An independent analytical agency is needed to verify regulators' claims

The Role of Economic Analysis in Regulatory Reform

By Randall Lutter

During the past few years, regulatory agencies of the executive branch have issued regulations with annual costs in the tens of billions of dollars. For example, the national ambient air-quality standards issued in July 1997 by the Environmental Protection Agency (epa) will cost $56 billion a year when (and if) fully implemented, according to epa. (On May 14, 1999, the U.S. Court of Appeals for the District of Columbia blocked the standards as an "unconstitutional delegation of legislative power.")

In the aggregate, according to the Office of Management and Budget (omb), the annual cost of complying with federal regulations rose from $136 billion in 1988 to $195 billion in 1994 and to $223 billion in 1998. omb's estimates do not account for the full cost of such recent regulations as epa's new air-quality standards and those implementing the Americans with Disabilities Act.

Although it is often difficult to assess the benefits of regulatory programs, there is strong evidence of the inefficiency of programs intended to reduce risks to health, safety, and the environment. In 1986, for example, omb economist John F. Morrall III found that the social cost per unit of reduction in the risk of mortality varied by a factor of about 100,000 across programs. Robert Hahn of the American Enterprise Institute (aei) found in a 1996 study that only 43 percent of major economic regulations offer net benefits, and that many individual provisions of such regulations entail net costs. Also in 1996, Tammy Tengs and John Graham of Harvard University concluded that about 60,000 more lives could be saved annually, at no additional cost, by changing federal regulations to be more cost-effective.

Such inefficiencies are largely the responsibility of federal agencies, to which Congress and the courts have given substantial latitude in the development of regulations and design of implementing programs. In addition to agencies' traditional ability to make policy by selecting from a broad range of possible rules and programs, they

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have enjoyed even broader latitude since the U.S. Supreme Court's decision in *Chevron v. Natural Resources Defense Council* (1984). The Court ruled in that case that if a regulatory statute is silent or ambiguous with respect to a specific issue, the question for a court to determine is whether an agency's action is based on a *permissible* construction of the statute.

And agencies often resist efforts to take efficiency into account in applying regulations. For example, EPA and the courts interpret a key provision of the Clean Air Act as prohibiting any consideration of cost in setting air-quality standards. EPA imposed a standard that reduced the permissible peak concentrations of ground-level ozone to the point that tens of millions of Americans would have to comply with strict air-pollution regulations intended for the most seriously polluted urban areas. The more stringent standard would result in net annual costs of $1.2 billion to $9.6 billion, according to EPA. Administrator Browner has repeatedly opposed efforts to introduce efficiency criteria into the Clean Air Act, despite the high costs of such rules.

Because regulatory inefficiency is an economic problem identified and understood through economic analysis, it is worthwhile to ask how economic analysis can be used to improve regulatory efficiency. Like praising motherhood and apple pie, it is easy to recommend improved economic analysis. But perennial exhortations to do better analysis seldom take into account the uses and abuses of economic analysis as it is practiced by regulatory agencies.

I argue below that the analysis produced by agencies—contrary to a key purpose of such analysis—is too unreliable for use by the public and Congress to hold regulators accountable for their decisions. I show that adequate reliability cannot be achieved by peer review but by systematic, independent efforts to replicate agencies' analyses. I then show that the absence of independent replication or *any* independent review is anomalous: all other complicated technical information is subject to some independent evaluation before its use. I conclude by recommending the creation of an independent federal agency that would replicate regulatory agencies' estimates of the economic effects of current and proposed regulations. The presence of such an agency would improve the reliability of agencies' economic analyses and make regulatory decisionmakers more accountable to the public and Congress. The end result would be more sensible and efficient regulation.

ECONOMIC ANALYSIS BY FEDERAL AGENCIES: DOES IT DO WHAT IT SHOULD?

many regulations deliver benefits that are small relative to their costs. That observation leads me to ask whether agencies' economic analyses deliver what they should deliver, namely: management tools for use by the administration; support for claims that a rule is consistent with congressional intent, in the event of legal challenges; and accountability of regulators to the public. I show that efforts to satisfy the first two purposes are unlikely to improve regulatory efficiency. I then discuss how efforts to satisfy the third purpose—accountability—might lead to improved efficiency by increasing the ability of the public and Congress to hold regulators accountable for inefficiencies.

Economic Analysis of Regulation as an Administrative Management Tool Economic analysis can help decisionmakers identify the economic effects of regulatory options permissible under authorizing statutes. Indeed, such analysis is necessary to achieve policy goals such as cost-effectiveness, as set forth in President Clinton's Executive Order (EO) 12866 on regulatory planning and review. The proper use of economic analysis as a management tool is important because Congress has delegated so much authority to regulatory agencies.

An independent federal agency would improve the quality of regulatory agencies' economic analyses and make regulatory decisionmakers more accountable to the public and Congress.

If senior officials in charge of regulatory policy give weight to economic effects generally, and to efficiency in particular, then the results of economic analyses will be given weight in decisions about regulatory policy. But if economic effects and efficiency mean little to policymakers, then economic findings will be accorded little or no weight in their decisions. The case of the ozone standard, for example, suggests that the Clinton administration does not care about efficiency in its regulatory decisions.

In sum, if the administration is not particularly interested in efficiency, direct efforts to improve the quality of agencies' economic analysis will have little or no effect on regulatory decisions.

Economic Analysis of Regulations to Show Compliance with Congressional Intent A second major purpose of agencies' economic analysis of regulations is to determine their consistency with congressional intent and thus to ensure their defensibility to legal challenges. Most statutes that address the regulation of risks to health, safety, and the

environment set general standards to be met, for example, protecting the public health or the environment "to the extent economically achievable." The Clean Water Act directs epa to set effluent guidelines based on "best available technology." epa uses economic analysis to determine the availability of such technologies.

Analyses conducted for the purpose of compliance with congressional intent need not be, and typically are not, benefit-cost analyses. To the extent that an agency can show the feasibility or affordability of a regulatory program without quantifying its effectiveness or benefits, the agency may be able to avoid analyzing the program's cost-effectiveness or net benefits. Analyses that do not shed light on cost-effectiveness or net benefits cannot contribute to the efficiency of regulatory programs. Thus analyses conducted to satisfy congressional mandates will not improve efficiency, with one or two notable exceptions.

The first exception arises under the Toxic Substances Control Act, which authorizes epa to regulate toxic substances to address "unreasonable risk." Courts have interpreted that standard to imply a balancing of costs and benefits.

A second exception may arise under the 1996 Safe Drinking Water Act, which authorizes regulations that deviate from the conventional technology-based approach, provided that the benefits "justify" the costs. Although many interpret the standard as requiring a benefit-cost test, the word "justify" has no special meaning in economics. A statement that "the benefits justify the costs" does not clearly imply that the benefits exceed the costs. It is therefore unclear whether agencies and courts will view the standard of the Safe Drinking Water Act as an "unreasonable risk" test analogous to that of the Toxic Substances Control Act.

Recent efforts by conservative members of Congress to require that nearly all regulations pass a benefit-cost test have failed. Opponents feared that such a requirement would prevent agencies from regulating risks that cannot be quantified or expressed in monetary terms.

Piecemeal efforts to change statutes have met with mixed success. The Food Quality Protection of Act of 1996, for example, overturned a clause that had established a zero-risk standard for carcinogens in processed foods. But the same act also replaced a standard of unreasonable risk with a standard of "reasonable certainty of no harm" for tolerance of pesticides on raw produce. The unreasonable risk standard had been interpreted to require agencies to weigh both costs and benefits in setting tolerances. The term "reasonable certainty of no harm," according to statements in the *Congressional Record*, amounts to a risk of one additional cancer for every million persons exposed. It remains to be seen whether epa will adopt that interpretation. Nonetheless, we seem to have traded an antiquated prohibition on carcinogens in any amount *and* a functioning benefit-cost standard for a stringent health-based standard that may be relaxed only in those rare instances where its application would cause "significant disruption" of the nation's food supply. Given such scant progress toward the introduction of efficiency criteria into statutes, it is unlikely that the path to more efficient regulation lies in statutory reform.

Benefit-cost analysis can help to inform Congress and the public about the economic merits and effects of congressional mandates and agencies' actions.

Analyses that agencies conduct to show compliance with congressional intent generally do show compliance, but little more. Congressional intent, however, is rarely related to efficiency. Therefore, improved analysis to show compliance will rarely result in an improved understanding of the net benefits of regulations.

Regulatory Agencies' Economic Analysis as a Public Accounting Device Benefit-cost analysis can help to inform Congress and the public about the economic merits and effects of congressional mandates and agencies' actions. In fact, no other analytic approach yields a better summary of the effects of regulations on the national welfare. Such information gives Congress and the public a substantive, empirical basis for praising or criticizing regulatory decisionmakers. The importance of improved accountability to the public was recognized in the issuance of eo 12866.

Improved accountability is especially important in risk regulation because the public and members of Congress often misunderstand the nature of risks to health, safety, and the environment. Those misunderstandings allow advocates on both sides of a debate to overstate the issues at stake, for tactical advantage. One consequence is a polarization of public opinion, as in the debates about climate change. Another consequence is exaggerated fears of such potential hazards as alar, asbestos, and electromagnetic fields, leading to wasteful or counterproductive control efforts. Good benefit-cost analysis can help to keep risks in perspective and ensure more balanced policymaking in Congress and regulatory agencies.

Recent statutes have tried to enforce accountability through the use of agencies' own benefit-cost analyses,

but to little avail. The Unfunded Mandate Reform Act (UMRA), for example, requires agencies to disclose information about the costs or cost-effectiveness of new regulations. In particular, agencies must state whether a regulation is the least costly, most cost-effective, or least burdensome—or if not, why not. But EPA stated that a regulatory action relating to lead-based paint did not contain any "federal mandates" as described in UMRA because "the rule implements mandates specifically and explicitly set forth by Congress without the exercise of any political discretion by the EPA." Similarly, EPA determined that UMRA did not apply to national ambient air-quality standards for ozone because EPA was not permitted to consider "economic or technological feasibility" in meeting the standards. An agency may thus exempt itself from making even a simple statement about the nature of regulatory mandates by claiming that the statute requires the rule or limits the agency's ability to consider costs or feasibility.

A second example of legislative efforts to use agencies' benefit-cost analyses for greater accountability is the requirement that OMB report to Congress on the costs and benefits of all federal regulations. The first two reports, unsurprisingly, provide little critical information about the costs and benefits of recent rules. After OMB signs off on the summaries of costs and benefits of rules issued by federal agencies, why would it offer any critical information about the same costs and benefits?

The OMB report does give aggregate estimates of the costs and benefits of specific rules. But it does little to advance agencies' accountability because the aggregate estimates do not shed light on the agency-by-agency and statute-by-statute nature of the regulatory process.

In any event, statutory efforts to improve accountability through the use of agencies' benefit-cost analyses may be futile because of skepticism about the quality of those analyses. According to Lester Lave, a respected economist at Carnegie-Mellon University, government agencies' analyses have major flaws in "theory, quantification, and analysis." Robert Hahn, director of the AEI-Brookings Joint Center for Regulatory Studies, argues that public-choice theory suggests that bureaucrats defend and expand programs. Agencies' analyses must therefore be viewed skeptically because agencies tend to overestimate benefits and underestimate costs.

Winston Harrington, Richard Morgenstern, and Peter Nelson of Resources for the Future (RFF) compared agencies' prospective estimates of regulatory costs with retrospective cost estimates by independent researchers and concluded that prospective estimates of total costs exceeded retrospective estimates far more often than they fell short. But the prospective cost estimates typically assume full compliance with a new regulation, whereas retrospective estimates are lower because imperfect enforcement, waivers, and exemptions diminish a regulation's scope.

Comparisons of costs per unit of pollution avoided are more relevant than total costs because unit costs are less sensitive to changes in regulatory scope. Data given in the RFF paper *do* suggest that prospective cost estimates of *unit* costs are fairly inaccurate but not systematically biased. Prospective unit-cost estimates were as often too high as too low. Prospective unit-cost estimates differed from retrospective estimates by more than 25 percent for 12 of the 19 regulations considered in the RFF study.

Having shown that agencies' economic analyses are generally ineffective as management tools and generally inapplicable to questions of congressional intent, I may now add that agencies' economic analyses (justifiably) lack credibility with expert analysts *and* with the public and Congress. Before offering a remedy for the condition of economic analysis in federal agencies, I assess the general reliability of economics research and discuss institutional controls used to ensure its quality.

ECONOMIC ANALYSIS: HOW RELIABLE IS IT AND WHAT COULD MAKE IT BETTER?

Lacking a comprehensive assessment of the quality of agencies' economic analysis, I use as a proxy the quality of empirical economics research in academic journals. Researchers would generally agree that analyses by government agencies are no better than academic research.

The Quality of Economics Research in Academia The gold standard in science is consistency with empirical evidence. In economics, Milton Friedman argues that the only test of the quality of economic models should be their ability to predict data.

One test of whether research approaches that standard is its independent replicability. The degree of replicability demanded in any instance depends on the nature of the research. To be credible, physics experiments leading to claims of cold fusion must be independently replicable in their entirety. Economics research claiming, for example, that larger government deficits lead to higher interest rates is not subject to the same standard of replicability because of the impossibility of conducting a controlled test of such claims. Usually, in economics research, independent replication requires assessing whether the same conclusions result from the same data and analytic methods—a lower standard of replicability. Of course, a model based on research that meets the lower standard may not predict data as well as other models; thus it may be judged inferior by Friedman's test.

Surprisingly, efforts to replicate independently the results of peer-reviewed economics research often fail. The National Science Foundation (NSF) funded a major study in the 1980s that evaluated the replicability of results published in the respected *Journal of Money, Credit, and Banking*. Reporting in 1986, the authors of the NSF-funded study (William Dewald, Jerry Thursby, and Richard Anderson) concluded that "inadvertent errors in published empirical articles are a commonplace

rather than a rare occurrence." In particular, Dewald, Thursby, and Anderson were able to replicate the results published in only two of nine articles whose authors divulged their data and computer programs. They replicated almost all of the results in a third case, and in a fourth case their results were "qualitatively similar" to those published in the original article. Their findings in the other five cases were less happy, ranging from the observation that the results "differed greatly from those reported by the authors" to the generation of corrected equations "quite different" from those reported in the corresponding article. When, instead of using data the researchers agreed to share, Dewald, Thursby, and Anderson used data compiled from publicly available sources, they generally failed to replicate the original results.

The *American Economic Review* (aer), the flagship publication of the American Economics Association, recognizing that peer review may be inadequate to ensure reproducibility, now directs authors to document data clearly and precisely and to make the data available to any researcher for purposes of replication.

Such policies remain rare. In 1994, Anderson and Dewald reported that only three other economics journals routinely request data from authors. Anderson and Dewald also reported that the editors of 22 journals declined an invitation from nsf to request that their authors place data in the Inter-University Consortium for Political and Social Research at the University of Michigan.

The problem of irreproducible research is likely to be widespread for several other reasons:

- The authors of the nsf study reported that the editor of an unidentified major economics journal shares the belief that the nsf study's findings would be little different if based on research reported in journals other than *Money, Credit, and Banking*.
- Researchers have little incentive to seek to reproduce the work of others. To reproduce another researcher's work is of little value to one's career, is time-consuming, and requires hard-to-get cooperation from the original researcher.
- Irreproducibility is not confined to economics research; the statistical methods examined in the nsf study—sophisticated multiple-regression analyses—are similar to those used in epidemiology and related fields.
- There have been well-publicized cases of misconduct involving the publication of false research results in fields outside of economics. Indeed, a recent article in *Nature* suggests that dozens of published papers were based on fraudulent or falsified data.

Even research that is independently reproducible, as defined by the nsf researchers, may be significantly flawed. A much-cited 1983 aer article by Edward Leamer entitled "Let's Take the Con out of Econometrics" points to flaws of several types: failure to reveal the sensitivity of results to changes in the way a model is specified; use of tests of statistical significance to show that results are not attributable to chance, even though such tests are valid only if the model specification is itself valid; and presentation of only the model that yields the most interesting (publishable) results instead of various models with different results. Warnings about such practices are standard fare in econometrics classes. The same warnings apply to such other fields as epidemiology, which apply methods similar to those used in econometrics.

Controlling the Quality of Regulatory Agencies' Analyses

Available evidence suggests that regulatory agencies' benefit-cost analyses are often flawed. Arthur Fraas and I have found remarkable deficiencies in agencies' analyses, even though the analyses had been reviewed by omb and subject to public comment. We assessed 14 epa analyses supporting final rules for conformance to omb's best practices for economic analysis. (Those best practices are low hurdles: they are necessary but not sufficient conditions for sound analysis.) We found the following:

- Three of the 14 epa analyses used consistent baselines for costs and benefits and adequately reflected the effects of other government programs and regulations.
- Six analyses discussed alternatives to the proposed rules.
- Two analyses quantified bias and uncertainty in the estimates.
- Two analyses discounted future benefits and costs in a manner permitting consistent comparisons of alternative actions.

Although our findings are not definitive, because they are limited to a sample of one agency's analyses, they suggest that the quality of benefit-cost analysis conducted by federal agencies is poor. Moreover, our findings are broadly consistent with Robert Hahn's thesis that agencies conduct analyses to support their program objectives.

Some members of Congress have proposed the increased use of peer review to control the quality of agencies' benefit-cost analyses. For example, the Regulatory Improvement Act of 1999 (S. 746) would require agencies to convene outside panels to review all benefit-cost analyses of regulations with an annual cost of more than $500 million. But there is no congressional proposal for independent replication of agencies' analyses.

There is little hope, however, that government-sponsored peer review would be any more effective than academic peer review:

- There would be no effort to replicate results.
- No "editor" can deny publication if the quality of analysis is poor.
- Reviewers may take responsibility only for those elements of an analysis in which they have expertise.
- Agency analyses often draw on peer-reviewed academic articles, which may not always be independently replicable, as discussed above.
- Agency-managed peer review is unlikely to be as independent as academic peer review; some academic members of review panels may choose to "cooperate" rather than jeopardize prized memberships on advisory panels or agency funding of research.

The most comprehensive agency-managed peer review of a benefit-cost analysis is the review by epa's Science Advisory Board of epa's 1997 *Report to Congress on the Costs and Benefits of the Clean Air Act*. The estimates of billions of dollars in benefits continue to provoke deep skepticism. Some knowledgeable observers believe the estimates are implausibly high, even preposterous.

Another case is epa's failure to consider the benefits of low-level ozone in its 1997 regulation revising the ozone air-quality standard. In May 1999, the D.C. Circuit Court of Appeals blocked the standard because the court unanimously found epa's failure to consider the benefits of low-level ozone inconsistent with the Clean Air Act. Yet epa's Clean Air Scientific Advisory Committee had approved the risk assessment that excluded those benefits.

Although the two epa cases are not necessarily representative, they strongly suggest that peer review will not ensure that agencies conduct analyses that meet the test of replicability. Because agencies can control the agenda, peer review of their analyses is likely to be even less effective than peer-review of academic work, which does not prevent the publication of flawed analysis.

Independent replication of agencies' economic analyses offers the best hope of making agencies' analyses more accurate and reliable, and therefore more credible.

THE IMPORTANCE OF INDEPENDENT REVIEW

regulators and independent evaluators play an important role in almost all instances where complicated technical information is used in the United States. In particular, regulators and independent evaluators help to ensure the credibility of technical information by screening it for flawed claims. Independent review seems ubiquitous except for the case of regulatory analysis.

Claims about Private Goods Complicated technical information about the quality of private goods and services is generally subject to independent review, both by regulators and private organizations.

Consider financial markets, for example. Accounting firms follow standards of the independent Financial Accounting Standards Board in preparing and auditing corporations' financial statements. Corporations have to disclose information to investors in compliance with Securities and Exchange Commission regulations. Independent firms such as Moody's and Standard and Poor rate bonds based on sec-compliant financial statements. Brokerage firms analyze that and other information before making investment recommendations to their customers. Individuals and institutions rely on all of these types of information as they decide whether and how much to invest in various securities.

Independent replication of agencies' economic analyses offers the best hope of making those analyses more accurate and reliable, and therefore more credible.

Or consider a major consumer product—the automobile. epa tests the fuel efficiency of new cars and requires estimates of city and highway miles-per-gallon to be displayed on the sales sticker. *Consumer Reports* publishes the results of its own tests and surveys of fuel efficiency, safety, reliability, performance, and value.

When claims about quality and safety are included in advertising, the Federal Trade Commission may take action against unfounded statements. The Consumer Products Safety Commission (cpsc) can also get involved. In the 1980s, for example, sales of three- and four-wheeled all-terrain vehicles (atvs) more than tripled. Following a spate of injuries and deaths, cpsc filed an advance notice of proposed rulemaking and sued the manufacturers of certain atvs. The rulemaking was cancelled and the suit settled when the manufacturers and cpsc agreed to a consent decree that required the manufacturers to provide free safety training, conduct a public-awareness campaign, and place warnings on equipment and in manuals. When cpsc later issued a resolution commending certain atv manufacturers for their efforts to promote safety, Consumers Union (publisher of *Consumer Reports*) issued a press release critical of cpsc.

Food manufacturers can make claims about links between foods and health only with prior approval by the Food and Drug Administration (FDA), even when such claims are based on independent academic research. For example, scientific research in the 1970s and 1980s showed that consumption of oat bran lowers the risk of coronary heart disease. A breakfast-cereal producer asked FDA for permission to claim that benefit on labels of foods containing oat bran. FDA approved the request, provided that the claims were accompanied by a caveat that, to be effective in reducing the risk of heart disease, oat bran should be part of a low-fat, low-cholesterol diet.

Claims about Public Goods For a more pertinent example of the value of independent review of information about regulatory issues, I turn to the federal budget. The development of the federal budget plan depends, to a great extent, on the objectivity and nonpartisanship of the Congressional Budget Office (CBO) and, to a lesser extent, on checks and balances between CBO and OMB.

Overt political control and the lack of CBO-like review precisely describes the current condition of regulatory analysis—it is devoid of systematic, independent review.

The importance of CBO's objectivity and nonpartisanship is evident in the annual appropriations process. CBO prepares a report of 10-year economic and budget forecasts that serves as a baseline for the assessment of alternative budgets and revenue and spending bills. CBO then estimates the economic and budgetary implications of the president's proposed budget and of almost every bill reported by congressional committees. Those estimates are integral to the bill-drafting process, but they would not be if CBO had not carefully cultivated its reputation for independence.

An example of CBO's independence can be found in the 1993 debate over President Clinton's proposed Health Security Act. Clinton's proposal would have expanded greatly the role of government in health care, with uncertain implications for government spending and revenues. CBO director Robert D. Reischauer repeatedly warned that Clinton's plans to extend health coverage to millions of uninsured Americans and otherwise improve the nation's health-care system would cost more money, not less. Due in part to Reischauer's warnings, the Clinton proposal died.

The prevalence of checks and balances in budgetary analysis is illustrated by the procedures for making across-the-board spending cuts to enforce caps on discretionary outlays. Across-the-board cuts—known as sequestration—are called for by the Deficit Control Act to ensure that deficit-reduction targets are met. OMB, which has the authority to impose a sequestration, determines whether a sequestration is required, but OMB is spurred to make a good estimate of the need for sequestration because CBO makes a competing, advisory estimate.

Although budget estimates are sometimes controversial, there would be more controversies if CBO were subject to overt political control and if OMB's budget estimates were not reviewed by CBO. Yet overt political control and the lack of CBO-like review precisely describes the current condition of regulatory analysis—it is devoid of systematic, independent review. Instead:

- A regulatory agency's benefit-cost analysis is released when a regulatory proposal is published in the *Federal Register*.
- The agency solicits public comment on various aspects of its analysis.
- Based in part on public comment and comments from other agencies, the issuing agency publishes revised benefit-cost analyses when a final regulation is issued.

Note the absence of systematic review by academics or by an institution not affiliated with the executive branch.

OMB has a central role in reviewing regulatory agencies' analyses. Under EO 12866 (as with earlier EOs) an agency submits to OMB not only a proposed rule but also the supporting benefit-cost analysis. OMB, which has expertise in agencies' programs as well as risk assessment and benefit-cost analysis, reviews the agency's rule and supporting analysis before the agency publishes them in the *Federal Register*.

Yet, in the Clinton administration, OMB generally has not publicly criticized agencies' analyses or regulations. OMB's 1996 report on the third anniversary of EO 12866 does not refer to any letter from OMB to agencies in which OMB overturned a draft regulation or criticized an agency's analysis. Although OMB staff memos critical of agencies' analyses appear in some regulatory dockets, such memos typically stop short of concluding that the analyses fail to support proposed regulations.

By contrast, during the Bush administration, OMB returned draft regulations to agencies for reconsideration when OMB found the drafts inconsistent with the then-applicable executive order. OMB's return letters often

were accompanied by lengthy critiques of agencies' regulatory-impact analyses. Similarly, during the Carter administration, the federal Council on Wage and Price Stability filed public comments on proposed regulations and criticized supporting analyses as well as regulatory proposals.

The fact that OMB has not openly criticized draft rules and supporting analyses since 1993 indicates the Clinton administration's preference, not OMB's lack of ability.

The critical void has not been filled by other government reviews, or by any congressional office. Even agencies' own scientific advisory panels generally do not review economic analyses of regulations.

Table 1 summarizes the examples I have discussed in this section.

INDEPENDENT REPLICATION AS A STEP TOWARD BETTER REGULATIONS

I have argued that widespread skepticism about the reliability and accuracy of agencies' benefit-cost analyses makes it difficult to hold agencies accountable for inefficient regulatory decisions. The most effective means of diminishing that skepticism is a systematic, independent effort to replicate major regulatory analyses. Independent replication, if seen as a form of independent review, would be consistent with procedures that have been institutionalized in other fields where there is reliance on complicated technical information.

Unlike recent reform efforts (e.g., the Unfunded Mandates Reform Act), independent replication would not rely on information provided by regulatory agencies. Replication efforts would, instead, identify flawed analyses and help to prevent their acceptance by the public and Congress.

Independent replication is a legitimate governmental function because regulatory information, like national defense, is a public good and thus it is likely to be undersupplied by private markets. As with national defense, the consumption of regulatory information by one person does not reduce the amount available to others. In addition, unlike other types of information, regulatory information may be undersupplied by private markets because the value of the information cannot be determined until the information has been produced. Finally, regulatory information is of little direct value to consumers.

Two years ago, Heather Ross of Resources for the Future proposed the creation of a congressional office to assess the quality of analysis supporting key regulatory decisions. Her proposal was aimed specifically at generally neglected provisions of the Small Business Regulatory Enforcement and Fairness Act that enable fast-track congressional votes to overturn selected regulations. The office proposed by Ross would limit the use of bad analysis to support bad regulatory policies. Because of its independence from the executive branch, it would be able to criticize agencies' analyses of popular regulatory proposals. It would conduct its research in parallel with OMB's reviews of agencies' analyses, timing the release of its findings to coincide with the public-comment phase of rulemaking, so that the findings would be admissible in agencies' dockets without causing delays in rulemaking. The analyses produced by the congressional office would likely provide additional information about the benefits and costs of proposed regulations, thus improving the soundness of regulatory decisions.

How would such an office differ from private centers for regulatory studies such as the AEI-Brookings Joint Center for Regulatory Studies (where I am a fellow), the Center for the Study of American Business at Washington University, the Mercatus Center at George Mason University, and the Center for the Study and Improvement of Regulation at Carnegie-Mellon University? The availability and stability of long-term funding for private centers is uncertain. They would have to grow substantially before they could adequately address the volume of regulatory analyses issuing from agencies.

More important, it is unclear whether private centers would be seen as objective or political by regulatory agencies, Congress, or the public. The centers would, quite naturally, assess decisions as well as the analyses underly-

Table 1

Production, Evaluation, and Use of Technical Information

Subjects of information	Sources of information	Regulatory authorities	Evaluators	Institutional purchasers or users	Types of consumers
Securities	Corporations, accounting firms	SEC, FASB	Moody's, S&P, brokerage houses	Investment houses	Private investors
Consumer products	Manufacturers	CPSC, FTC	Underwriters' Laboratories, *Consumer Reports*	Retail stores, mail-order houses	All consumers
Health claims for food	Academic researchers	Food and Drug Administration		Supermarkets, other food stores	All consumers
Federal budget estimates	Congressional Budget Office, Office of Management and Budget			Congress, White House	Voters
Regulatory costs and benefits	Executive branch regulatory agencies, Office of Management and Budget			Congress, White House	Voters

ing those decisions, evaluating regulatory effects that are difficult or impossible to quantify or express in monetary terms. The centers' assessments would necessarily have subjective aspects and would be open to criticism by observers and interested parties with different subjective views about the same regulatory effects.

A federal office dedicated to the independent replication of regulatory agencies' economic analyses could avoid political controversies associated with the related regulatory proposals. In particular, such an office could be directed to address only the completeness and replicability of agencies' benefit-cost analyses, including the sensitivity of the estimates to alternative assumptions. It would not assess whether the benefits justify the costs. Such an office would complement the private centers, focusing on the quality of analysis while the private centers address the wisdom of regulatory proposals.

CONCLUSION

current regulatory analyses lack the broad acceptance or respectability that they should enjoy. Instead of serving as a point of departure in policy debates, they invite contention. Unlike CBO's budget forecasts, regulatory analyses often meet with rejection by informed analysts. Indeed, some respected analysts see many as contrived to serve a political agenda. Such analyses cannot adequately inform the public and Congress about the effects of regulatory decisions or foster the accountability of regulatory decisionmakers to the public.

Present arrangements to ensure the reliability of agencies' analyses are inadequate. The analyses are not subject to outside peer review, which is unlikely to be adequate in any event, given the track record of academic peer review. Unlike other complicated technical information used in the United States, agencies' economic analyses are not reviewed by independent third parties. Thus there is no reason, other than assertions by interested administration officials, to believe that agencies' analyses are correct and reliable.

Congress should create a new, independent, federal office dedicated to the replication of major regulatory analyses. The mission of the office would be to investigate whether agencies' estimates of benefits and costs are complete, replicable, and consistent with results produced by other estimation methods. The work of the office should lead to (1) a significant improvement in public and congressional confidence in the reliability of agencies' estimates of costs and benefits and (2) a better understanding of the merits of regulatory proposals.

Most important, however, independent review would raise expectations for the quality of regulatory analysis and thus foster better analysis—and presumably better regulations—in the long run. Without a better understanding of the effects of regulations, we will continue to adopt many that are costly and ineffective.

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