approve it. The only difference between this case and the previous case is that in this case, starting at $-A$, President will no longer accept projects greater than $-2w$, and accordingly Agent's projects will be no higher than $-2w$.

The argument so far reproduces the earlier analysis in which cost-benefit analysis converted an incomplete information game into a full

⁵² The Article elaborates on this assumption in Part I.F (the blunt signal theory).

information game, except that it makes more explicit the choice of whether to conduct a cost-benefit analysis. If k is sufficiently small, the equilibria are exactly the same. What we learn from endogenizing cost-benefit analysis is that (1) sometimes Agency will not issue a cost-benefit analysis, but in these cases its failure to do so is justified because the project value itself gives President complete information; and (2) otherwise Agency will issue a cost-benefit analysis voluntarily, without needing to be compelled by President. These two points provoke reflection, for they suggest that the Reagan and Clinton executive orders were unnecessary. Presidents gain nothing from cost-benefit analyses when agencies would not otherwise be inclined to perform them, and when presidents benefit from cost-benefit analyses, agencies have the right incentives to perform them without being prodded.

F. Cost-Benefit Analysis as a Precise or Blunt Signal

Cost-benefit analysis was assumed to be costless (or nearly costless) and perfect, but other assumptions are plausible. One alternative assumption is that cost-benefit analysis is costly and inaccurate (a “blunt signal”). Another assumption is that cost-benefit analysis is costly and precise: any cost-benefit analysis costs some amount, k , but k increases with the inefficiency of the regulation (a “precise signal”).⁵³

The preceding section considered the blunt signal case when the cost of the signal, k , is insignificant. As k increases, the analysis changes. The most interesting difference is that the agency can now signal by issuing an uninformative cost-benefit analysis⁵⁴ rather than by issuing a high-value regulation. Consider the case where $w = -2A$, and the equilibrium project in the incomplete information version of the game is $r = 4A$, resulting in an outcome of $2A$. Recall that Agency issues this high-value project in order to persuade President that w equals $-2A$ rather than a number closer to 0. A large expenditure on a cost-benefit analysis—one that results in the inability of Agency to implement other projects that it values—could similarly persuade President that w is far from 0. For if it were close to 0, Agency would not gain enough from the project to justify the expenditure of k . If this is right, then Agency would be able to issue a lower value regulation

⁵³ Compare Scott Ainsworth, *Regulating Lobbyists and Interest Group Influence*, 55 J Pol 41, 51–52 (1993), who models the influence of lobbyists on legislatures. Costly lobbying is a signal that may distinguish lobbyists who care more or care less about an issue. By contrast, the model assumes that the agency sends the signal, and although the signal may reveal how much the agency cares, this means the location of w , not the location of A .

⁵⁴ An example of a blunt signal is a cost-benefit analysis that relies on expensive but unreliable contingent valuation surveys. For criticism of this method, see the essays in Ian J. Bateman and Kenneth G. Willis, eds, *Valuing Environmental Preferences* (Oxford 1999).

like $r = 3A$, and this regulation would be better for both Agency and President. What is interesting about this argument is that the cost-benefit analysis might not distort political outcomes as much as the high-value regulation. Society would rather Agency persuade President that air pollution is a problem by issuing an expensive but meaningless cost-benefit analysis than by forcing factories to install scrubbers that are more expensive than necessary.⁵⁵

Under the precise signal theory, k is a decreasing function of the efficiency of the project. To simplify, suppose that $k = 0$ when $r = -w$ and k is otherwise some high cost k' , which we interpret as the cost of "faking" a plausible cost-benefit analysis. For example, if $w = -2A$, Agency can either issue efficient project $r = 2A$ and pay $k = 0$, or issue inefficient but Agency-ideal project $r = 3A$ and pay k' . If President believes any cost-benefit analysis, then Agency will choose $r = 2A$ if $-(2A - 2A - A)^2 > -(3A - 2A - A)^2 - k'$, that is, $k' > A^2$. President will believe a cost-benefit analysis only if this inequality is met.⁵⁶ The inequality shows that the more Agency's goal diverges from President's, the more effective the cost-benefit analysis must be in distinguishing efficient and inefficient projects. If the inequality is not met, President will not believe the cost-benefit analysis, Agency will not bother to engage in it, and the incomplete information outcome will result.

Outcomes under the precise signal theory are not always better than outcomes in the original model. As before, Agency will not always issue a cost-benefit analysis if $w > 0$ or $w < -3A$. In these regions the high value of the project itself reveals sufficient information or (when $0 < w < A$) Agency and President cannot both benefit from the same project.

There is an important difference between the original model and the precise signal theory. In the original model Agency has no incentive to choose efficient projects if President's ideal point is far from efficiency.⁵⁷ In the precise signal model, this is no longer true. Because the cost-benefit analysis is cheaper if the regulation is efficient than if it is inefficient, Agency has a new incentive to issue efficient regulations: the incentive to minimize expenses, thus preserving funds for other projects. If cost-benefit analysis is a precise signal, Agency's regulations will be biased in the direction of efficiency.

⁵⁵ Compare Pablo T. Spiller and Emerson H. Tiller, *Decision Costs and the Strategic Design of Administrative Process and Judicial Review*, 26 J Legal Stud 347, 361–62 (1997), in which cost-benefit analysis is a decision cost imposed on the agency.

⁵⁶ The left side of the inequality is Agency's utility from issuing the efficient regulation: $-(r + w - A)^2 - k$, where $r = 2A$ and $k = 0$. See note 37. The right side is Agency's utility from issuing the Agency's best regulation along with the fake cost-benefit analysis: $-(r + w - A)^2 - k'$, where $r = 3A$ and $k' > 0$.

⁵⁷ This fact—that under the original model President benefits from cost-benefit analysis even when $P \neq 0$ —is discussed in Part II.A.

It is clear that this bias benefits a President whose ideal point is close to efficiency. But it also benefits a President whose ideal point is less interventionist than efficiency and a President whose ideal point is more interventionist than efficiency but closer to 0 than to *A*. The anti-intervention President benefits because all regulations are lower value than they would otherwise be. The President whose ideal point is positive but close to 0 benefits because regulations will tend to produce outcomes closer to 0 than to *A*. It is only the relatively pro-intervention President who would not benefit from cost-benefit analysis if the precise signal model is correct.

In sum, cost-benefit analysis improves policy outcomes for President and Agency in a range of plausible circumstances. The only cases in which it does not are when: (a) cost-benefit analysis is a blunt signal that is also very expensive; or (b) cost-benefit analysis is a precise signal and President is sufficiently more interventionist than efficiency requires. As in the original model, Presidents who do not care strongly about efficiency may benefit from obliging Agency to perform cost-benefit analyses.

However, we still have not solved the puzzle described in the previous section, namely, why President would need to order Agency to perform cost-benefit analysis. Agency would do it on its own if the procedure has the benefits that have been described. For while cost-benefit analysis is expensive, it improves the probability that the regulation will be approved. Further, if President does order Agency to engage in cost-benefit analysis, that should not change equilibrium behavior. President has no way—in the model—to punish Agency if it does not comply. These last implications are examined in the next section.

G. Dynamic Considerations

One might argue that the static nature of the game conceals President's ability to sanction agencies that fail to issue plausible cost-benefit analyses. Consider a dynamic version of the game, in which the three periods are repeated indefinitely. One might think that in such a game President would threaten to reject all projects, or some large number of projects, after Agency fails to issue a cost-benefit analysis or a plausible cost-benefit analysis. It is well-known that in infinitely repeated games such a threat could be credible.⁵⁸

This argument, however, makes no sense in the game under consideration. Recall that when Agency does not want to issue a cost-benefit analysis, President would not want Agency to issue a cost-

⁵⁸ See Eric Rasmusen, *Games and Information: An Introduction to Game Theory* 123–29 (Blackwell 2d ed 1989) (discussing equilibria in infinitely repeated games).

benefit analysis. And when a cost-benefit analysis benefits President, Agency has every incentive to supply one. There is simply no need for President to order agencies to issue cost-benefit analyses, to threaten agencies with punishment if they fail to issue cost-benefit analyses, or to punish agencies that fail to issue cost-benefit analyses.⁵⁹

Then how does the model explain the Reagan and Clinton executive orders? The most plausible explanation is that these orders had no more than a marginal effect on the behavior of agencies,⁶⁰ and that the executive orders were exercises in public relations or symbolic politics. As I will argue below, there is no evidence that regulations issued under these executive orders were *more* efficient than those issued before them. Further, many if not most of the regulations issued under these orders have been accompanied by cost-benefit analyses of dubious value and were approved nonetheless.⁶¹ The executive orders probably did stimulate coordination among the agencies, a greater sophistication in the use of cost-benefit analysis, and some academic research on valuation methodologies. The executive orders may have, in these ways, led to a reduction in the cost of cost-benefit analysis and an enhancement of its accuracy. Cost-benefit analysis in the 1970s was not a sophisticated methodology and the agencies, in the absence of some hint from the President, probably doubted that it could help them get regulations approved, especially in an atmosphere in which regulation was considered more urgent than it is today. Agencies probably also feared that because cost-benefit analysis always relies on contestable assumptions, use of this methodology would hand critics ammunition for holding up the regulation in court. What agencies needed, but what they did not get until the 1980s and 1990s, was centrally organized coordination and instruction. If cost-benefit analysis could be made cheaper and more reliable, it would become more attractive as a tool for justifying regulation.

II. COMPLICATIONS

A. The President's Maximand

This Article has generally assumed that the President seeks efficient outcomes, although this assumption has already been relaxed in the section on costly signals. This section discusses in more detail the

⁵⁹ Indeed, the EPA did publish cost-benefit analyses, or loose approximations thereof, beginning in 1970. By 1979 it had produced 427 "economic analyses." Richard N.L. Andrews, *Economics and Environmental Decisions, Past and Present*, in Smith, ed, *Environmental Policy under Reagan's Executive Order* at 43, 56 (cited in note 30).

⁶⁰ *Id* (noting that several agencies conducted cost-benefit analyses before they were required to do so by any presidential order).

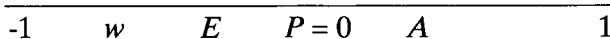
⁶¹ See text accompanying notes 111–21.

case in which the President does not seek efficient outcomes but seeks to maximize the probability of reelection and does so by making transfers to various interest groups and constituents.

One might think that if the President does not care about efficiency, then cost-benefit analysis could play no useful role. The President would not benefit from knowing that an agency's proposal is cost-justified. The relevant information would be whether that proposal benefits the President's constituents. It turns out that this intuition is wrong.

As an example, consider Figure 4, in which E represents the efficient policy. P remains the President's ideal point, represented as 0, but now assumed to be more interventionist than efficiency requires.

FIGURE 4
AN INTERVENTIONIST PRESIDENT



Suppose $w = -2A$. The earlier analysis shows that with incomplete information, Agency will choose $r = 4A$, resulting in outcome $2A$. Now introduce cost-benefit analysis. The efficient project would be $r = E - w$, resulting in outcome E . However, Agency and President would prefer a higher value project, for such a project would move the outcome closer to Agency's and President's ideal points. Agency would in fact choose $r = (A - w) = 3A$, resulting in outcome A . Because A is closer to 0 (President's ideal point) than $2A$, cost-benefit analysis makes President better off. But it does not result in an efficient project—the project would fail the cost-benefit analysis.

Why would an efficiency-indifferent President order agencies to conduct cost-benefit analysis? The answer is that the cost-benefit analysis yields valuable information that President can use in deciding whether to approve or reject Agency's regulation. It is important to see that the cost-benefit analysis is just a device for analyzing and reporting information; it does not compel any particular regulatory response unless President or some other authority is committed to punishing an agency that implements cost-unjustified projects. The additional information benefits President regardless of whether President's ideal point is the same as efficiency, and the reason is that additional information is a good thing to have, regardless of one's goals. This is why both a relatively anti-environment president such as Reagan and a relatively pro-environment president such as Clinton would order agencies to conduct cost-benefit analysis. Both benefited

from the additional information, even if each would have used it differently.⁶²

The results change if cost-benefit analysis is enforced by courts rather than by the President or another political actor like Congress. This is the topic of the next section.

B. The Role of the Courts

An issue that is neglected in the literature on cost-benefit analysis is whether this instrument is enforced by *political sanctions* or by *legal sanctions*. To understand this distinction, consider the different approaches of two bills proposed in the Senate, one in 1995 and the other in 1999. The 1995 Senate bill states:

(a) No final rule . . . shall be promulgated unless the agency finds that—

(1) the potential benefits to society from the rule outweigh the potential costs of the rule to society . . .

(b) The requirements of this section shall supplement the decisional criteria for rulemaking otherwise applicable under the statute granting the rulemaking authority, except when such statute contains explicit textual language prohibiting the consideration of the criteria set forth in this section.⁶³

In addition, the bill provides that courts “shall set aside agency action that fails to satisfy the decisional criteria of [the section excerpted above].”⁶⁴

The 1999 Senate bill states:

If the agency head determines that the rule is not likely to provide benefits that justify the costs of the rule or is not likely to substantially achieve the rule making objective in a more cost-effective manner, or with greater net benefits, than the other reasonable alternatives considered by the agency, the agency head shall—

⁶² To be sure, a president whose constituents have particular non-efficiency goals will want to have information different from the results of a cost-benefit analysis. For example, a president who simply wants to increase longevity because of the pressure of an interest group may be satisfied with information about longevity and not need it to be converted into a monetary valuation, and further would not need to know the costs of the regulation. But in the usual situation, the President will want *both* the cost-benefit analysis *and* an accounting that identifies effects of concern to supporters and interest groups.

⁶³ Comprehensive Regulatory Reform Act of 1995, S 343 § 623.

⁶⁴ *Id* § 624(d).

(A) explain the reasons for selecting the rule notwithstanding such determination, including identifying any statutory provision that required the agency to select such rule;

(B) describe any reasonable alternative considered by the agency that would be likely to provide benefits that justify the costs of the rule and be likely to substantially achieve the rule making objective in a more cost-effective manner, or with greater net benefits, than the alternative selected by the agency; and

(C) describe any flexible regulatory option considered by the agency and explain why that option was not adopted by the agency if the option was not adopted.⁶⁵

In addition, the 1999 bill provides that courts shall not review the regulations solely on the basis of the regulations' satisfaction of the cost-benefit analysis, but may treat the latter as relevant for overall review of the rule.⁶⁶

The bills differ along two dimensions. The 1995 bill requires the agency to comply with cost-benefit analysis and backs up this requirement with judicial review. The 1999 bill requires the agency only to report the results of the cost-benefit analysis—not comply with them—and softens judicial review. The Unfunded Mandates Reform Act of 1995 provides still another combination: it requires agencies to comply with the results of their cost-benefit analyses but eliminates judicial review.⁶⁷ But what is important for our purposes are the different provisions for judicial review. The bills and the statute show that Congress can either rely on courts to compel cost-benefit analysis, or it can choose not to and instead allow the political branches to punish agencies that fail to use cost-benefit analysis.

The Reagan and Clinton executive orders are both similar to the 1999 bill. Although the Reagan executive order requires agencies to comply with their cost-benefit analyses, it does not authorize courts to reverse regulations that violate cost-benefit analysis.⁶⁸ The Clinton executive order does not even require agencies to comply with their cost-benefit analyses. Rather, it requires them to conduct cost-benefit analysis and report the results.⁶⁹ But as a practical matter the two executive orders have the same effect. They order agencies to engage in

⁶⁵ Regulatory Improvement Act of 1999, S 746 § 623(d)(2).

⁶⁶ *Id.* § 627(d).

⁶⁷ 2 USC §§ 1532, 1571 (Supp 1998).

⁶⁸ Exec Order No 12291 § 9, 3 CFR at 133–34 (stating that the order “is not intended to create any right or benefit, substantive or procedural, enforceable at law”).

⁶⁹ Exec Order No 12866 § 6(a)(3)(B)–(C), 3 CFR at 645–46.

cost-benefit analysis but leave sanctions to the executive branch to impose on noncomplying agencies if it wishes.

It is thus clear that elected officials understood that cost-benefit analysis can be enforced in two different ways: by political sanctions and by legal sanctions. What is the difference between these two approaches?

Political sanctions enable Congress and the President to retain control over the agency's incentives. In the simple model, President's political sanction is to reverse Agency's project. This means that an inefficiency-minded President will approve a regulation that is inefficient but beneficial to President. When cost-benefit analysis is enforced by political sanctions, it does not cause agencies to act efficiently; it causes them to issue regulations closer to President's ideal point, whatever it is, than the regulations the agencies would issue under incomplete information.

Judicial sanctions, which transfer control of the agency's incentives from the political branches to the judicial branch, introduce new issues. Courts have their own ideal points, and these are not necessarily the same as efficiency.⁷⁰ If a court's ideal point is sufficiently close to President's or Congress's, or if a court enforces the law rather than its own ideological goals, then the introduction of judicial preferences does not present any special problems to the analysis. Otherwise, the analysis becomes complex.⁷¹

Let us stick with the simpler premise and suppose that a court seeks to enforce the law. If the court had perfect information, it would vacate all regulations that are not efficient, that is, that do not achieve policy outcome E . In this simple case, judicial enforcement aids the government to the extent that the government's ideal point approximates efficiency. There is a twist, however. Agency will not propose projects when $0 < w < 2A$, because the efficient project ($r = -w$) would make Agency worse off or (in the case of $w = 2A$, in which case the efficient project is $r = -2A$) no better off. Judicial enforcement of cost-

⁷⁰ For models that explore the influence of judicial ideology on political outcomes, see Richard L. Revesz, *Environmental Regulation, Ideology, and the D.C. Circuit*, 83 Va L Rev 1717 (1997) (analyzing judicial decisions in terms of, among other things, the party of the president who nominated the judge); Pablo T. Spiller and Matthew L. Spitzer, *Where Is the Sin in Sincere?: Sophisticated Manipulation of Sincere Judicial Voters (with Applications to Other Voting Environments)*, 11 J L, Econ, & Org 32, 36–51 (1995) (discussing how political ideology of the judge can affect political outcomes). See also Spiller and Tiller, 26 J Legal Stud at 348–59 (cited in note 55) (recognizing judicial policy preferences as a component of judicial decisionmaking).

⁷¹ For a model that treats the court as a political actor, see Spiller and Tiller, 26 J Legal Stud at 348–59 (cited in note 55); Emerson H. Tiller, *Controlling Policy by Controlling Process: Judicial Influence on Regulatory Decision Making*, 14 J L, Econ, & Org 114 (1998) (analyzing procedural mechanisms courts use to control agency action and effectuate their own policy preferences).

benefit analysis does not ensure efficient outcomes when agencies retain discretion not to issue regulations.⁷²

Because courts have imperfect information, agencies have more room to maneuver. If, to take the extreme, courts had no information, they would be in the same position as President in the original incomplete information model. The difference is that presidents approve projects that make them at least as well off as the status quo, whereas the model assumes that courts approve only those projects that are efficient. As a result, outcomes would be closer to efficiency although signaling would still occur. If $w = -1$, for example, Agency could no longer issue regulation $r = 1 + A$, because the court would infer that $w = -1$, conclude that the outcome is greater than $E < 0$, and strike down the regulation. For high and low w 's, Agency would issue $r = -w + E$ rather than $r = -w + A$. Signaling would continue to occur in the lower middle range but the outcomes would still be closer to 0 than in the absence of cost-benefit analysis.⁷³

Judicial enforcement of cost-benefit analysis under incomplete information clearly benefits efficiency-minded presidents. What is more surprising is that it may benefit anti-efficiency presidents as well. Consider Figure 4, again, and suppose that $E = -A/2$. Observe that the anti-efficiency President ($P > E$) does better if Agency issues regulation $r = -w + E$ (which produces outcome E), than if Agency is subject to cost-benefit analysis enforced by political sanctions and issues regulation $r = 3A$ (the complete information result, producing outcome A) and if Agency is not subject to cost-benefit analysis at all and issues regulation $r = 4A$ (the incomplete information result, producing outcome $2A$). Presidents who are not much more interventionist than efficiency or, it turns out, are less interventionist than efficiency, prefer judicial enforcement to political enforcement.⁷⁴ The stronger judicial sanction compensates for the distance between the judicial outcome and President's ideal point.

To summarize: given a status quo of incomplete information when cost-benefit analysis is introduced and enforced by political

⁷² Unless citizens can sue agencies for failing to act. See *National Customs Brokers & Forwarders Association of America, Inc v United States*, 883 F2d 93, 96 (DC Cir 1989) (noting that "refusals to institute rulemaking proceedings . . . are subject to judicial check," but that the "scope of that review" is "extremely limited and highly deferential"). But see *Heckler v Chaney*, 470 US 821, 832-33 (1985) (noting that agency enforcement actions are presumptively not subject to judicial review). See also 5 USC § 706(1) (1994) (stating that "[t]he reviewing court shall . . . compel agency action unlawfully withheld or unreasonably delayed").

⁷³ The intuition here is that the court, like President, must assume that w falls within some range when the value of r does not disclose the value of w . In the upper end of that range Agency can issue a regulation that is on average efficient but inefficient at the upper end.

⁷⁴ The argument is the same as the explanation for why presidents who are anti-intervention or moderately pro-intervention benefit from cost-benefit analysis under the precise signal theory. See Part I.F.

sanctions, President is made better off, because Agency loses its informational advantage. But it does not follow that the outcomes will be efficient. If President and Agency are more interventionist than efficiency requires, outcomes will also be more interventionist than efficiency requires. When cost-benefit analysis is enforced by courts, President will be made better off (1) as President's ideal point approaches efficiency; and (2) as Agency's ideal point becomes increasingly higher than President's. It remains true that a President with non-efficiency goals can benefit from judicially enforced cost-benefit analysis.

C. Congress as Principal; Multiple Principals

Cost-benefit analysis has become common over the last two decades mainly because of executive orders issued by Presidents Reagan and Clinton, and for that reason scholars associate cost-benefit analysis with the executive branch. The natural treatment of cost-benefit analysis from a positive political theory perspective, then, is the President as principal and the agency as agent. But Congress also has shown an interest in cost-benefit analysis. Several regulatory statutes require agencies to engage in cost-benefit analysis,⁷⁵ and others have been interpreted to permit agencies to use cost-benefit analysis.⁷⁶ And, as noted earlier, there have been efforts to enact bills that require almost all regulatory agencies to use cost-benefit analysis regardless of the language in the authorizing statute.⁷⁷

Who is the principal, then: the President or Congress? The answer is that both are, to a degree. On the one hand, Congress has the ultimate authority to delegate regulatory power to the agencies; indeed, one might think of the President as an agent of Congress. On the other hand, the President has an independent political base, and this creates authority to pursue projects through the agencies, whose personnel are members of the executive branch and subordinates of the President. The truth is that the lines of authority are tangled, and it is plausible to treat the President and Congress as independent principals, and any given agency as a joint agent. For clarity, the Article discusses (1) Congress as the sole principal and (2) Congress and the President as joint principals.

⁷⁵ See, for example, Federal Insecticide, Fungicide, and Rodenticide Act, 7 USC § 136(bb); Toxic Substances Control Act, 15 USC § 2605(c); Unfunded Mandates Reform Act, 2 USC §§ 1532, 1571.

⁷⁶ For a discussion of cases that interpret statutes to permit cost-benefit analysis, see Part IV.C.

⁷⁷ See notes 16, 63–68.

1. Congress as the principal.

Assume that Congress has a unitary interest, and that it cannot directly implement its goals legislatively because of the press of time, uncertainty, and lack of specialization. Congress creates an agency and directs it to implement a general authorizing statute. The agency is likely to have interests that diverge from Congress's, just as the agency's interests are likely to diverge from the President's. The reasons are that Congress does not have full control over the personnel of the agency, and Congress's interest will change over time. Congress can sanction the agencies in various ways. For now, consider the bluntest sanction: the ability to reverse an agency project by enacting a new law (with or without the help of the President).⁷⁸

We need not devote much space to the Congress-agency axis because the analysis is the same as the President-agency analysis or the judicial analysis. In the absence of cost-benefit analysis, the agency has two sources of power: its ability to set the agenda and its superior information. The result is the same as the equilibrium described in Figure 2. The agency will use its agenda-setting power to bias projects in a more interventionist direction than Congress desires. The information asymmetry results in the agency choosing more extreme projects over a range of low values of w , and declining to implement projects when w is negative and close to 0 (see Table 2). If Congress directs agencies to perform and report cost-benefit analyses, and retains the power to impose political sanctions, then the analysis is the same as the President-agency case: Congress learns the location of the status quo and can reverse projects that fail to produce an outcome closer to Congress's ideal point than the status quo.⁷⁹ However, if Congress legislatively requires agencies to comply with cost-benefit analysis, and gives *courts* the task of enforcing this requirement, then the analysis is the same as the judicial case: cost-benefit analysis will be desirable only when Congress's ideal point is close enough to efficiency or sufficiently less interventionist than Agency's.⁸⁰

⁷⁸ This is not at all uncommon. One recent example, chosen at random, is Congress's reversal of the FCC's low-power FM radio rules. For a discussion, see Stewart Benjamin, Douglas Lichtman, and Howard Shelanski, *Telecommunications Law and Policy* 325–32 (Carolina 2001). However, legislative rejection is not exactly the same as presidential rejection (in the model). It requires collective action, rather than unilateral action, of course, and a supermajority unless the President cooperates. And if it does not occur before the final rule is issued, Congress must decide whether to make the override prospective or retroactive, and in the latter case various judicial constraints may come into play.

⁷⁹ Congress will need a two-thirds majority if, as seems likely, the President will not go along with reversal of the agency. See US Const Art I, § 7, cl 2.

⁸⁰ See Part II.B.

2. Congress and the President as principals.

There are different kinds of multiple principal problems. One conflict is between Congress and the President. Another conflict is between members of Congress, or between congressional committees,⁸¹ or between House and Senate, or between the parties that control different elements of the executive, legislature, and judiciary. A natural question is whether the existence of conflicting principals increases or reduces the attractiveness of cost-benefit analysis. Focus on the simplest conflict, between the President and a unitary Congress.

It turns out that cost-benefit analysis has limited value when principals have conflicting ideal points. To see why, consider Figure 5.

FIGURE 5
MULTIPLE PRINCIPALS

	F	I	
Case 1	-1	$w = -2A$	$C = -A$
Case 2	$P = -A$	$C = 0$	$P = 0$

F marks the outcome in the full information (cost-benefit) version of the game, and I marks the outcome in the asymmetric information version, given the assumption that $w = -2A$. Case 1 is identical to the assumptions of the earlier analysis of the game except Congress's ideal point, C , is inserted between P and w (Congress is assumed to be less interventionist than President). Case 2 reverses the locations of P and C , and assumes that $C = 0$ and $P < 0$. The other parameters remain the same and are not reproduced in the figure.

Assume that Congress and President must agree in order to reject Agency's project, and if they reject Agency's project, the status quo prevails.⁸² Focus on Case 1. In the full information version of the game, Agency will choose $r = 3A$ just as in the earlier model without Congress. This project is Agency's best, because it achieves Agency's ideal point. The project is worse for Congress than the status quo, but

⁸¹ Much work focuses on congressional committees, treating them as the relevant principals in the relationship with agencies. In Epstein and O'Halloran's recent book, for example, the committee has partial information about w , and reports a bill to the floor. The floor, which has no information about w , then decides on the content of the bill and whether to delegate to an agency. In the latter case, the President sets the agency's ideal point, and then the agency observes w and sets policy. See Epstein and O'Halloran, *Delegating Powers* at 182-87 (cited in note 24).

⁸² There are plausible alternative assumptions: for example, that Congress or President can unilaterally reverse the regulation. This would reduce Agency's agenda-setting power, forcing it to choose a project within the acceptance region of the more distant principal. This is an improvement for the principals only when their ideal points are close and the status quo is close to their ideal points; otherwise, regulation may become impossible.

because the project improves President's utility, President will not agree to reject it. In short, the addition of Congress does not change the outcome of the earlier model, and that is true in the incomplete information version of the game as well. Agency chooses $r = 4A$ in order to signal that w is relatively low. Given that President approves the project, Congress cannot influence the outcome even though Congress would, if it could act by itself, reject the project.

If the locations of President and Congress are reversed (Case 2), the analysis does not change. The difference is that now Congress has influence and President does not, and Agency's outcomes will not make Congress worse off but will make President worse off compared to the status quo.

The conclusion of this simple examination is that cost-benefit analysis is desirable for two principals just as it is desirable for one principal, because it permits the principals to learn about Agency's action. But the benefit of cost-benefit analysis diminishes as the conflict between the two principals increases.⁸³ The reason is that when principals cannot agree, they are in a poorer position to discipline an agency that chooses an extreme project.⁸⁴ Thus, one conjectures that cost-benefit analysis becomes less likely to be required as the number of principals rises and their ideal points diverge.⁸⁵ This may explain the difficulty in enacting a statute that compels agencies to conduct cost-benefit analysis: Congress might think that such a statute will have little effect if it is not unified enough (internally, or with the President) to impose political sanctions on agencies that fail to comply with cost-benefit analysis.⁸⁶

⁸³ See Matthew D. McCubbins, *The Legislative Design of Regulatory Structure*, 29 Am J Pol Sci 721, 741-42 (1985) (arguing that when legislators' interests conflict, they are less likely to give discretion to an agency).

⁸⁴ Each principal enjoys half the benefit in the two-principal case that it enjoys in the one-principal case. This is because the benefit in the first case is the same as in the one-principal case 50 percent of the time, and there is no benefit for that principal during the other 50 percent of the time.

⁸⁵ In the extreme case in which one principal has an ideal point greater than Agency's, the more interventionist principal will never reverse Agency in the one-principal model and will never agree to reverse Agency in the two-principal model. Thus introducing cost-benefit analysis does not change the Agency's utility. The other principal's utility is improved in the one-principal model but not in the two-principal model because in the latter model the other principal never consents to reversal of the project. This Article will not discuss the even more complex case in which the two principals have different amounts of information about w .

⁸⁶ In reality the conflict between President and Congress has taken two forms: sporadic efforts by Congress to reduce the power of OIRA, and new substantive legislation that imposed greater constraints directly on agencies, so that they could not comply with cost-benefit analyses without violating the law. See Terry M. Moe and Scott A. Wilson, *Presidents and the Politics of Structure*, 57 L & Contemp Probs 1, 37-40 (Spring 1994) (discussing control over regulatory action as "an issue that captures the essence of the institutional battle between the President and Congress").

D. The Role of Interest Groups and the Public

In many models in positive political theory interest groups may reveal information to Congress that enables Congress to discipline the agency. The following example is taken from Epstein and O'Halloran.⁸⁷

FIGURE 6
INTEREST GROUPS

-1 w I $P = 0$ A 1

Interest Group's ideal point is I ,⁸⁸ and in this example $I < P < A$. Think of Agency as the EPA and Interest Group as the Business Roundtable: Agency seeks more aggressive regulation and Interest Group seeks less aggressive regulation. It is assumed that Interest Group, like Agency, knows the location of w . The time line is now: (1) w is determined; (2) Agency proposes the project, r ; (3) Interest Group announces to President that it opposes or endorses the project; and (4) President accepts or rejects the project.

In the complete information version of the model Interest Group cannot affect the outcome. Agency proposes a regulation, $r > 0$, that brings the outcome closer to Agency's ideal point, but chooses an r just low enough to make President indifferent between the project and the status quo. Because Interest Group has no information that President lacks, its announcement to President will be ignored.

In the incomplete information version of the model, however, Interest Group can affect the outcome under certain conditions.⁸⁹ Suppose that w falls just below I (technically, $-A + 2I < w < I$). Interest Group prefers a low-value project, President a medium-value project, and Agency a high-value project. Agency knows that Interest Group will refuse to endorse a project that creates an outcome farther from I than is the status quo. President also knows this and can use this information along with knowledge about the distance between A and I to estimate the location of w . For example, if A and I are very far apart, Agency proposes a low-value project, and Interest Group rejects the project, President can infer that w is very close to I , because otherwise Interest Group would benefit from a project that increases the outcome only a little bit from a status quo much worse than I . Another example is when r is high and Interest Group endorses the pro-

⁸⁷ Epstein and O'Halloran, 11 J L, Econ, & Org at 237-39 (cited in note 34). Note, however, that this Article's model uses President where they use Congress.

⁸⁸ Interest Group's utility function is $U_i = -(r + w - I)^2$.

⁸⁹ See Epstein and O'Halloran, 11 J L, Econ, & Org at 237-39 (cited in note 34).

ject. President knows that if Interest Group endorses the project, w must be very low, in which case the project will benefit President as well. This is like an antiregulation business group endorsing a costly antipollution regulation issued by the EPA. One infers that the environmental problem must be very bad if the business group endorses it.⁹⁰

The Interest Group's informational advantage, coupled with the conflict between President and Agency, gives the Interest Group power to bias outcomes. If President will obey Interest Group's message under certain conditions, then Agency knows that under those conditions it must propose a project that makes Interest Group at least as well off as in the status quo. For example, if $w = I$, Interest Group will disapprove any project; President will obey Interest Group's message because in this region on average Interest Group's message is credible; and so Agency will not bother to propose a project $r > 0$, even though a relatively low value project could make Agency and President better off.⁹¹

The lesson is that interest groups sometimes help government principals control agencies by disclosing information to the principals.⁹² But in providing this help interest groups can bias project outcomes in a way that benefits them.

The effect of cost-benefit analysis is striking. By revealing the location of w , cost-benefit analysis eliminates Interest Group's informational advantage. Lacking that advantage, Interest Group cannot influence Agency's choice of project. Thus, cost-benefit analysis reduces the influence of interest groups.

This argument is more complex than it appears. The argument is not that cost-benefit analysis eliminates the influence of interest groups altogether. This would occur only if cost-benefit analysis became the mandatory (constitutional) standard for all legislation and

⁹⁰ Interest Group's statements will not always be credible, in which case President will not pay attention to them when deciding what to do. For example, if $r < 0$, President knows that w must be greater than A and that the project will not reduce the outcome below A . Because w is greater than A and A is greater than P , President benefits from the project and will approve it regardless of Interest Group's statement.

⁹¹ For a graphical analysis, see Epstein and O'Halloran, 11 J L, Econ, & Org at 238 fig 3 (cited in note 34) (showing equilibrium where $I < P < A$).

⁹² This is an important theme in the positive political theory literature, and underlies a number of theories of interest group lobbying. See, for example, Ainsworth, 55 J Pol at 41 (cited in note 53) (arguing that legislators take measures to avoid undue interest group influence); David Austen-Smith and John R. Wright, *Competitive Lobbying for a Legislator's Vote*, 9 Soc Choice & Welfare 229, 229-33 (1992) (developing a model showing that interest groups can influence legislators by providing important information); Banks and Weingast, 36 Am J Pol Sci at 509-11 (cited in note 34) (assuming that politicians have access to interest group information in assessing agencies); Jan Potters and Frans Van Winden, *Lobbying and Asymmetric Information*, 74 Pub Choice 269, 270-71 (1992) (explaining how lobbying information can influence legislators).

executive action.⁹³ In the model, interest groups retain a hidden influence on the location of the other players' ideal points. Through campaign contributions interest groups move the ideal points of Congress and the President left or right, and possibly affect the ideal points of the agency by holding out the prospect of employment and other future benefits to the agency's personnel who are friendly. This does not change when cost-benefit analysis is introduced.⁹⁴ What does change is that the interest group loses the leverage that superior information gives it. It cannot use its superior information to influence President and, through President, Agency, with the result that outcomes will be closer to President's ideal point than they would be in the absence of cost-benefit analysis.⁹⁵ This is an attractive feature of cost-benefit analysis, one to which I will return below.⁹⁶

E. Relation to Other Techniques of Agency Control

The argument so far has made simplifying assumptions about the tools at the President's and Congress's disposal for monitoring agencies and punishing agencies that issue unwanted regulations. The model assumed that President can punish Agency only by rejecting (or blocking or delaying) a project, with the result that the status quo would prevail rather than an outcome nearer to Agency's ideal point. The analysis assumed that Congress can punish Agency in the same way, and also by directing courts to reject projects. In all of these cases, the sanction endured by Agency is the loss of an opportunity to change the status quo in a direction that it prefers. But Congress and the President have other tools at their disposal.

1. Requiring notice and public participation.

The Administrative Procedure Act requires agencies to give notice before issuing regulations, and to accept comment from the public.⁹⁷ These requirements force agencies to divulge information in advance of their action, which permits the government principal to in-

⁹³ In essence, this is the claim of those who would constitutionalize the efficiency rule in order to eliminate rent-seeking. See, for example, Richard A. Epstein, *Takings* 100-04 (Harvard 1985).

⁹⁴ It is possible that cost-benefit analysis enhances the ability of interest groups to lobby by supplying information to Congress and the President about the effect of agencies' projects. This would be true only if interest groups start off with inferior information, which seems doubtful for industry groups, though it may be true for public interest organizations and grassroots movements. Thus, cost-benefit analysis could have a more complex effect than that described in the text, leading indirectly to changes in the players' ideal points.

⁹⁵ Assuming as always that President's ideal point is not too far from efficiency.

⁹⁶ McCubbins, Noll, and Weingast, 3 J L, Econ, & Org at 255-56 (cited in note 22), make a similar point about the publicity requirements of the APA.

⁹⁷ 5 USC § 553 (1994 & Supp 1996).

tervene and redirect the agency's resources if necessary. These requirements also enable interest groups to learn of impending regulations and alert the government principal⁹⁸ and to influence regulation in comment proceedings. As a result, the agency's agenda-setting power is reduced. Principals can intervene early in the regulatory process, in which case the agency cannot as easily confront them with a take-it-or-leave-it offer.⁹⁹

2. Firing agency chiefs.

Suppose the head of the agency cares little about policy but does want a reputation for loyalty to the President. In the case of ordinary regulatory agencies, the President can discipline the agency by threatening to fire the agency head if the agency's projects depart too far from the President's ideal point, or by threatening to withhold future positions that would otherwise be the reward for loyal behavior. If the President's threat is credible—and it will be, as long as there are other loyal and competent people who can take over the position—the agency head will approve projects closer to the President's ideal point. This is not as clearly true for independent agencies. The President acting alone can punish heads of independent agencies only by withholding future benefits from others, not by firing them.¹⁰⁰ Otherwise the President can punish these agencies by joining Congress in enacting punitive legislation.¹⁰¹

3. Appointing agency chiefs.

The President can also ensure that the agency's projects are desirable by appointing as head of the agency only people whose ideal points are close to the President's.¹⁰² If the agency head controls the

⁹⁸ See McCubbins, Noll, and Weingast, 3 J L, Econ, & Org at 256–59 (cited in note 22).

⁹⁹ A similar interpretation can be given to Exec Order No 12498, 3 CFR 323 (1985), which requires agencies to reveal in an annual report their regulatory plans for the following year.

¹⁰⁰ For an argument that under current law the President has some supervisory power over independent agencies, see Richard H. Pildes and Cass R. Sunstein, *Reinventing the Regulatory State*, 62 U Chi L Rev 1, 29–34 (1995).

¹⁰¹ The President can also discipline the independent agencies through the Department of Justice, which has the power to intervene in agency proceedings, through control of some agency personnel and facilities, and through OMB supervisions of legislative proposals issued by the agencies. See Stephen G. Breyer et al, *Administrative Law and Regulatory Policy: Problems, Text, and Cases* 100–02 (Aspen 4th ed 1999); Angel Manuel Moreno, *Presidential Coordination of the Independent Regulatory Process*, 8 Admin L J 461, 499–504 (1994).

¹⁰² See Randall L. Calvert, Matthew D. McCubbins, and Barry R. Weingast, *A Theory of Political Control and Agency Discretion*, 33 Am J Pol Sci 588, 602–03, 607–08 (1989) (showing that appointment power of executives tends to bring in agency officials who agree with President's preferences). Compare Daniel F. Spulber and David Besanko, *Delegation, Commitment, and the Regulatory Mandate*, 8 J L, Econ, & Org 126, 152 (1992) (pointing out how appointment, statutes, and oversight help the President and Congress control administrative agencies).

agency's behavior, then the agency's and the President's ideal points will be close to each other, and as a result the projects desired by the agency will be to the President's liking.

4. Modifying the agency's budget, internal procedures, and jurisdiction.

The President and Congress have the power to punish a wayward agency by reducing the agency's budget. This prevents the agency from implementing as many projects as it would like to.¹⁰³ The President and Congress can also modify the agency's procedures in various ways. For example, they can require environmental impact statements. These requirements increase the expense of projects, thus having the same effect as a decrease in the budget. Congress and the President can strip agencies of jurisdiction or impose heavier legal standards on them. And they also can restrict the power of one agency by requiring it to work with another agency.¹⁰⁴

5. Congressional oversight.

Much discussed in the positive political theory literature is the ability of Congress to control agencies by holding hearings on the agency's actions, which may generate bad publicity for the agency and interfere with its activities.¹⁰⁵ The literature argues among other things that Congress can overcome its information disadvantage by engaging in spot checks, just the way the IRS guards against tax fraud through random audits. As in Becker's model of criminal enforcement, if Congress can impose a severe enough sanction, the combination of probabilistic enforcement and the enhanced sanction would deter agency misbehavior.¹⁰⁶ In this light, cost-benefit analysis can be compared to the tax reporting rules, which make it easier for the IRS to evaluate the behavior of the taxpayer that it audits by compelling the taxpayer to reveal tax-related behavior in a routinized form.

¹⁰³ See Randall L. Calvert, Mark J. Moran, and Barry R. Weingast, *Congressional Influence over Policymaking: The Case of the FTC in Congress: Structure and Policy*, in Matthew D. McCubbins and Terry Sullivan, eds, *Congress: Structure and Policy* 493 (Cambridge 1987).

¹⁰⁴ See Matthew D. McCubbins and Talbot Page, *A Theory of Congressional Delegation*, in McCubbins and Sullivan, eds, *Congress* at 409 (cited in note 103); McCubbins, Noll, and Weingast, 3 J L, Econ, & Org at 260-71 (cited in note 22). An example of jurisdiction sharing is OSHA's authority to regulate only those health hazards identified by the National Institute of Occupational Safety and Health. The two agencies are controlled by different congressional committees. Id at 267.

¹⁰⁵ See, for example, Matthew D. McCubbins and Thomas Schwartz, *Congressional Oversight Overlooked: Police Patrols versus Fire Alarms*, 28 Am J Pol Sci 165, 165-67 (1984) (discussing Congress's oversight abilities).

¹⁰⁶ Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J Pol Econ 169, 172 (1968) (discussing deterrent effects of punishment).

6. Other standards: risk-risk.

Agencies could be directed to use decision procedures other than cost-benefit analysis. A number of scholars have argued for the risk-risk standard, which holds that a regulation should be rejected if the risks it reduces are offset by increased risks.¹⁰⁷ The problem with this standard compared to cost-benefit analysis is that it neglects relevant considerations. As an example, consider estrogen therapy which reduces risks associated with menopause, including the risks of heart disease and osteoporosis, but increases the risk of certain cancers. Risk-risk analysis directs the decision maker to weigh these risks, but it says little about how the risks should be weighed. One might think that life expectancy is the proper standard—that the therapy ought to be approved if it increases life expectancy—but that approach does not take account of the cost of having an unpleasant but not life-threatening disease, as well as all the other quality of life costs that the therapy is intended to alleviate, including hot flashes and discomfort during sexual intercourse.¹⁰⁸ If the agency is not permitted to assign costs to these factors, then it is hard to see how the use of the risk-risk procedure will improve the welfare of citizens or have much political support. If the agency is required to assign costs to all risks, and to do so in a systematic way, then risk-risk converges to cost-benefit. But this much can be said about the procedure: it may reduce agency discretion partially, and in a way that is closer to the principals' ideal points than in the case of cost-benefit analysis if the principal cares mainly about the identified risks and not about the costs and benefits. If so, one might observe its use as a disciplinary device despite its many problems.

* * * * *

These tools enable the government principal to control agencies in a variety of ways, and they surely enhance the principal's control over agencies beyond the power to block or delay the project (in the case of the President) or overturn it by legislation (in the case of Congress). But introducing these tools into the original model does not change its qualitative results. Agencies will choose projects somewhat closer to President's and/or Congress's ideal points when the latter do not conflict too much, but agencies will continue to bias the outcomes

¹⁰⁷ John D. Graham and Jonathan Baert Wiener, *Confronting Risk Tradeoffs*, in John D. Graham and Jonathan Baert Wiener, eds, *Risk versus Risk: Tradeoffs in Protecting Health and the Environment* 1, 19–41 (Harvard 1995) (developing a framework for risk tradeoff analysis). For a discussion of other standards, such as QUALYs, see Adler and Posner, 109 *Yale L J* at 233–38 (cited in note 26).

¹⁰⁸ Evidiki Hatzianeau, Constance Williams, and John D. Graham, *Estrogen Therapy for Menopause*, in Graham and Wiener, eds, *Risk versus Risk* at 42, 43–50 (cited in note 107).

in their own favor. When information is incomplete, signaling will occur with losses on all sides. Every one of these alternative tools, moreover, has limited power because the government principal does not want to constrain agencies so much that the latter cannot accomplish anything. Reducing the budget, stripping jurisdiction, hiring and firing agency heads, and harassing agencies with oversight hearings will interfere with good projects as well as bad projects.

III. EMPIRICAL IMPLICATIONS

The argument so far produces two sets of empirical predictions. The first set concerns the effect of the introduction of cost-benefit analysis on policy outcomes. The second set concerns the conditions under which government principals will impose cost-benefit analysis on existing agencies.

The first set of predictions is that the introduction of cost-benefit analysis results in (1) more projects being implemented, including projects that fail cost-benefit analysis (see Table 2, row 3); and (2) lower value regulations being implemented when w is negative but not too low (see Table 2, row 2). In addition, (3) the increase in the number of projects described in prediction (1) and the reduction in the value of regulations over the range described in prediction (2) will be greater as Agency's ideal point increases relative to President's.

The second set of predictions is that President is more likely to require Agency to engage in cost-benefit analysis as (4) Agency's ideal point becomes higher than President's, and (5) cost-benefit analysis becomes cheaper and more precise.¹⁰⁹

These predictions are not easy to test. One problem is selection bias. If one observes a pool of agencies with different ideal points, and only some of them are required to engage in cost-benefit analysis, it could be that the agencies engaging in cost-benefit analysis implement fewer projects than the other agencies (contrary to prediction 1). The reason is that if the other agencies have ideal points close enough to President, the latter will approve all or nearly all their projects; whereas agencies with distant ideal points that engage in cost-benefit analysis will not implement projects between 0 and A (see Table 2, row 4).

There are also countervailing forces that have been identified. If cost-benefit analysis is sufficiently expensive or blunt, its introduction

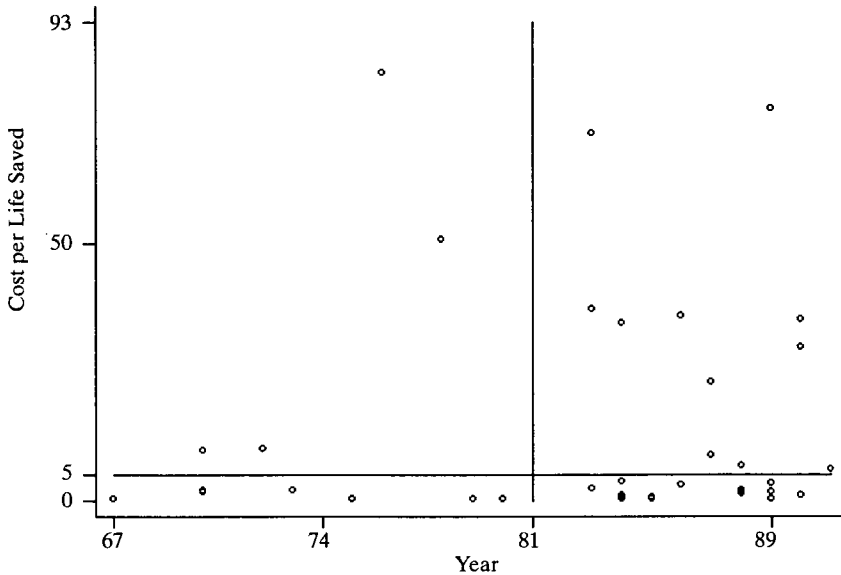
¹⁰⁹ There are other predictions, as well: that the precise signal version of cost-benefit analysis is more likely to be used when President's ideal point is close to efficiency, but that the blunt signal version of cost-benefit analysis is no more nor less likely to be used when President's ideal point is close to efficiency; that cost-benefit analysis is less likely to be used as President and Congress have greater conflicts; and that Interest Group will have less influence over regulations governed by cost-benefit analysis than regulations not governed by cost-benefit analysis.

may reduce rather than increase the number of projects. If President cares little about efficiency, and cost-benefit analysis is enforced by courts or is a precise signal, predictions will be weaker. And if Congress has an ideal point sufficiently different from President's, cost-benefit analysis may not restrain agencies much at all.¹¹⁰ Finally, one would need to hold constant a large number of complex variables, including the agency's budget and personnel; the degree to which governing legislative standards depart from cost-benefit analysis; economic and ideological trends; and the incentive that Congress and the President would have to create an agency in the first place when they anticipate that ideological conflict will make it difficult to discipline the agency.¹¹¹

¹¹⁰ A further complication is that the relevant variable may be the ideal point of the congressional committee that has jurisdiction over the agency in question.

¹¹¹ For empirical work showing that agencies are responsive to sanctions, and thus to the changing goals or identities of principals, see Nathaniel Beck, *Elections and the Fed: Is There a Political Monetary Cycle?*, 31 Am J Pol Sci 194, 198-99 (1987) (noting that "presidential preferences are a key determinant of Fed policy"); Terry M. Moe, *The New Economics of Organization*, 28 Am J Pol Sci 739, 765-72 (1984) (alleging that legislators and agencies fit well in a hierarchical model that allows legislators to exert control over agencies); Barry R. Weingast and Mark J. Moran, *Bureaucratic Discretion or Congressional Control?: Regulating Policymaking by the Federal Trade Commission*, 91 J Pol Econ 765, 792-93 (1983) (providing evidence that the FTC responds to congressional sanctions).

FIGURE 7
COST PER LIFE SAVED BY YEAR IN MILLIONS OF 1992 DOLLARS¹¹²



Let us examine some data. The graph in Figure 7 displays major health and safety regulations issued by government agencies between 1967 and 1989. The x-axis represents the year of promulgation; the y-axis represents the cost per life saved in millions of 1992 dollars. Although cost per life saved is not the same as efficiency, it is a useful proxy with regard to these regulations because they are directed toward problems of health and safety.¹¹³ The vertical line shows the year of Reagan's executive order, 1981. The horizontal line represents a regulation that assumes a five million dollar value for a statistical life, which is the midpoint of the range estimated by empirical studies.¹¹⁴ The graph shows no noticeable trend toward greater efficiency after the executive order. (Some post-1981 outliers are omitted to keep the scale within reasonable bounds.) This is confirmed by regressions,¹¹⁵ but is adequately illustrated in Figure 8.

¹¹² The data are taken from Scott Farrow, *Improving Regulatory Performance: Does Executive Office Oversight Matter?* (July 26, 2000) (unpublished manuscript on file with author).

¹¹³ A four million dollar environmental regulation that saves one statistical life and also enhances the recreational value of a wilderness by two million dollars is an efficient regulation even though the cost per life saved is four million dollars. A more accurate accounting would accordingly include benefits other than reduced mortality. But it seems unlikely that the post-1981 regulations have a larger nonmortality component than the pre-1981 regulations.

¹¹⁴ See W. Kip Viscusi, *The Value of Risks to Life and Health*, 31 J Econ Lit 1912, 1930 (1993). Viscusi used 1990 dollars, but the figures are rough anyway.

¹¹⁵ See Farrow, *Improving Regulatory Performance* table 4 (cited in note 112); Robert W. Hahn, *Regulatory Reform: Assessing the Government's Numbers* 28 table 7, AEI-Brookings Joint

FIGURE 8
EFFICIENCY OF COST PER LIFE SAVED USED IN REGULATIONS
ISSUED BEFORE AND AFTER 1981¹¹⁶

	Inefficient	Efficient	Total
Pre-1981	6	7	13
Post-1981	19	17	36
Total	25	24	49

Figure 8 divides the regulations according to whether they were issued before or after 1981 and whether they are efficient. It is clear that the efficiency of regulations does not increase after 1981. This evidence is bolstered by studies that show that post-1981 cost-benefit analyses are frequently defective. Agencies often provide implausible estimates of costs and benefits, use different discount rates and valuations across regulations, and even fail to monetize or quantify all the relevant costs and benefits.¹¹⁷ One study of forty-eight rules issued be-

Center for Regulatory Studies Working Paper 99-6 (July 1999). Both authors examined health and safety regulations issued before and after 1981, and found no statistically significant relationship between their cost-effectiveness and a dummy variable representing whether the regulation was issued before or after 1981. (Although the authors name this dummy variable OIRA because their studies focus on that institution, one cannot separate out the effect of OIRA and the cost-benefit executive order.)

¹¹⁶ Pearson $\chi^2 = 0.1677$; Pr = 0.682. The data source is Farrow, *Improving Regulatory Performance* (cited in note 112).

¹¹⁷ Hahn's review of all 168 final and proposed rules issued from 1981 through mid-1996 found that only 26 percent of the rules were accompanied by an estimate of monetized benefits, Hahn, *Regulatory Reform* at 6 table 1 (cited in note 115), and that 23 percent of the rules were accompanied by a statement that the benefits exceed the costs, id at 41 table 9. Hahn's own calculations indicate that about 43 percent of the rules would pass a cost-benefit test, depending on various assumptions. See id at 43 table 10. Hahn and his coauthors also reviewed forty-eight regulatory impact assessments (which contain the cost-benefit analysis) published from 1996 to 1999, and found that agencies presented monetized costs and benefits for only 19 percent of the rules. See Robert W. Hahn et al, *Assessing Regulatory Impact Analyses: The Failure of Agencies to Comply with Executive Order 12,866*, 23 Harv J L & Pub Pol 859, 871 (2000). See also Office of Management and Budget, *Report to Congress on the Costs and Benefits of Federal Regulations* ch 3 (Sept 30, 1997) (reporting that of twenty-one economically significant rules issued in the past year, agencies supplied monetized costs in eight cases and monetized benefits in sixteen cases); Grubb et al, *The Ambiguities of Benefit-Cost Analysis* at 154 (cited in note 30) (finding that individuals in the Department of Agriculture performed "perfunctory" cost-benefit analyses using "incomprehensible" numbers both before and after the Reagan executive order); Winston Harrington et al, *On the Accuracy of Regulatory Cost Estimates*, Resources for the Future Discussion Paper 99-18 (Jan 1999), available online at <http://www.rff.org/CFDOCS/disc_papers/PDF_files/1999.htm> (visited Sept 27, 2001) (finding in a study of twenty-five regulations that agencies tend to overestimate the costs of complying with regulations); Robert W. Hahn, *Regulatory Reform: What Do the Government's Numbers Tell Us?*, in Robert W. Hahn, ed, *Risks, Costs and Lives Saved* 208, 218 (Oxford 1996) (finding that thirty-eight of eighty-three rules proposed or issued from 1990 to 1995 passed a cost-benefit test); Arthur Fraas, *The Role of Economic*

tween 1996 and 1999 concluded that Regulatory Impact Analyses “typically do not provide enough information to enable the regulatory agencies to make decisions that will maximize the efficiency or effectiveness of a rule.”¹¹⁸

The data contradict the common sense theory that the introduction of a cost-benefit requirement would improve the efficiency of regulations, either directly by constraining agencies or indirectly (in our analysis) by giving the President greater power over agencies.¹¹⁹ But we observed before that there is also good reason to think that the Reagan executive order should not have changed the behavior of agencies because the President does not have a credible threat to punish an agency that performs a shoddy cost-benefit analysis. Indeed, agencies had the same incentive before and after the executive order. The data are consistent with this argument, although one cannot have much confidence in a zero result.

Further work will be necessary to establish that the number of regulations increased, and that the increase was caused by the executive order’s effect on agency oversight.¹²⁰ If Reagan, Bush, and Clinton had no interest in efficient regulation, but did have an interest in ensuring that agencies made regulatory transfers to the right interest groups, then their cost-benefit orders, coupled with their freedom to reward or sanction agencies in whatever way they wanted to, would have the predictable effect of increasing the amount and inefficiency of regulation.¹²¹

Analysis in Shaping Environmental Policy, 54 L & Contemp Probs 114, 124 (1992) (pointing out errors in RIAs for lead phasedown and asbestos regulations); Maureen L. Cropper et al, *The Determinants of Pesticide Regulation: A Statistical Analysis of EPA Decision Making*, in Roger D. Congleton, ed, *The Political Economy of Environmental Protection: Analysis & Evidence* 140 (Michigan 1996) (finding that EPA’s pesticide regulations implicitly value statistical lives in a range between sixty thousand dollars and thirty-five million dollars); Adler and Posner, 29 J Legal Stud at 1146 (cited in note 9) (finding that agencies use a wide range of valuations of life); Edward R. Morrison, Comment, *Judicial Review of Discount Rates Used in Regulatory Cost-Benefit Analysis*, 65 U Chi L Rev 1333, 1364–69 (1998) (finding that agencies use a wide range of discount rates). This literature is large, and this is just a sample.

¹¹⁸ Hahn, 23 Harv J L & Pub Pol at 861 (cited in note 117).

¹¹⁹ A more complete test would need to take account of alternative explanations for the failure of regulations to improve in efficiency after 1981. It is possible that efficiency improvements did occur but that they did not show up in the data. It is also possible that there was a lag between the appearance of the executive order and its spread through the bureaucracy in the face of the inertia of entrenched procedures and ways of thinking.

¹²⁰ Becker and Mulligan consider several proxies for government regulation. Most of these measures declined from 1980 to 1990, including committee staff size and Federal Register pages; several stayed constant; and only one (U.S. Code pages) increased. All these measures have obvious problems. See Gary S. Becker and Casey B. Mulligan, *Accounting for the Growth of Government* 22–28, University of Chicago Working Paper (Nov 1999) (on file with author).

¹²¹ Further work is necessary to investigate the other predictions; for example, that the ideological distance of President and Agency influences the effect of introducing cost-benefit analysis.

The second set of predictions concerned the likelihood that a president would order agencies to conduct cost-benefit analysis when they would otherwise be disinclined because of the costs and risks of the procedure. As noted above, one possibility is that such an order would have no effect, in which case it could only be symbolic behavior. But let us put this possibility aside. One of the predictions was that the likelihood of ordering agencies to engage in cost-benefit analysis increases with the ideological distance between President and Agency. Reagan's executive order of 1981 is the starting point for evaluating this prediction. When Reagan entered office, the agencies had been controlled by and staffed by a Democratic president and a Democratic Congress, in the latter case for many years, and it was surely the case that the agencies had developed a sense of mission consistent with their Democratic roots. But Reagan would likely have sought cost-benefit oversight even if the regime change had been less abrupt. Clinton, like Reagan, benefited from agencies' cost-benefit analyses because it gave him information about what agencies were doing. What is surprising is not that a Democratic president would require agencies to use cost-benefit analysis but that it was not used by presidents before Reagan.

There are many possible reasons for this. One is that before the 1980s the methodology was not sufficiently developed to be useful. Another is that the cost and delay associated with cost-benefit analysis was considered too high a price to pay for information at a time (the 1970s) when environmental regulation was considered urgent.¹²² A final reason is, as Figures 7 and 8 suggest, that cost-benefit analysis was thought unnecessary because the early regulations were efficient! The disillusionment with modern regulations did not occur until the late 1970s, shortly before Reagan came to power with a mandate for regulatory reform.¹²³

A test of prediction (4) is to look at whether cost-benefit analysis is imposed more rigorously on agencies whose ideal points are far from the President's than on agencies whose ideal points are close. Because Reagan and Clinton ordered nearly all regulatory agencies to perform cost-benefit analysis, the test is possible only if one can distinguish agencies against which the executive orders were rigorously enforced by the Office of Management and Budget ("OMB") and those against which they were weakly enforced. Anecdotal evidence suggests, for example, that Reagan's OMB was stricter with the EPA

¹²² See Andrews, *Economic and Environmental Decisions* at 52–56 (cited in note 59) (noting the acceleration of environmental programs and agencies in the 1970s).

¹²³ See Harold Seidman and Robert Gilmour, *Politics, Position, and Power: From the Positive to the Regulatory State* 130–31 (Oxford 4th ed 1986) (detailing President Reagan's emphasis on regulatory reform).

than was Clinton's OMB.¹²⁴ If the distance between Reagan's ideal point and his EPA's ideal point was greater than the distance between Clinton's ideal point and his EPA's ideal point—and this seems likely even though both presidents appointed the head of the EPA—then the greater strictness at Reagan's OMB is consistent with the prediction. A more systematic test would be feasible if the ideological positions of agencies or agency heads could be measured.

Congress first became enthusiastic about cost-benefit analysis in 1995, and since then has tried several times to require agencies to comply with this procedure. The clear explanation is divided government: the Republican majority in Congress elected in 1994 sought to limit the discretion of Clinton appointees.¹²⁵ The weaker 1999 bill, which unlike the 1995 bills did not provide for direct judicial enforcement of the cost-benefit analysis, was introduced in a much less ideologically charged environment.¹²⁶ This story is consistent in a loose way with the blunt signal theory: by imposing a cost on agencies when both the agencies and the President had more interventionist ideal points than did Congress, Congress would move policy outcomes in its desired less interventionist direction.¹²⁷

IV. NORMATIVE IMPLICATIONS

A. A (Qualified) Defense of Cost-Benefit Analysis

The literature on cost-benefit abstracts away from its institutional role. Authors typically compare the outcomes produced by cost-benefit analysis with the outcomes that are normatively desirable, and defend or criticize cost-benefit analysis according to its accuracy in implementing the normative goals. A common criticism, for example,

¹²⁴ See Breyer et al, *Administrative Law and Regulatory Policy* at 122–23 (cited in note 101) (noting that the Office of Information and Regulatory Affairs under Reagan was criticized for being too aggressive, while OIRA under Carter was criticized for being too cautious). For example, the Breyer casebook notes that OSHA did not appear to believe that Clinton's OMB would compel it to interpret its vague workplace safety statute to require cost-benefit balancing. See generally *International Union, UAW v OSHA*, 37 F3d 665 (DC Cir 1994).

¹²⁵ Spiller and Tiller, 26 J Legal Stud at 361 (cited in note 55) (explaining the history behind the proposed Comprehensive Regulatory Reform Act of 1995).

¹²⁶ In 1995 there were 236 Republicans, 197 Democrats, and one independent (and one vacancy) in the House; in 1999 there were 222 Republicans, 212 Democrats, and one independent in the House. In 1995 there were 53 Republicans and 46 Democrats (and one vacancy) in the Senate; in 1999 there were 55 Republicans and 45 Democrats in the Senate. Partisanship declined dramatically in the House, from 73 percent to 43 percent, and slightly in the Senate, from 69 percent to 63 percent. (The numbers refer to the percentage of recorded floor votes in which a majority of one party voted against a majority of the other party.) See 51 Cong Q Almanac B-6, B-7, C-8 (1995); 55 Cong Q Almanac A-14, A-15, B-7 (1999).

¹²⁷ Loose, because the model does not consider the ability of Congress to control the President, as opposed to controlling agencies. But the argument is intuitive. See Spiller and Tiller, 26 J Legal Stud at 361 (cited in note 55).

is that because cost-benefit analysis gives more weight to the preferences of the wealthy than to the preferences of the poor, it approves projects that have objectionable distributive consequences.¹²⁸ A common defense concedes that cost-benefit analysis generates errors—in the sense of outcomes that are not socially desirable—but that it also economizes on decision costs. On this view cost-benefit analysis minimizes the sum of decision costs and error costs compared to alternative decision procedures.

This debate is mired in a philosophical and empirical bog. If one believes that government should not concern itself with its citizens' overall well-being, for example, or should be concerned mainly with redistributing wealth, cost-benefit analysis will appear unattractive. Although cost-benefit analysis is consistent with a broad array of normative commitments,¹²⁹ it does not follow that people holding any of these commitments would prefer cost-benefit analysis to another procedure. These considerations depend on the errors created by cost-benefit analysis in light of the normative goal, and this question introduces a difficult empirical issue, namely, how much cost-benefit analysis reduces decision costs.

Another problem with this debate is that it assumes that although agencies may err, they loyally try to implement the goals of the principal, whether the principal is understood as the President, Congress, or the public. But this assumption is wrong. If agencies could be depended on to do whatever the principals wanted, there would be little need for congressional oversight, the OMB, the Administrative Procedure Act, and the many other institutions and laws that are intended to prevent agencies from pursuing inappropriate goals.

Critics of cost-benefit analysis frequently overlook this institutional dimension.¹³⁰ They think of the regulatory agency as a School of Athens in which the discovery of truth is the only end, and hierarchical superiors will take for granted the agency's loyalty and good faith. But if agencies cannot justify their behavior without forcing busy elected officials to reproduce their deliberations, then the purpose of creating agencies in the first place is defeated. Critics of cost-benefit analysis must supply not only an alternative evaluative method for agencies—for example, "intelligent policy analysis . . . open to refash-

¹²⁸ Kelman, 5 Reg at 36–40 (cited in note 21); Richardson, 29 J Legal Stud at 972–73 (cited in note 23).

¹²⁹ Adler and Posner, 109 Yale L J at 194–216 (cited in note 26).

¹³⁰ A small sample includes: Richardson, 29 J Legal Stud at 972–73 (cited in note 23); Copp, 23 Theory & Decisions at 65 (cited in note 23); Kelman, 5 Reg at 35–36 (cited in note 21); Heinzlerling, 107 Yale L J at 2042–64 (cited in note 23). Amartya Sen acknowledges the tradeoff between, as he puts it, usability and acceptability, but because he ignores the institutional reason for this tradeoff—the principal-agent problem—he is unable to justify the particular tradeoff that he advocates. See Sen, 29 J Legal Stud at 931 (cited in note 23).

ioning aims and remaking ends in light of new information about the pros and cons"¹³¹—but also an account of how review of agencies' decisions made under this method is to proceed. If the evaluative method is opaque to review, then the method, however ingenious, must be rejected. And this would be true even if the loyalty of agencies were unquestioned. For surely it would be unwise to shield even exemplary regulatory activity from public scrutiny and debate.

Thinking about cost-benefit analysis as an instrument of control—that is, as a means for reducing agency costs—casts new light on its justification. It also enables one to evaluate cost-benefit analysis without plunging into the philosophical and political controversies about the proper normative goals of government.¹³² We simplify the analysis by making the following normative assumption: *agencies should implement the goals of the principals.*¹³³

In the simplest case, the government principal seeks efficient projects. If the principal cannot control the agency, the agency will implement projects that it prefers rather than the projects that the principal prefers. If this problem is serious enough, the principal might not create the agency in the first place. Cost-benefit analysis mitigates this agency problem by making it easier for the principal to monitor the agency. The principal can now sanction the agency if the agency implements projects that fail cost-benefit analysis. Although cost-benefit analysis is not a panacea—the agency retains its bargaining power and can implement projects that the principal barely prefers to the status quo—the agency's discretion is reduced, and the principal's welfare is enhanced.

In the more realistic case, the principal cares not only about efficiency but also about satisfying various constituents. Cost-benefit analysis, however, retains its value. In terms of the model, it reveals the location of the status quo, which enables the principal to deter-

¹³¹ Richardson, 29 J Legal Stud at 1003 (cited in note 23).

¹³² In an earlier article, Matthew Adler and I defended cost-benefit analysis on the ground that it was consistent with maximizing overall well-being, which we took to be an important role of the government. See Adler and Posner, 109 Yale L J at 194–216 (cited in note 26). The current argument provides an alternative ground for defending cost-benefit analysis. The two arguments are not inconsistent, and they are mutually reinforcing if there is not too much political failure. If the public cares about overall well-being and wants elected officials to maximize overall well-being, then cost-benefit analysis is justified both because it directs agencies to maximize overall well-being and because it enhances the ability of elected officials and judges to sanction agencies that fail to maximize overall well-being.

¹³³ There are some complexities that this Article must ignore because of lack of space. The main complexity is the ambiguity about whether the relevant goals are those of the enacting Congress (or legislative coalition, including possibly the President) or the current Congress (and/or President) who, unlike the earlier principals, exert control over agencies. This important, difficult problem justifies the independence of courts, and possibly of agencies as well, but lies outside the scope of this Article.

mine whether the project produces an outcome too far from its ideal point. As long as the principal has the discretion to impose a sanction, it need not discipline an agency that implements an inefficient project that the principal likes. It can also discipline an agency that implements an efficient project that the principal does not like. In short, cost-benefit analysis reveals information to the principal, and the principal can use this information to punish agencies that deviate from the principal's interests, whatever these interests happen to be.

If cost-benefit analysis is not cheap, it becomes a cruder though still valuable instrument. Cost-benefit analysis serves as a blunt or precise signal that distinguishes projects that agencies value a lot from projects that agencies value less. Because the principal knows the location of the agency's ideal point, it can use the signal to infer the location of the status quo. This permits the principal in a range of cases to sanction agencies that implement projects that do not make the principal better off.

In still more complex cases, the principal is internally divided. The President's interests differ from those of Congress, and members of Congress may have conflicting interests as well. As conflict increases, cost-benefit analysis loses its value, but so does any kind of delegation to agencies.¹³⁴ Given the normative premise that the principal—Congress and the President, or some coalition—has goals that agencies should implement, the model has nothing to say about cases in which the principal is not unified.¹³⁵

The principal relies on other mechanisms to control agencies. Some of these mechanisms are substitutes for cost-benefit analysis and others are complements. The President's ability to punish an agency head enhances the value of cost-benefit analysis: the ability to punish is more effective with full information than with partial information. This argument applies as well to Congress's ability to strip agencies of jurisdiction, reduce their budgets, and interfere with their internal procedures. Lobbying by interest groups may be a substitute for cost-benefit analysis, but only a partial substitute except in rare cases where an interest group and the principal's interests are identical or nearly identical. But lobbying also distorts the political process.

¹³⁴ McCubbins, 29 *Am J Pol Sci* at 738 (cited in note 83) (theorizing that an increasing amount of conflict among legislators decreases the scope of agency discretion).

¹³⁵ Although Pildes and Sunstein, 62 *U Chi L Rev* at 11–16 (cited in note 100), treat cost-benefit analysis as an instrument for asserting executive power over the federal bureaucracy, with the executive orders representing just the most recent moves in a long chess game between the President and Congress, the truth is that cost-benefit analysis can also be an instrument of congressional power, as recent legislative activity has shown. One can believe that requiring agencies to use cost-benefit analysis is a good way of making agency behavior visible to elected officials without taking a position on whether the elected officials charged with supervision of agencies should be in the executive or legislative branch.

Another virtue of cost-benefit analysis is that it reduces the ability of interest groups to use their information advantages to influence political outcomes.

There are also other standards that could be used in the place of cost-benefit analysis. Risk-risk evaluation, for example, could play a role similar to that of cost-benefit analysis. Their value relative to cost-benefit analysis depends on (1) whether they measure relevant attributes of the environment more cheaply and accurately than cost-benefit analysis, and (2) whether they are less manipulable than cost-benefit analysis.¹³⁶

Finally, courts should enforce cost-benefit analysis when the principal's goal is sufficiently close to efficiency, or the principal is sufficiently anti-interventionist. When this is not true, cost-benefit analysis retains its value as long as it is enforced only by political sanctions. But even in this latter case courts can play a role in assessing the quality of cost-benefit analysis. The next section discusses this role.

Bringing these points together, cost-benefit analysis becomes a more desirable instrument as:

- (1) The agency's goals diverge from the principal's;
- (2) The principal's goal approximates efficiency; or it is less interventionist, or not too much more interventionist, than efficiency (if cost-benefit analysis is judicially enforced or if it serves as a precise signal);
- (3) The goals of components of the principal—the President, members of Congress—converge;
- (4) The regulated activity can be reliably monetized;¹³⁷
- (5) The difficulty of monitoring the agency increases;
- (6) The difficulty of sanctioning the agency or agency head declines.

What should Congress direct agencies to do when these conditions are not met? In some cases, the question is moot. If the agency and the principal's goals converge (1), then oversight is unnecessary, so neither cost-benefit analysis nor any alternative to cost-benefit analysis is needed. If the goals of the principals diverge (3), then Congress will not want to delegate much power to the agency. The same is true if it is too difficult to monitor (5) or sanction (6) the agency.

¹³⁶ See text accompanying note 107.

¹³⁷ There are cases in which this is not so. Imagine, for example, that an agency is given the authority to determine ethical constraints on medical research funded by the federal government. Cost-benefit analysis cannot resolve such issues as the use of fetal tissue, because the underlying controversy is moral, not welfarist. People's valuations in one direction are unlikely to be relevant. See Adler and Posner, 109 *Yale L.J.* at 243–45 (cited in note 26).

Sometimes, the principal's goal is highly interventionist (2) or perhaps just crazy. Several authors—including Judge Williams,¹³⁸ and Kuran and Sunstein¹³⁹—defend judicially enforced cost-benefit analysis on the grounds that it prevents agencies from implementing regulations that accurately reflect public perceptions when public perceptions diverge from reality. The concern about public misperception of risk also underlies Justice Breyer's proposal for centralized administrative machinery.¹⁴⁰ The problem with this argument is that if elected officials are responsive to public concerns, then agencies that refuse to comply with laws that reflect these concerns will surely be socked with heavy political and legal sanctions. Health regulations have always been especially inefficient—in the sense of implicitly valuing statistical lives far above the level that market data suggest—because they are issued under statutes that demand inefficient health regulations.¹⁴¹ These statutes reflect dread for even small risks of cancer on the part of a public that is comfortable with the high risks of automobile transportation. If the public demands inefficient regulations, then there will simply not be political support for cost-benefit analysis and no warrant for imposing it in the teeth of public opinion.

The most important case for departure from cost-benefit analysis arises when cost-benefit analysis fails to capture the relevant effects of the regulation because those effects cannot be monetized (4). This problem arises when the effects are the subject of (1) disinterested preferences or preferences for outcomes that are intrinsically difficult to measure;¹⁴² (2) morally objectionable, such as sadistic, preferences; or (3) adaptive preferences such as sour grapes; and (4) when the costs and benefits of the regulation are not felt proportionately by rich and poor.¹⁴³ In these cases Congress should require the agency to perform and report a cost-benefit analysis but permit the agency to issue a regulation that fails a cost-benefit test as long as the agency provides a clear justification for violating the cost-benefit standard.

Agencies already depart from cost-benefit analysis although they are rarely explicit about what they are doing. In violation of textbook cost-benefit analysis, agencies routinely decline to adjust valuations of life according to wealth, ignore preferences for illegal drugs, and re-

¹³⁸ Stephen F. Williams, *Squaring the Vicious Circle*, 53 Admin L Rev 257, 259 (2001).

¹³⁹ Timur Kuran and Cass R. Sunstein, *Availability Cascades and Risk Regulation*, 51 Stan L Rev 683, 753 (1999).

¹⁴⁰ Stephen G. Breyer, *Breaking the Vicious Circle* (Harvard 1993). See also James Landis, *The Administrative Process* (Greenwood 1974).

¹⁴¹ As observed initially by John F. Morrall III, *A Review of the Record*, 10 Reg 25 (1986).

¹⁴² This would include discounting the valuations of future generations, on which see Richard L. Revesz, *Environmental Regulation, Cost-Benefit Analysis, and the Discounting of Human Lives*, 99 Colum L Rev 941, 987–1016 (1999).

¹⁴³ See Adler and Posner, 29 J Legal Stud at 1108 (cited in note 9).

fuse to consider racially biased projects.¹⁴⁴ My proposal is that agencies continue this practice but be more explicit and systematic. This proposal is consistent with the Unfunded Mandates Act and the recent bills proposed in Congress, which, as noted above, permit agencies to issue inefficient regulations as long as they conduct a cost-benefit analysis and explain why they do not believe its results should be decisive.¹⁴⁵

B. The Role of Courts

This Article has emphasized the distinction between judicial enforcement of cost-benefit analysis and enforcement by the “government,” that is, the President or Congress. The President has the option to sanction the agency whose project fails a cost-benefit analysis.¹⁴⁶ Thus if the President likes such a project, the President does not have to sanction the agency. By contrast, the court has no choice. If the law directs it to vacate regulations that fail cost-benefit analysis, then it cannot refrain when it sees that the project is attractive to the government. The mandatory nature of judicial enforcement weakens the attractiveness of cost-benefit analysis when the government’s ideal point is not the same as efficiency. In addition, courts are generalists and they are not in a good position to conduct their own cost-benefit analyses in order to correct the agencies’ analyses.

These problems suggest a subtler role for the court: not to enforce cost-benefit analysis but to enhance its value as a signal. Recall that in the signaling models, cost-benefit analysis becomes a more effective means for separating good projects from bad projects as the signal becomes more precise. If cost-benefit analysis is a blunt signal—that is, a cost that does not vary with the efficiency of the project—it may have some value, but that value is limited. As cost-benefit analysis becomes a more precise signal—that is, a cost that declines with the efficiency of the project—it has increasing value, even if the principal’s ideal point is not efficiency, though it must be close. The court’s purpose should be to enhance the value of the cost-benefit signal for the President and Congress, not to force agencies to issue only those regulations that pass a cost-benefit analysis. Courts should try to raise the difference between the cost of issuing a plausible cost-benefit analysis of an efficient project and the cost of issuing a plausible cost-benefit analysis of an inefficient project.

¹⁴⁴ Id.

¹⁴⁵ This is also similar to the National Environmental Policy Act, which requires agencies to produce environmental impact statements for regulations that may harm the environment but does not require the agencies to act in a particular way. See Stephen G. Breyer, *Regulation and Its Reform* 363–65 (Harvard 1982).

¹⁴⁶ See Part II.E.

This *signal refinement theory* has several implications. First, it is not as important for courts to insist that agencies use the “right” valuations for any given regulation as that they use consistent valuations across regulations. For example, an agency should not be permitted to value a statistical life at seven million dollars in one regulation and then four million dollars in another, even though both valuations are within the range of plausible valuation. The reason that courts should not determine their own valuations is that they are insufficiently specialized. They should nonetheless demand consistency on the part of agencies because the ability to change valuations opportunistically lowers the cost of issuing a plausible cost-benefit analysis of inefficient regulations. Courts should demand consistency within agencies for all kinds of valuations, including items like discount rates. But courts should not necessarily demand consistency across agencies. Agencies may face authorizing statutes with different ideal points, reflecting different public policy concerns.¹⁴⁷ If, as it appears, Congress demands stricter regulation of carcinogenic substances than other health and safety hazards, and thus agencies implementing the cancer regulations assume higher valuations of life, it is not—on the normative assumption that the principal’s goals are fundamental—the role of the court to demand consistency, though Congress’s decision may be wrong.¹⁴⁸

Second, when costs and benefits are not readily monetizable—and this includes the value of environmental amenities—courts should not necessarily demand that agencies monetize them. The problem is that a monetized valuation may be arbitrary.¹⁴⁹ But courts can nevertheless improve the signal by demanding quantification if possible (for example, the use of life years), and a reasoned, non-boilerplate discussion of why the valuation cannot be quantified. The court can also demand that the agency conduct surveys of people’s views about a proposed project.

Third, courts should take account of the ideal point of the agency. The farther the agency is from the ideal point of the winning coalition (which may or may not be equivalent to efficiency), the stricter the demands the court should make on the agency. It should be more willing to vacate a regulation issued by an extreme agency than a regulation issued by a moderate agency.¹⁵⁰

¹⁴⁷ Agencies should be permitted to change valuations only when they can point to relevant research or legislation that was issued after the last regulation.

¹⁴⁸ See Part IV.C.

¹⁴⁹ See Adler and Posner, 29 J Legal Stud at 1116–20 (cited in note 9).

¹⁵⁰ See, for example, Matt Spitzer and Eric Talley, *Judicial Auditing*, 29 J Legal Stud 679, 679–80 (2000) (concluding that courts scrutinize more where a stronger ideological gap is present).

Fourth, courts should take account of the ability of the political branches to sanction the agency. As the ideal points of the political branches converge, and as they become more distant from that of the agency, the court should be more willing to approve a regulation, even one in which the cost-benefit analysis is of low quality. The reason is that the political branches, which have better information than the court about their own ideal points, are in a better position to discipline the agency.¹⁵¹

Fifth, courts should be less willing to enforce cost-benefit analysis in the absence of statutory authorization, and the more that the winning coalition's ideal point deviates from efficiency. Put differently, the winning coalition's valuations—for example, a higher than current valuation of life—should be permitted to inform the cost-benefit analysis. This requirement boils down to an injunction against forcing cost-benefit analysis onto Congress when it has non-efficiency goals.

C: Cases on Cost-Benefit Analysis

The cases illustrate some of these ideas. In *Public Citizen v Young*,¹⁵² the court vacated the FDA's determination that some cancer-causing color additives may be used in food and drugs.¹⁵³ Normal consumption of the additives in question posed a smaller cancer risk than eating a single peanut or spending seventeen hours in Denver rather than Washington, D.C.¹⁵⁴ Although the statute prohibited use of additives that pose *any* cancer risk, the FDA reasoned that there must be an implicit *de minimis* exemption. If not, and these additives were prohibited, manufacturers might switch to noncarcinogenic additives that pose a higher risk to health—as only carcinogenic additives were covered by the statute.¹⁵⁵

The court vacated the FDA's decision even though, as the court appeared to believe, it would surely have passed a cost-benefit test. The court argued that the legislative history and the absolute language in the statute indicated that Congress was responding to public hysteria about cancer, and was trying to show that it was responsive to the public's fears.¹⁵⁶ Congress sought more interventionist regulation than efficiency (narrowly conceived) demanded.¹⁵⁷

¹⁵¹ The third and fourth implications are subject to a complication, which is whether the court should consider the existing Congress or the original coalition.

¹⁵² 831 F2d 1108 (DC Cir 1987).

¹⁵³ *Id* at 1122–23.

¹⁵⁴ *Id* at 1111.

¹⁵⁵ *Id* at 1113.

¹⁵⁶ *Id* at 1113–19.

¹⁵⁷ By contrast, when Congress was less clear about its goals, a court permitted the agency to consider the costs and benefits of the regulation. See *NRDC v EPA*, 824 F2d 1146, 1163 (DC Cir 1987) (en banc) (concluding the EPA could consider cost and benefit factors because clear

This case is consistent with the fifth implication discussed above, that courts should not force Congress to adopt efficiency as a standard. A statute that increases noncancer deaths more than it reduces cancer deaths is *prima facie* inefficient. Although it may be that calming public fears or showing concern for public fears should count as a benefit that outweighs the costs of the statute, it is doubtful that an ordinary cost-benefit analysis would measure these advantages. But it is not the role of courts to strike down statutes because they are inefficient or appear inefficient because of intangibles, and thus it cannot be their role to vacate regulations that properly implement such statutes. If the signal refinement view is correct, the court vacates inefficient regulations only when (1) the statute permits cost-benefit analysis, and (2) the cost-benefit analysis was badly performed. In *Young* the first condition was not met.

In *International Union, UAW v OSHA*,¹⁵⁸ the court held that the Occupational Safety and Health Act's vague guidance to OSHA—which required OSHA to adopt “the standard which most adequately assures, to the extent feasible, . . . that no employee will suffer material impairment of health or functional capacity”¹⁵⁹—did not permit OSHA to adopt “feasibility” alone as a sufficient condition for issuing a regulation, and it struck down a regulation promulgated under this standard.¹⁶⁰ The court encouraged OSHA to use a cost-benefit standard instead.¹⁶¹ In this case and other cases as well, courts adopt cost-benefit analysis as a default standard that agencies may use, and perhaps should use when the statute is ambiguous.¹⁶² The cases can be read as warnings to agencies that if they do not use cost-benefit analysis, their regulation is subject to remand for further explanation. If they do use it, they are in a safe harbor and may expect that their regulation will survive a challenge if the cost-benefit justification is plausible. *International Union* and the other cases are consistent with the blunt signal version of cost-benefit analysis: they force agencies to incur the expense of cost-benefit analysis or a similar procedure.

congressional intent was lacking). It is straightforward that an alternative result would interfere with using cost-benefit analysis as a signal in this context.

¹⁵⁸ 938 F2d 1310 (DC Cir 1991).

¹⁵⁹ *Id.* at 1313.

¹⁶⁰ *Id.* at 1325–26.

¹⁶¹ *Id.* at 1321. The court held that other standards may be permissible as well, but identified only cost-benefit analysis as a possibility, and described at some length what cost-benefit analysis entails. After remand, the D.C. Circuit took up the issue of OSHA's new regulations, which did not involve cost-benefit analysis, and found that they were sufficient to avoid nondelegation problems. See *International Union, UAW v OSHA*, 37 F3d 665, 668–71 (DC Cir 1994).

¹⁶² See Sunstein, *Cost-Benefit Default Principles* at 18–32 (cited in note 6); *Michigan v EPA*, 213 F3d 663, 678–79 (DC Cir 2000) (stating that the “preclusion of cost consideration requires a rather express congressional direction”).

Other cases go farther and describe what counts as good and bad practice in calculating costs and benefits. These cases are consistent with the precise signal version of cost-benefit analysis, for they increase the cost of manipulating data in order to make an inefficient regulation appear cost-justified. The most striking example of such a case is *Corrosion Proof Fittings v EPA*,¹⁶³ which vacated a regulation of asbestos products.¹⁶⁴ The court criticized EPA's cost-benefit analysis for:

- (1) Discounting only the costs of the regulation and not the benefits;¹⁶⁵
- (2) Discounting from the time of exposure rather than from the time of injury;¹⁶⁶
- (3) Calculating costs and benefits over a short period (thirteen years) rather than the life of the regulation;¹⁶⁷
- (4) Treating lives saved beyond the thirteen year period as "unquantified benefits" that outweigh the expected costs of the regulation;¹⁶⁸
- (5) Using an unreasonably high valuation for life (forty-three to seventy-six million dollars per life saved)¹⁶⁹ compared to the valuations used in other regulations;¹⁷⁰
- (6) Double-counting factors by including them in the cost-benefit analysis and using them as a separate reason for regulation;¹⁷¹
- (7) Failing to take account of the risks of technologies to which industry would substitute as a result of the regulation;¹⁷² and
- (8) Assuming that errors identified by opponents of the regulation balance out, rather than performing a new cost-benefit analysis using the improved data.¹⁷³

The court does *not* perform its own cost-benefit analysis and then use the results of this analysis to evaluate the agency's action. Indeed, the court gives EPA a great deal of discretion. But it places limits on that discretion. EPA may choose among different valuations of life, but it may not use a valuation that is significantly higher than those

¹⁶³ 947 F2d 1201 (5th Cir 1991).

¹⁶⁴ *Id.* at 1229–30.

¹⁶⁵ *Id.* at 1218.

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ *Id.* at 1219.

¹⁶⁹ *Id.*

¹⁷⁰ *Id.* at 1223.

¹⁷¹ *Id.* at 1219.

¹⁷² *Id.* at 1221. See also *Competitive Enterprise Institute v NHTSA*, 956 F2d 321, 326–27 (DC Cir 1992) (requiring NHTSA, in evaluating whether continued high fuel standards are justified, to take account of cost in lives lost if consumers switched to smaller cars).

¹⁷³ *Corrosion Proof Fittings*, 947 F2d at 1227.

calculated by economists or used in other regulations.¹⁷⁴ It may choose a discount rate, but it must be within a plausible range,¹⁷⁵ and the agency may not selectively discount some items and not others—for example, costs and not benefits. The EPA may use unquantifiable benefits as a tie breaker when monetized costs and benefits are close, but it may not use them to justify regulations that clearly fail the monetized test.¹⁷⁶ It must use the best available data; must look at all relevant costs and benefits; must look at the relevant time period; must discount the relevant factors (injury not exposure); and it must not double-count.¹⁷⁷ All of these requirements are good practice, but they leave the agency substantial discretion to determine valuations. The result is a signal that is not blunt but relatively precise. After *Corrosion Proof Fittings*, it is harder for an agency to fake a cost-benefit justification of a regulation.

The signal refinement view that courts should be more concerned about accurate information disclosure than about the efficiency of regulations is further supported by *Competitive Enterprise Institute v National Highway Traffic Safety Administration*.¹⁷⁸ The court in that case was bothered that the NHTSA refused to take account of the risk to life that would result if the NHTSA's automobile mileage regulations forced customers to switch to smaller cars. The court may have been willing to approve a regulation that imposed such a risk. The point was to force that cost out into the open, so that the political branches may respond if necessary.¹⁷⁹

Cost-benefit analysis is not the only way for an agency to send a signal. As argued above, a procedure that quantifies the advantages and disadvantages of regulations may constrain agencies, and thus serves at least as a blunt, and perhaps as a precise, signal. In *American Trucking Associations, Inc v EPA*, the D.C. Circuit struck down the EPA's particulate matter rule because it was not accompanied by a plausible justification.¹⁸⁰ Barred by its own precedent from demanding that the EPA use cost-benefit analysis, the court suggested that the EPA use quality adjusted life years or a similar standard to evaluate the regulation, but if no such standard were available, then the statute would be an unconstitutional delegation. The Supreme Court subse-

¹⁷⁴ But see *American Dental Association v Martin*, 984 F2d 823, 825–26 (7th Cir 1993) (upholding OSHA's bloodborne pathogens rule and noting that the valuation for life saved of four million dollars was reasonable).

¹⁷⁵ *Corrosion Proof Fittings*, 947 F2d at 1218 n 19.

¹⁷⁶ *Id.* at 1219.

¹⁷⁷ Compare *American Dental Association*, 984 F2d at 826, which was more tolerant of the agency's failure to consider some costs.

¹⁷⁸ 956 F2d 321, 324–25 (DC Cir 1992).

¹⁷⁹ *Id.*

¹⁸⁰ 175 F3d at 1053–55.

quently rejected the constitutional analysis, but for present purposes what is interesting about the Circuit Court's opinion is its attempt to compel the EPA to reveal information about the effects of the regulation. If the Court could not overturn the regulation on efficiency grounds, it could at least by compelling disclosure of the regulation's health effects make the EPA vulnerable to sanctions from the political branches.

The discussion so far supports the first two claims about judicial review of cost-benefit analysis, and also the fifth, but says nothing about the third and fourth, according to which courts should take account of the ideal point of the agency and the extent to which the political branches are divided. Courts are rarely candid about these matters, and the only way to determine whether these claims are true is to conduct a statistical study of the distribution of case outcomes.¹⁸¹ One predicts, for example, that courts are more likely to strike down regulations issued by agencies that have an interventionist or deregulatory reputation than regulations issued by other agencies; and that courts are more likely to strike down regulations when the political branches are ideologically divided. Testing this prediction will have to wait for future work.

CONCLUSION

Many of the philosophical difficulties with cost-benefit analysis disappear when a principal-agent perspective is taken. It is not necessary to adjudicate among rival normative theories of the proper role of government in order to determine whether agencies should use cost-benefit analysis. The only important normative assumption is that elected officials should have the power to set policy, not the agency.

The justification for cost-benefit analysis also depends on empirical assumptions about (1) how easy it is to manipulate cost-benefit data; (2) how effectively government principals can discipline agencies; and (3) how far cost-benefit analysis results will usually be from President's and Congress's goals if courts are supposed to enforce them.

These assumptions are innocuous in ordinary circumstances. Regarding the first assumption, it is not usually easy to manipulate cost-benefit data. Except when the regulation depends to an unusual extent on hard-to-measure variables, the cost-benefit analysis will pro-

¹⁸¹ Compare Joseph L. Smith and Emerson H. Tiller, *The Strategy of Judging: Evidence from Administrative Law*, 31 J Legal Stud (forthcoming 2002); Revesz, 83 Va L Rev at 1717 (cited in note 70). Both of these studies—and there are many others in the political science literature—attempt to show through the distribution of case outcomes and modes of review that judges are influenced by political goals.

duce useful information for the government principals, and even when the regulation depends on these variables, cost-benefit analysis may be valuable as long as it is costly to perform. The agency's willingness to incur the cost, if it is high enough, gives the principals information about the location of the status quo.

The second assumption seems reasonable because the principals have a variety of tools for disciplining agencies, and the evidence suggests that these tools are effective. The third assumption is necessary only when the courts are given the authority to enforce cost-benefit analyses. But the courts are not always necessary, and indeed I have argued that their proper use may be ensuring that the cost-benefit procedure is performed accurately, not that a regulation is cost-justified. When the principals can discipline agencies, they can prevent agencies from implementing regulations that are efficient but that are too far from their ideal points. When the principals seek regulations that are inefficient, they can simply write into the statute that the agency must perform a cost-benefit analysis, or similar information-generating procedure, but need not follow it. This was the command of the 1999 Senate bill. That bill required courts to ensure that the cost-benefit analysis is adequately performed but did not authorize them to vacate a regulation that fails it.

This Article observed that cost-benefit analysis reduces the influence of interest groups on regulations. When cost-benefit analysis reveals information for which the principals would otherwise have to rely on interest groups, the interest groups lose a source of their power. This is surely a desirable feature of cost-benefit analysis, except in the theoretically possible, but implausible, case in which interest groups provide information significantly more cheaply and accurately than cost-benefit analysis does, and over a wide enough range of projects.

There is a contrary view, however. Suppose that one believes that Congress and the President are motivated solely or mainly by a desire to transfer resources to interest groups, but are partially checked by the taxpayers' ability to retaliate at the polls. If cost-benefit analysis enhances Congress's and the President's control over agencies but does not enhance the public's control over the government, then this more efficient monitoring instrument should lead not only to more regulation (as suggested earlier) but to more regulation that transfers resources from citizens to interest groups.¹⁸² Conservatives who take

¹⁸² Compare Becker and Mulligan's argument that increases in the efficiency of tax and spending instruments lead to an increase in the size of the government. See generally Gary S. Becker and Casey B. Mulligan, *Deadweight Costs and the Size of Government*, George J. Stigler Center for the Study of the Economy and the State Working Paper No 144 (Nov 1998). See also Becker and Mulligan, *Accounting for the Growth of Government* (cited in note 120), where they

this view should not support cost-benefit analysis. They should oppose cost-benefit analysis because it will lead to an increase in the amount of regulation and a reduction in the welfare of citizens.

Finally, we should emphasize that cost-benefit analysis makes agencies better off as well as the principals, and this should surprise the critics of cost-benefit analysis. The EPA, for example, benefits from cost-benefit analysis because otherwise principals should trust this agency less, and be unwilling to give it funds, jurisdiction, remedial power, and other needed resources. Accordingly, citizens and interest groups who want to strengthen the EPA ought to support cost-benefit analysis rather than criticize it. If they are unhappy with regulations that are issued, their real target should not be cost-benefit analysis, which is merely a tool for monitoring the agencies, but the goals of the President and Congress and the public that elects them. Given sufficient hostility toward environmental regulation among these principals, reducing their ability to monitor the EPA is likely to lead them to undermine that agency in other ways. The better strategy is to require the EPA to use cost-benefit analysis.

These last comments reverse the conventional wisdom about the politics of cost-benefit analysis. If cost-benefit analysis works the way it is supposed to, liberals should favor cost-benefit analysis and conservatives should oppose it.

