

# COST-BENEFIT ANALYSIS AS A SOLUTION TO A PRINCIPAL-AGENT PROBLEM

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Judge Williams' essay raises an issue about cost-benefit analysis that is too often neglected in the literature.<sup>1</sup> That issue is the institutional role of cost-benefit analysis in the American government. Williams argues that Justice Breyer's concerns about agency misbehavior<sup>2</sup> calls for more than greater coordination and expertise at higher levels of government; his concerns call for a constraint on agency action. That constraint is, or should be, cost-benefit analysis.<sup>3</sup>

Williams' argument takes the form of a philosophical defense of cost-benefit analysis, or a suitably modified version of cost-benefit analysis, as a reasonable way of evaluating projects. I will approach this topic from a different angle: by asking how the President (or Congress, or legislative coalitions, or the public) should organize and monitor institutions (agencies) so that they can depend on these institutions to implement their goals, whatever those goals happen to be?<sup>4</sup> Many readers will recognize that I have framed the inquiry as a principal-agent problem, and I will, in fact,

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1. See Stephen F. Williams, *Squaring the Vicious Circle*, 53 ADMIN. L. REV. 257 (2000).

2. See STEPHEN BREYER, *BREAKING THE VICIOUS CIRCLE: TOWARD EFFECTIVE RISK REGULATION* 10-29 (1993) (discussing failures of agencies to use cost-benefit analysis in appropriate ways).

3. An alternative role of cost-benefit analysis is as an information-generating device: agencies must create cost-benefit analyses, but they do not have to obey them. Cost-benefit analysis operates as a reporting requirement that facilitates political and judicial checks on agency action rather than as a direct or internal constraint. Judge Williams appears to adopt the latter, much stronger role for cost-benefit analysis, which implies that all regulatory statutes should reflect cost-benefit principles. This view is in tension with many existing statutes, but I will not pursue a discussion of that theme here.

4. See generally Matthew D. Adler & Eric A. Posner, *Introduction to the Conference on Cost-Benefit Analysis*, 29 J. LEGAL STUD. 837 (2000); see also Lewis A. Kornhauser, *On Justifying Cost-Benefit Analysis*, 29 J. LEGAL STUD. 1037, 1053-54 (2000).

take the classical principal-agent perspective.<sup>5</sup>

In the principal-agent model, the principal benefits from some action performed by the agent, where that action is not directly observed by the principal. From the principal's perspective, the probability of a good rather than bad outcome increases with the amount of care taken by the agent. But the agent incurs disutility from taking care. If the principal pays the agent a flat fee for performing the action, then the agent will collect the fee and use little care. If the bad outcome results, the agent will blame chance, and the principal will have no recourse. To overcome this moral hazard problem, the principal might invest in monitoring technologies, which enable him to observe the agent's behavior, or some element of it; then he can make the agent's payment a function of that behavior. Alternatively, the principle might make the agent's payment a function of the principal's own benefit when the good outcome occurs. This option brings the incentives for the principal and the agent into closer alignment, though this strategy will be hampered if much risk is involved—that is, the probability of the good outcome increases only slightly with care—and the agent is risk averse.<sup>6</sup>

In my simple approach to the problem of the misbehavior of administrative agencies in the U.S. government, I initially assume that the President is the principal and a single agency is the agent. I further assume that the President either (1) maximizes "social welfare," a term to be explained below; or (2) maximizes his own chances of re-election. To be sure, maximizing the probability of re-election might include maximizing social welfare, but it also might include making transfers to the President's supporters or vindicating non-welfarist moral ideals held by the public.

The agency might maximize any number of things. The first possibility is what I will call "mission-relevant welfare," a term that attempts to capture Breyer's worries about agency tunnel vision. The EPA clearly is not

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5. The principal-agent model has been applied fruitfully to procedural control of agency action, see, e.g., Mathew D. McCubbins et al., *Administrative Procedures as Instruments of Political Control*, 3 J. LAW, ECON., & ORG. 243 (1987). The only paper that applies it to cost-benefit analysis is Pablo T. Spiller & Emerson H. Tiller, *Decision Costs and Strategic Design of Administrative Process and Judicial Review*, 26 J. LEGAL STUD. 347, 361-62 (1997). The authors conclude that the Republican controlled Congress of 1995 sought to require agencies to engage in cost-benefit analysis merely to increase their decision costs, which would have resulted in fewer projects designed to change the status quo, and to decrease the decision costs of courts, which would have enabled them to overturn more agency decisions. The authors do not explain why Congress did not instead restrain the agencies more directly by reducing their budgets or limiting their authority or for that matter requiring them to run around in circles before issuing regulations.

6. See Eric A. Posner, *Agency Models in Legal Scholarship*, in CHICAGO LECTURES IN LAW AND ECONOMICS 225 (Eric A. Posner ed., 2000) (discussing principal-agent model).

concerned with maximizing welfare in a global sense; it does not try to ban dangerous drugs when the FDA fails to do so, or prohibit dangerous workplace practices when OSHA fails to do so—and this must be true even when the mission-irrelevant dangers are much more serious than any environmental problem on the agenda. The problem of tunnel vision follows from sensible division of labor among agencies. Unless the President and Congress allocate the proper budgetary resources to each agency, overfunded agencies will spend their last dollar on regulations that have less social value than the marginal regulations that the underfunded agencies cannot afford.

The second possibility is that the agency maximizes the agency head's personal or political interests. Agency officials may expect lucrative consulting positions in industry after they leave the agency, but only if they act in industry's interest; agencies might also rely heavily on information supplied to them by industry. Alternatively, an agency might attract people who have a special ideological bent, and whose goals might comprise the agency's maximand.

The principal-agent model is relevant if the agent's behavior is partially or fully unobservable, which is surely the case with administrative agencies. Unless the White House duplicates all of the studies and discussions performed by EPA, it cannot know whether a given project furthers the interests of the President.

There are several ways that the President can reduce moral hazard. One possibility is to place only loyal officials in the agency. These officials, who are known as "political appointments," can report back to the President regarding the agency's behavior. However, the agency problem applies to political appointments as well, though the agency problem with career bureaucrats, who are concerned less with political advancement, is clearly more severe. Another possibility is to use domain restrictions: strip projects from agency jurisdiction where the moral hazard looms large. Base closing is an example of this strategy. The problem of closing military bases was taken out of the hands of the Defense Department and put into the hands of a commission charged with making politically sensitive tradeoffs. Unfortunately, this tactic does not solve the principal-agent problem, but rather it moves the problem from one location to another.

In this Article, I will focus on the use of cost-benefit analysis as a device for reducing moral hazard. The President can reward and punish agencies and officials in various ways: he can fire officials, promote them, or promise them better positions in the future; he can increase or reduce the agency's budget; he can give the agency more or less authority over its regulatory domain. But, the President can implement these rewards and punishments only if he can evaluate the agency's projects. One way to

evaluate the projects is to require the agency to describe the project in a way that eases evaluation, and this means using data that can be verified, in other words, quantitative rather than qualitative data; and using a decision procedure that can be checked, which means a simple procedure like cost-benefit analysis.

The advantage of cost-benefit analysis, compared to a more qualitative procedure, such as that of determining whether the project maximizes mission-relevant welfare (for example, occupational safety or environmental quality), is that cost-benefit analysis enables the President to verify the basis of the decision. Two elements are at work here. First, cost-benefit analysis requires data, which can be confirmed against objective, published sources, usually, or at least evaluated on the basis of the quality of their source. Second, cost-benefit analysis involves a simple decision rule that can be reproduced by a trained employee in the President's office. If the agency's cost-benefit analysis is based on implausible data, or uses flawed calculations, then the President has the necessary information for disciplining the agency as well as for rejecting the project.

There are several disadvantages associated with cost-benefit analysis, many of which have already been identified by Judge Williams and others, so I will be brief.

The main problem is that decision procedures or rules such as cost-benefit analysis are always over- and under-inclusive.<sup>7</sup> If the President wants to maximize social welfare, cost-benefit analysis suffers from several well-known deficiencies, although the extent of the deficiencies depends on how social welfare is understood. If social welfare means (implausibly) the Kaldor-Hicks standard,<sup>8</sup> cost-benefit analysis will usually, but not always, produce accurate results. If social welfare means aggregate utility, where marginal utility is assumed to be diminishing with wealth, then cost-benefit analysis will produce wrong results whenever the endowments of project winners and losers differ substantially. If social welfare has an objective or idealized component, so that people may be misinformed about their own preferences or that their preferences often should not count (sadistic preferences, for example), then cost-benefit analysis will produce wrong results when these distorted preferences have substantial influence. If the President does not want to maximize social welfare when welfare-maximizing projects violate deontological constraints or other non-welfarist moral ideals, then again cost-benefit analysis will produce the wrong result.

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7. See Matthew D. Adler & Eric A. Posner, *Rethinking Cost-Benefit Analysis*, 109 YALE L. J. 165 (1999).

8. See *id.* at 190 (stating that "a project is desirable if it makes the Winners better off by an amount sufficient to overcompensate the Losers, if the Losers could be compensated through a costless lump-sum transfer").

Critics of cost-benefit analysis often argue that it is biased against projects that enhance the quality of the environment and other hard-to-measure goods.<sup>9</sup> The reason is that data are not readily available because these things are not traded in the market, unlike lumber and oil. You can easily determine how much an environmental project will increase the cost of lumber but it is hard to determine what the benefit is, and usually this determination involves extrapolation from not very similar goods like recreation. The proper response is to invest in more data, but if we are persuaded that this is impossible or too costly, we have a classic multitasking problem.<sup>10</sup> If the agency is rewarded for using cost-benefit analysis correctly, but cost-benefit analysis neglects important but non-quantifiable benefits, then it produces wrong results. The problem is a bit like law schools and universities reorganizing themselves to generate outcomes that are measured by the *U.S. News* survey rather than to generate good education.<sup>11</sup>

As Judge Williams notes, one can adjust cost-benefit analysis in order to reduce the errors, and that is fine as long as one understands that every adjustment reduces the value of cost-benefit analysis as a decision procedure that enables the President to monitor and discipline agencies.<sup>12</sup> To use Williams' example,<sup>13</sup> if compensating variations are adjusted to reflect wealth differences, this adjustment gives the agency an extra degree of freedom, which may be misused. Alternatively, if the agency is allowed to put a thumb on the scale to make up for non-quantifiable benefits, then the agency may exploit this discretion as well, and pursue its own interest. Interestingly, if we think—as in the case of the EPA—that the agency's own bias is to attach value to non-quantifiable benefits, then we should not worry about giving the agency discretion to implement certain projects that do not pass the cost-benefit test. If we think, however, that the Department

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9. See Matthew D. Adler & Eric A. Posner, *Implementing Cost-Benefit Analysis When Preferences Are Distorted*, 29 J. LEGAL STUD. 1105, 1046-47 (2000) (discussing Elizabeth Anderson's view that cost-benefit analysis inappropriately commodifies risks to health, safety, and environment that it seeks to regulate and control by ranking alternatives in terms of money using market measure of value of risks to health, safety, and environment and assumes preferences that govern).

10. See generally Bengt Holmstrom & Paul Milgrom, *Multitask Principal-Agent Analysis: Incentive Contracts, Asset Ownership, and Job Design*, 7 J. LAW, ECON., & ORG. 24 (1991) (discussing the problem of multidimensional tasks being assigned to the agent in the principal-agent model).

11. The problem is even more serious if environmental improvement is a moral ideal rather than just a difficult-to-monetize good. See Adler & Posner, *supra* note 7, at 209-13.

12. See Adler & Posner, *supra* note 9, at 1141 (stating that the political advantage of cost-benefit analysis is that it forces agencies to be clear about the basis of their decisions, which facilitates monitoring by other actors).

13. See Williams, *supra* note 1, at 263.

of Interior is captured by mining interests, then that agency will surely misuse discretion. In this way, one's judgment of cost-benefit analysis is closely connected to one's judgment about the internal culture of an agency, the goals of its head, and the other factors that go into determining the agency's "private" interest. It might make sense for the President to apply the cost-benefit test more rigorously to some agency actions rather than others, depending on the degree to which the agency head's incentives line up with his own.<sup>14</sup>

Putting that aside, observe that cost-benefit analysis will be a weaker instrument for deterring moral hazard if the President's goal is not to maximize welfare but to improve his chances of reelection. The weakness of the instrument depends on the model of the political process. If you think that rent-seeking interest groups lobby for projects that transfer resources from the public to the interest groups, and if the President is concerned only with making sure that resources go to interest groups that support him, then cost-benefit analysis will hold few attractions for him. Cost-benefit analysis will reject *all* projects, rather than just those projects that transfer resources away from the interest groups that the President prefers.

Alternatively, if you think that interest groups with the highest willingness-to-pay obtain projects that transfer resources to them, then cost-benefit analysis will generally ratify all projects, depending on the degree of public ignorance about the political process.<sup>15</sup> If the public is not too ignorant, then a competitive political environment will lead to efficient implementation of projects. Here again the President will be unhappy with cost-benefit analysis, but this time the unhappiness results because *no* projects are rejected, as opposed to just those projects that transfer resources away from the interest groups that the President prefers. In sum, the President does not need cost-benefit analysis, but rather he needs a device that alerts him when an agency tries to approve a project that will harm a powerful interest group that supports him. Indeed the hard-headed public choice theorist would conjecture that the President is more likely to enforce cost-benefit requirements on agencies that do not generally transfer resources to his constituents, and adopt a lax attitude toward agencies that do.

There is a final interesting problem with cost-benefit analysis. Suppose the President rejects projects that fail cost-benefit analysis but does not know about potential projects, never proposed, that would pass cost-benefit

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14. This is a familiar idea from the cheap talk literature. See, e.g., Joseph Farrell & Matthew Rabin, *Cheap Talk*, 10 J. ECON. PERSPECTIVES 103, 105, 116 (1996).

15. Cf. Gary Becker, *Comment on the Conference on Cost-Benefit Analysis*, 29 J. LEGAL STUD. 1149, 1152 (2000) (asserting that "even when political decisions result from competition among interest groups . . . the true benefits and costs of different programs sometimes determines whether policies muster enough political support").

analysis. This asymmetry may produce agencies that are insufficiently aggressive, preferring to do little rather than being disciplined a lot. The solution is either (1) limit the punishment for agencies that sponsor bad projects, or (2) permit some identified bad projects to pass! The reason for these solutions is that if the agency or its officials are risk averse, punishments cannot be too severe or too consistently applied. If the bad projects produce good results—from the agency's perspective—then permitting them to go ahead is a way of compensating the agency for trying to produce good projects generally.

I have so far used the simplest possible model of the political process. Let me now briefly consider some variations to that model.

Suppose that Congress, rather than the President, is the principal. (Or, maybe, a particular, temporary political coalition is the principal, though this possibility leaves open the chance that the principal changes as coalitions change.) The analysis is basically the same; the twist is that the President must interpose himself between the principal and agent. Congress might want agencies to perform cost-benefit analysis in order to ease congressional oversight; but Congress might want agencies not to perform cost-benefit analysis in order to conceal the costs of legislation from the public or interest groups. One advantage of cost-benefit analysis in this context is that it limits the President's discretion, just as, and just because, it limits the agencies' discretion. But this advantage might be outweighed by interference with the transfers that Congress wants to accomplish through agency actions that fail the cost-benefit test, and such interference may be quite extensive if the rent-seeking model is to be believed.

Cost-benefit analysis greatly simplifies the process of judicial review. The unwholesome "levels of scrutiny" jurisprudence could be tossed out and replaced with the simple command that courts ensure that (1) data come from a reliable source; (2) assumptions about discount rates, valuations of life, and the like are consistent across regulations and within a reasonable range based on market estimates; and (3) aggregation is performed correctly. Any lawyer attuned to the problems of judicial review will see that cost-benefit analysis, like any rule, makes judicial review more predictable than review of the application of a standard. Clearly, a bad rule is still not better than a good standard, but this examination highlights the importance of procedure and the danger of neglecting such procedure.

Another candidate for the role of principal is the public. In this model, Congress, the President, and the agencies are all "agents" in the principal-agent model. All else equal, cost-benefit analysis should appeal to the public because it clarifies the basis of agency decision-making, and thus simplifies the evaluation of politicians who appoint the agency heads. What is most interesting and vexing is that the public, to the extent that it

has any thoughts on the matter, seems highly suspicious of cost-benefit analysis.<sup>16</sup> One reason for this skepticism may simply be that the public does not share the welfarist assumptions of cost-benefit analysis; another possibility is that rejection of cost-benefit analysis is largely strategic.<sup>17</sup>

A final point, briefly mentioned above, is that cost-benefit analysis operates differently when applied to different agencies. Suppose that the EPA and the Department of the Interior typically approve projects that would fail the cost-benefit test, but that the EPA's "tastes" are weighted in favor of environmental groups' goals, while Interior's "tastes" are weighted in favor of western cattle ranchers. Clearly, cost-benefit analysis, equally applied to both agencies, would tend to hurt environmentalists in the first case and cattle ranchers in the second case. A Republican president might not care about the environmentalists but care a lot about the cattle ranchers; a Democratic president might have the opposite view. If so, one can see why different presidents might favor or disfavor cost-benefit analysis. If cattle ranchers are severely hurt by EPA regulations, but cattle ranchers are not significantly hurt by Interior regulations, then cost-benefit analysis would be attractive to a Republican president (or Congress) but not to a Democratic one. If environmental groups do not benefit from EPA regulation, and are hurt by Interior regulations, then cost-benefit analysis would be attractive to a Democratic president (or Congress) but not a Republican one. Considerations such as these demonstrate why Republicans and moderate Democrats (like President Clinton) have favored cost-benefit analysis in recent years. If agency bureaucrats are liberal, and tend to internalize the mission of the agency, the agencies will be more pro-regulation than the public at large. Cost-benefit analysis serves a political function not just of clarifying agency action but restraining agency action, pulling it rightward. This perception is, I think, a more plausible explanation of academic hostility to cost-benefit analysis than problems with connecting the procedure to plausible normative foundations.

My defense of cost-benefit analysis has been tentative, limited to showing that it may play the important institutional role of ensuring that agencies act consistently with the goals of the President, Congress, or the public. Anyone with experience supervising subordinates knows that: (1) quantifying the subordinates' performance is very helpful for evaluation; (2) assigning the subordinates simple, easily evaluated tasks rather than complex hard-to-evaluate tasks may produce better results, even if the

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16. See W. Kip Viscusi, *Corporate Risk Analysis: A Reckless Act?*, 52 STAN. L. REV. 547, 586-90 (2000) (finding punitive damages rise when corporations engage in cost-benefit analysis).

17. See ERIC A. POSNER, *LAW AND SOCIAL NORMS* 185-202 (2000) (analyzing reasons why people and agencies may reject application of cost-benefit analysis).



complex tasks are within the competence of the employee and are, putting aside agency problems, “better”; but (3) it remains the case that wooden reliance on quantified outcomes and simple tasks may do more harm than good.

Defenders of cost-benefit analysis still need to demonstrate that the benefits of relying on this simple procedure—benefits that this Article cashes out in terms of the reduction of agency costs—exceed the harms that result when the procedure deviates from the socially best outcome, taking into account the benefits and harms of alternative procedures.<sup>18</sup> But the critics of cost-benefit analysis have an even greater task. They must recognize that because of agency costs, administrative agencies do not always act directly in the interest of Congress, the President, or the public. The issue then becomes one of designing optimal oversight mechanisms. Dissatisfaction with cost-benefit analysis might lead in one of two directions: towards more multidimensional, fine-grained standards, or toward even simpler rules like risk-risk.<sup>19</sup> The former would increase agency costs; the latter would produce even worse over- and under-inclusiveness than does cost-benefit analysis. The analysis done by some critics leaves the impression that agency costs are zero, so the most complex standard possible is desirable. But this assumption cannot be right. Critics need to pay more attention to the institutional role of the decision rule.

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18. See Adler & Posner, *supra* note 7.

19. See *id.* at 229-31.

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