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EMPIRICAL ANALYSIS AND ADMINISTRATIVE LAW

Cary Coglianese*

Empirical research has been used to study many areas of law, including administrative law. In this article Professor Coglianese discusses the current and future role of empirical research in understanding and improving administrative rulemaking. Criticism of government regulation and calls for regulatory reform have grown in the last few decades. Empirical research is a valuable tool for designing reforms that will truly improve the effectiveness, efficiency, and legitimacy of regulatory governance. Specifically, Professor Coglianese discusses three areas of administrative law that have benefited from empirical research—economic review of new regulations, judicial review of agency rulemaking, and negotiated rulemaking.

Agencies are now required to perform a cost-benefit analysis of all major regulations. Those analyses themselves are empirical in nature, and further empirical research has been conducted to examine what effect these analyses have on the rulemaking process. Judicial review has also benefited from empirical research, and would benefit from still further such research. Scholars debate whether judicial review improves governance or ossifies agencies due to fear of potential judicial challenges. Despite the widespread belief that agencies are retreating from rulemaking, the empirical evidence is actually more mixed, with few agency rules ever reversed due to judicial review. Finally, negotiated rulemaking is meant to avoid litigation and speed up the rulemaking process, yet the empirical research to date shows that negotiated rules take as long to develop as nonnegotiated rules, and are challenged more often than nonnegotiated rules. Overall, empirical research on how procedures affect administrative agencies is vital to improving administrative law in ways that will contribute to more effective and legitimate governance.

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INTRODUCTION

Even though politicians may sometimes proclaim that the era of big government is over, government regulation has established a firm foothold in the United States over the past century. Each year, federal regulations impose hundreds of billions of dollars in costs on the economy and provide significant benefits to society in terms of improved safety, health, and environmental conditions.¹ Despite the permanence of government regulation, in recent decades the public has grown increasingly distrustful of government, and regulatory policy has found itself subject to controversy and criticism from virtually all quarters.² According to some, government regulatory agencies have grown unresponsive and “ossified,” failing to achieve the public goals that they were established to serve.³ To others, regulatory policy has become afflicted with “tunnel vision,” with government devoting large amounts of resources to addressing relatively minor problems.⁴ Still others claim that the regulatory process suffers from the “pathologies of adversarial legalism” which inhibit the ability of government to develop more coherent and effective regulatory strategies.⁵

Criticism of government regulation has sometimes resulted in changes to the substance of regulatory policy, such as has occurred with the deregulation of the airline and telecommunications sectors.⁶ For at least the past twenty years, however, some of the most prominent and persistent calls for regulatory reform have tended to be procedural ones, including proposals to make agency decision-making procedures more transparent, politically responsive, and analytically rigorous.⁷ These reform proposals have sought not so much to restructure the substance of regulatory policy, but instead to restructure the institutional environment of regulatory policymaking. They have sought, in short, to change administrative law.

Recent regulatory reform proposals reveal how much administrative law is centrally concerned with promoting more legitimate and effec-

1. See OFFICE OF MGMT. & BUDGET, MAKING SENSE OF REGULATION 3 (2001), available at <http://www.whitehouse.gov/omb/inforeg/costbenefitreport.pdf> (reporting estimated costs of social regulation ranging from about \$150 billion to \$250 billion annually, and estimated aggregate benefits of \$250 billion to more than \$1 trillion annually).

2. For analyses of recent criticisms of government in the United States, see DEREK BOK, THE TROUBLE WITH GOVERNMENT 43–55 (2001); WHY PEOPLE DON'T TRUST GOVERNMENT (Joseph S. Nye et al. eds., 1997).

3. See Thomas O. McGarity, *Some Thoughts on Deossifying the Rulemaking Process*, 41 DUKE L.J. 1385, 1387–96 (1992).

4. See STEPHEN BREYER, BREAKING THE VICIOUS CIRCLE 11–19 (1993).

5. See Robert A. Kagan, *Adversarial Legalism and American Government*, 10 J. PUB. POL. ANAL. & MGMT. 369, 384 (1991).

6. See MARTHA DERTHICK & PAUL J. QUIRK, THE POLITICS OF DEREGULATION 238–46 (1985).

7. See generally Sheila Jasanoff, *Negotiation or Cost-Benefit Analysis: A Middle Road for U.S. Policy?*, 2 ENVTL. F., July 1983, at 37.

tive governance.⁸ Administrative law is constructed and reconstructed on the basis of assumptions about how particular procedural arrangements will affect the behavior and performance of government officials and organizations. As a result, the insights and methods of other disciplines, such as political science, economics, and organizational behavior have contributed greatly to the development of administrative law scholarship.⁹ Indeed, interest in interdisciplinary work in administrative law appears to be growing. For example, much political economy analysis has focused on how legislatures and executives try to use administrative procedures to exercise control over the policy decisions of unelected bureaucrats.¹⁰ Other recent research has analyzed judges' voting records in administrative law cases to test the extent to which judicial decision making correlates with political ideology.¹¹

Empirical research can contribute to a clearer understanding of the role that administrative law can play in democratic governance. It can also give us a better idea of how reforms to regulatory institutions and processes can improve the effectiveness, efficiency, and legitimacy of regulatory governance. Just as substantive changes to regulatory policy should be judged by their impact on society, so too should changes to the regulatory process be assessed by their outcomes.¹² Given the steady interest in reforming the regulatory process, empirical analysis can profitably extend itself further and in new directions. Scholars and policymakers have much more to learn from the careful and systematic empirical study of administrative law.

In this article, I argue for increased use of empirical analysis to evaluate how well institutional procedures and designs achieve public goals. Social science research strategies provide an important basis for evaluating the effects of various kinds of procedures on administrative rulemaking. After introducing some basic concepts and issues in empirical research on administrative law, I proceed to illustrate the value of empirical analysis by focusing on three salient aspects of regulatory pro-

8. See Cary Coglianese, *Administrative Law*, in 1 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL AND BEHAVIORAL SCIENCES 87–88 (Neil J. Smelser & Paul B. Baltes eds., 2001).

9. See PETER H. SCHUCK, *FOUNDATIONS OF ADMINISTRATIVE LAW* 3 (1994) (noting that much of administrative law scholarship “is a product of disciplines other than law relying on methodologies other than case analysis [and] embraces the positive and the normative, the empirical and theoretical, the doctrinal and behavioral”).

10. For examples of the growing public choice literature on administrative procedure, see *infra* note 16.

11. See William S. Jordan III, *Judges, Ideology, and Policy in the Administrative State: Lessons from a Decade of Hard Look Remands of EPA Rules*, 53 ADMIN. L. REV. 45, 47–48 (2001); Richard L. Revesz, *Congressional Influence on Judicial Behavior? An Empirical Examination of Challenges to Agency Action in the D.C. Circuit*, 76 N.Y.U. L. REV. 1100, 1100–05 (2001); Richard L. Revesz, *Environmental Regulation, Ideology, and the D.C. Circuit*, 83 VA. L. REV. 1717, 1717–21 (1997). For an example of the still broader literature on judicial behavior, see JEFFREY A. SEGAL & HAROLD J. SPAETH, *THE SUPREME COURT AND THE ATTITUDINAL MODEL* (1993).

12. See Cass R. Sunstein, *Paradoxes of the Regulatory State*, 57 U. CHI. L. REV. 407, 409 (1990) (arguing that “evaluation of regulatory controls and legal doctrine must depend in large part on their effects in the world”).

cedure: (i) economic analysis of new agency rules; (ii) judicial review of agency rules; and (iii) negotiated rulemaking. In these and other areas, empirical analysis provides decision makers and scholars with the means for making more informed choices about how to design effective and legitimate governing institutions.

I. ADMINISTRATIVE LAW AND EMPIRICAL INQUIRY

Administrative law seeks to guide the use of government authority in ways that promote values such as democracy, fairness, effectiveness, and efficiency. Legal scholars have long recognized the discretion held by agency officials who are not directly accountable to the public, viewing this discretion both as a reality of legislative delegation as well as a problem to be solved.¹³ The aim in much of the literature has been to identify procedures that encourage administrators to exercise their discretion in socially desirable ways. For example, by making administrative decision making transparent through requirements for public comment and open meetings, administrative procedures give citizens and organized interests the ability to represent their views in the administrative process.¹⁴ Open procedures are thought to foster pluralist politics that protect against regulatory capture, the danger that an industry will come to control an agency's decision making to secure private benefits.¹⁵

More recently, researchers have studied administrative procedures as efforts by legislators to try to hardwire agency policymaking.¹⁶ From the standpoint of the legislator, administrative discretion creates the potential for bureaucratic drift. This occurs when the agency makes choices other than those the enacting legislative coalition would have preferred. Legislators themselves are not able to monitor directly all of the activities of the regulatory agencies they create.¹⁷ Consequently, administra-

13. For empirically oriented treatments of agency discretion, see MICHAEL LIPSKY, *STREET-LEVEL BUREAUCRACY: DILEMMAS OF THE INDIVIDUAL IN PUBLIC SERVICES* 13–28 (1980); THE USES OF DISCRETION 47–88 (Keith Hawkins ed., 1992).

14. See Richard B. Stewart, *The Reformation of Administrative Law*, 88 HARV. L. REV. 1667 (1975).

15. For one of the classic discussions of regulatory capture, see George J. Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGT. SCI. 3 (1971).

16. See Kathleen Bawn, *Political Control Versus Expertise: Congressional Choices About Administrative Procedures*, 89 AM. POL. SCI. REV. 62 (1995); David Epstein & Sharyn O'Halloran, *Administrative Procedures, Information and Agency Discretion*, 38 AM. J. POL. SCI. 697 (1994); John Ferejohn & Charles Shipan, *Congressional Influence on Bureaucracy*, 6 J.L. ECON. & ORG. 1 (1990); Jonathan R. Macey, *Organizational Design and Political Control of Administrative Agencies*, 8 J.L. ECON. & ORG. 93 (1992); Mathew D. McCubbins et al., *Administrative Procedures as Instruments of Political Control*, 3 J.L. ECON. & ORG. 243 (1987); Mathew D. McCubbins et al., *Structure and Process, Politics and Policy: Administrative Arrangements and the Political Control of Agencies*, 75 VA. L. REV. 431 (1989); David B. Spence, *Managing Delegation Ex Ante: Using Law to Steer Administrative Agencies*, 28 J. LEGAL STUD. 413 (1999); Pablo T. Spiller & Emerson H. Tiller, *Decision Costs and the Strategic Design of Administrative Process and Judicial Review*, 26 J. LEGAL STUD. 347 (1997).

17. See Terry M. Moe, *The Politics of Bureaucratic Structure, in CAN THE GOVERNMENT GOVERN?* 271, 271–72 (John E. Chubb & Paul E. Peterson eds., 1989).

tive procedures provide a potential solution to the problem of bureaucratic drift as they may facilitate monitoring by interest groups or otherwise help entrench the policy preferences of the original legislative coalition.¹⁸

Positive political economy has made an important contribution by revealing how administrative procedures can be policy instruments themselves. When legislators or executive branch officials impose procedural requirements on administrative agencies, they purportedly do so in order to achieve some instrumental goals, including improving the efficiency or cost-effectiveness of regulations, preventing capture, reducing conflict, or changing the pace of the rulemaking process. These goals may not always be, or perhaps even are seldom likely to be, fully consistent with the broader public interest, but the reforms are nevertheless intended to have some consequences. A key question is whether different procedural arrangements actually achieve the goals that they are intended to achieve or that others might want them to serve.

Reform proposals are based, either explicitly or implicitly, on a set of claims about how some outcome in the world would be different (usually for the better) if the reforms were adopted. Through empirical analysis, the researcher is able to assess the impact of these reforms, or any other policy intervention, on those intended outcomes. Such analysis provides a basis for understanding how changes in the behavior and outcomes of regulatory agencies arise due to changes in the standards and procedures that govern these agencies. In short, empirical analysis shows whether administrative law makes a difference.

From the standpoint of those interested in institutional design and regulatory policy, empirical analysis is essential to determining how institutions and procedures affect regulatory decision making. For example, in deciding whether to impose or keep in place requirements that agencies conduct cost-benefit analysis before issuing new rules, the key question is whether regulatory decisions improve with respect to intended and measurable criteria when these requirements are imposed. Do the requirements lead to regulatory decisions that are themselves more efficient? This necessitates empirical analysis to determine the costs and benefits of regulatory decisions made in the absence of these requirements, and to compare them with the costs and benefits of regulations made under conditions where economic analysis requirements are imposed. Also, it will be relevant to investigate whether such requirements lead to other changes in regulatory decisions. For instance, do they delay the imposition of new regulations that might otherwise be net beneficial? To decide whether the benefits of additional economic analysis outweigh the costs of conducting the analysis, it is necessary to evaluate the impact

18. See, e.g., DAVID EPSTEIN & SHARYN O'HALLORAN, *DELEGATING POWERS: A TRANSACTION COST POLITICS APPROACH TO POLICY MAKING UNDER SEPARATE POWERS* 24-27 (1999) (discussing administrative procedures as a solution to the problem of bureaucratic drift).

analytical requirements have in terms of relevant outcomes of interest, such as efficiency or rulemaking time.

The purpose of empirical analysis, at its core, is to explain variation and support causal inferences. Empirical analysts of administrative law seek to determine whether measured outcomes vary depending on which procedure is used. The aim is to identify how much of what is observed can be attributed to a particular procedure as opposed to other factors that might affect the outcomes of concern. This is accomplished by comparing the observed outcomes with estimates of the counterfactual, or what would have happened in the absence of the regulatory procedure being tested.¹⁹

Researchers can never observe the counterfactual because it calls for them to consider what would have happened rather than what did happen.²⁰ However, empirical analysts can frequently make reasonably valid estimates of what would have happened for purposes of comparison. They do this by measuring a set of outcomes that arise under a new procedure with the outcomes that arise in a similar context where the new procedure does not exist.

There are three basic ways to conduct empirical research.²¹ The first of these, a controlled experiment, is the ideal model for empirical research. In a controlled experiment, researchers control conditions in a laboratory environment, varying one factor at a time so that any change in outcome can be attributed to the factor that was varied. If all the other potential contributing factors to the outcome are held constant, the counterfactual can be estimated quite clearly. It is evidenced by the outcome prior to the change made in the factor manipulated by the researcher. With this approach, researchers can have an extremely high degree of confidence that any resulting changes were due to the treatment manipulated by the researcher. Of course, empirical analysis of administrative law cannot proceed via the kind of laboratory experiments that are used in the physical sciences, but the controlled experiment does provide an important model for other research strategies.

The second way empirical research can be structured is to use a randomized experiment, which is the next best strategy to a controlled experiment. A randomized experiment requires that the outcomes in a group of treated entities (the treatment group) be compared with the outcomes in a group of untreated entities (the control group). The control group provides the basis upon which the researcher can infer the

19. LAWRENCE B. MOHR, *IMPACT ANALYSIS FOR PROGRAM EVALUATION* 2-3 (2d ed. 1995) ("The crux of the impact analysis of the efficacy of a treatment program . . . is a comparison of what did happen after implementing the program with what would have appeared had the program not been implemented.") (emphasis omitted); see also Lee Epstein & Gary King, *The Rules of Inference*, 69 U. CHI. L. REV. 1, 37 (2002) (discussing counter-factual inference).

20. See MOHR, *supra* note 19, at 2-3.

21. For a thorough discussion of research design strategies, see DONALD T. CAMPBELL & JULIAN C. STANLEY, *EXPERIMENTAL AND QUASI-EXPERIMENTAL DESIGNS FOR RESEARCH* (1963).

counterfactual. Of course, it is always possible that factors other than the treatment could explain any observed differences in outcome between two groups. This potential for confounding factors is addressed by randomly assigning the treatment so that, on average, changes in any confounding factors will cancel each other out across both the control and treatment groups, leaving any observed difference in outcomes attributed with confidence to the treatment. By definition, the randomized experiment requires random assignment of the treatment, and this may seldom be feasible in the realm of administrative law or other settings where norms of equal treatment prevail.

The third way to design empirical research is through an observational study, which is available whenever laboratory controls and randomized treatment are not feasible. There are two basic types of observational studies: longitudinal and cross-sectional. A longitudinal design compares outcomes over time. The outcomes before the adoption of a reform are compared with outcomes after its adoption. A cross-sectional design compares outcomes in the same time period between one group operating under the procedure and one that does not. In other words, the researcher can compare the outcomes in jurisdictions or individual cases that operate under one set of procedures with jurisdictions or cases operating under another procedure. If all things other than the existence of the procedure are equal, then the researcher can make a strong inference that observable differences in the outcomes between the two groups over time or across domains resulted from the procedure. This is referred to as the procedure's impact.

Of course, other things are not always equal in an observational study because the treatment and comparison groups have not been randomly selected. As a result, the researcher needs to take into account factors other than the procedure that might be affecting the outcome.²² Sometimes, for example, procedural changes occur in conjunction with other changes, making it more difficult to untangle the precise effect of the procedure versus other factors. For example, consider how a researcher might assess the impact of President Reagan's 1981 executive order requiring agencies to conduct economic analysis for all major rules. If a researcher simply compared regulations prior to 1981 with those issued later, it might be difficult to determine how much of any observed difference is due to the executive order versus how much is due to the fact that Reagan political appointees, possessing different policy ideologies than their predecessors, took charge of the various federal regulatory agencies at about the same time. A way around this potential problem might be to shift from a longitudinal design to a cross-sectional one, comparing regulatory decisions at the state level. Researchers might compare similar kinds of regulatory decisions between states with eco-

22. See Epstein & King, *supra* note 19, at 78.

conomic analysis requirements and states without such requirements, all the while controlling for other factors that might affect the outcome such as party control of the state's legislature or governor's office.

A related problem may arise when agencies can voluntarily choose to adopt a procedure. For example, imagine that agencies were not required to conduct economic analysis but could voluntarily choose to do so. Researchers comparing outcomes in those rulemakings where the agency chose to conduct an analysis with those where it did not would confront a significant possibility of selection bias.²³ The rules voluntarily selected for economic analysis may well not be a representative subset of all agency rules. One might speculate that agencies would be more likely to employ benefit-cost analysis voluntarily for those rules that the agency believes have positive net benefits. Alternatively, agencies might voluntarily use economic analysis for those rules which have the largest costs associated with them, which could mean that from the start these would be rules that are less likely to have positive net benefits. An empirical researcher would therefore need to consider whether selection bias might partly explain any differences found between the treatment and comparison groups.²⁴

If the samples being compared are large and randomly selected, and assignments to the treatment group are also made randomly, then researchers can have considerable confidence in inferences about the procedure's impact, as other factors should be distributed about the same in both samples.²⁵ Large random samples, however desirable, are not necessary in order to draw reasonable inferences, and random assignment is often not available in empirical research on administrative law.²⁶ In the absence of random assignment and large samples, empirical researchers who undertake longitudinal or cross-sectional observational studies still must seek to control for other possible factors and assess the degree of confidence they can properly have in their inferences. Analysis can and does proceed even in the absence of large samples, but researchers must select an appropriate research design and take care to consider possible threats to the validity of their inferences.²⁷ Only through such careful and systematic empirical research will scholars be able to learn how ef-

23. See GARY KING ET AL., *DESIGNING SOCIAL INQUIRY: SCIENTIFIC INFERENCE IN QUALITATIVE RESEARCH* 128-38 (1994) (discussing the general problem of selection bias in empirical research).

24. See Cary Coglianese, *Assessing Consensus: The Promise and Performance of Negotiated Rulemaking*, 46 DUKE L.J. 1255, 1312-21 (1997) (investigating the potential for selection bias in a cross-sectional study of the impact of negotiated rulemaking).

25. KING ET AL., *supra* note 23, at 94 (discussing the value of random selection and large samples).

26. *Id.* at 94-95 (noting that inferences can be made even without large, random samples).

27. See MOHR, *supra* note 19, at 55-92 (discussing potential threats to "the validity of an inference or conclusion about a program impact based on a certain design"); Epstein & King, *supra* note 19, at 112-14 (discussing strategies for research based on small samples).

fective different procedural reforms turn out to be in improving government regulation.

II. ECONOMIC REVIEW OF NEW REGULATIONS

Perhaps the most significant and persistent complaint about government regulation has been that it imposes excessive costs on the economy. For decades, reformers have argued for more cost-effective and efficient forms of regulation than currently exist.²⁸ It is widely accepted that the costs of different health, safety, and environmental regulations vary markedly, with some regulations costing only tens of thousands of dollars for each life saved while others cost billions of dollars per life saved.²⁹ This variation in cost-effectiveness suggests that government could save more lives for an equivalent investment of social resources by reallocating its priorities toward those regulatory efforts that are most cost-effective.³⁰

Reforms to improve the cost-effectiveness of federal regulation date back at least to the Ford administration.³¹ In 1981, President Reagan issued an executive order requiring agencies to conduct economic analysis of proposed regulations and to have their analyses reviewed by the Office of Management and Budget, an approach that has been followed by each subsequent administration.³² In the mid-1990s, Congress proposed legislation that would have required agencies not only to conduct economic analysis, but to have new regulations effectively pass a benefit-cost test.³³ While some of the more sweeping proposals introduced at the

28. For some of the early economic analysis of less costly regulatory strategies, see JOHN DALES, *POLLUTION, PROPERTY, PRICES* (1968); A. C. PIGOU, *THE ECONOMICS OF WELFARE* (4th ed. 1932).

29. See BREYER, *supra* note 4, at 24–27; Robert W. Hahn, *Regulatory Reform: What Do the Government's Numbers Tell Us?*, in *RISKS, COSTS, AND LIVES SAVED: GETTING BETTER RESULTS FROM REGULATION* 208, 230–31 (Robert W. Hahn ed., 1996); John F. Morrall III, *A Review of the Record*, 10 *REGULATION* 25 (1986); Tammy O. Tengs et al., *Five-Hundred Life-Saving Interventions and Their Cost-Effectiveness*, 15 *RISK ANALYSIS* 369, 371 (1995); W. Kip Viscusi, *Regulating the Regulators*, 63 *U. CHI. L. REV.* 1423 (1996); SHEILA M. CAVANAGH ET AL., *NATIONAL ENVIRONMENTAL POLICY DURING THE CLINTON YEARS* (John F. Kennedy School of Government Harvard University Faculty Research Working Paper No. RWP01-027, June 2001).

30. See Tammy O. Tengs & John D. Graham, *The Opportunity Costs of Haphazard Social Investments in Life-Saving*, in *RISKS, COSTS, AND LIVES SAVED: GETTING BETTER RESULTS FROM REGULATION*, *supra* note 29, at 167, 177 (suggesting that as many as 60,000 additional lives could have been saved each year if society reallocated its investments more cost-effectively across nearly 200 life-saving strategies).

31. For a review of the history of rulemaking reform, see Murray Weidenbaum, *Regulatory Process Reform: From Ford to Clinton*, 20 *REGULATION* 20 (1997). Similar kinds of reforms have occurred at the state level. See ROBERT W. HAHN, *State and Federal Regulatory Reform: A Comparative Analysis*, in *COST-BENEFIT ANALYSIS: LEGAL, ECONOMIC, AND PHILOSOPHICAL PERSPECTIVES* 37 (Matthew D. Adler & Eric A. Posner eds., 2001).

32. See, e.g., Exec. Order No. 12,291, 46 Fed. Reg. 13,193 (Feb. 19, 1981) (issued by President Reagan and affirmed by President George H.W. Bush); Exec. Order No. 12,886, 58 Fed. Reg. 51,735 (Oct. 4, 1993) (issued by President Clinton and so far retained by President George W. Bush).

33. See, e.g., Regulatory Reform Act of 1995, S. 291, 104th Cong. (1995) (proposing to require agencies, prior to issuing a new rule, to make “a reasonable determination . . . that the benefits of the

time were never adopted, Congress did pass the Unfunded Mandates Reform Act,³⁴ which essentially codified existing executive branch requirements for agencies to perform economic analysis.³⁵ Agencies are now required by both executive order and statutory prescription to perform an assessment of the costs and benefits of any proposed regulation that would impose annual costs of more than \$100 million on the economy.³⁶

These changes to the administrative process aim to increase the cost-effectiveness and efficiency of federal regulation by compelling agencies to assess benefits and costs and to search for the lowest cost strategies. Executive Order 12,866 adopts the principle that agencies should “assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating,” and “in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits.”³⁷ By conducting the required economic analyses, agencies are confronted with the need to define problems, articulate alternative solutions, and consider which solution will best solve the problem using the least amount of resources.

The way that economic analysis is supposed to lead to improved efficiency can be specified in three basic steps. First, by conducting economic analysis, an agency is supposed to arrive at reasonably accurate estimates of the benefits and costs of different policy options. Second, the agency is supposed to make decisions that are consistent with the results of this economic analysis, that is, by choosing the options that impose the lowest costs for a given level of benefits or that achieve the greatest net benefits. Finally, the decisions that agencies make on the basis of economic analysis should be different from—that is, more efficient than—the ones that they would make in the absence of the analysis. If an agency would still have adopted the least cost or greatest net benefit approach in the absence of the economic analysis requirement, then the requirement would be superfluous. In short, economic analysis requirements need to have an independent effect on what an agency does, making its decisions more efficient than they otherwise would be.

How well has the process of requiring economic analysis improved the efficiency of regulatory outcomes? Even though intuitively it may seem that such a requirement would make a difference, the question is ultimately an empirical one. Rather than simply assuming that an economic analysis requirement will lead to more cost-effective or efficient decisions, empirical analysis can be used to determine whether and how

rule justify the costs of the rule, and that the rule will substantially achieve the rulemaking objectives in a more cost-effective manner”).

34. 2 U.S.C. § 1501 (1997).

35. For a discussion of the proposed regulatory reform legislation in the 1990s, see CAVANAGH ET AL., *supra* note 29, at 10–13, 44–47.

36. 2 U.S.C. § 1532(a)(2); Exec. Order No. 12,866, 58 Fed. Reg. 51,735 (Oct. 4, 1993).

37. Exec. Order No. 12,866, *supra* note 32, § 1.

the procedural requirement for economic analysis changes regulatory outcomes.

A growing body of empirical research has recently emerged that examines the impact of economic analysis requirements. With respect to the accuracy of economic analysis, several studies have raised questions about the quality of economic analyses that agencies have performed in response to the requirements of the executive orders. For one thing, many agencies apparently do not manage to collect the kind of information that is required of them and that would be necessary to determine the net benefits of different regulatory alternatives.

Robert Hahn and a team of researchers have examined the economic analyses agencies produced in nearly fifty major health, safety, and environmental rulemaking proceedings, and have assessed the extent to which the analyses met the requirements stated in Executive Order 12,866, as well as in guidelines issued by the OMB.³⁸ Although agencies are directed to compare different regulatory options, and wherever possible to choose the one that maximizes net benefits, Hahn and his team found that in only about a quarter of the rules they examined did agencies even quantify the costs and benefits of different regulatory options.³⁹ Furthermore, for a substantial percentage of the rules they examined, the agencies did not monetize all the costs and benefits they quantified.⁴⁰ Hahn's team also found that agencies sometimes used inconsistent discount rates in converting future costs and benefits into present value terms.⁴¹ They concluded that "most economic analyses do not meet the expectations set forth in the Executive Order and the OMB guidelines, and a significant percentage clearly violate them."⁴²

When agencies do monetize costs and benefits before issuing a new regulation, the accuracy of these estimates is open to empirical scrutiny after the regulation has been implemented. Recent studies have attempted to assess how well the cost and benefit predictions made by regulatory agencies accurately reflect the costs and benefits that are incurred after a regulation is adopted. For example, James Hammitt compared the pre-adoption predictions of regulatory costs associated with reducing CFC consumption in the United States with post-adoption data.⁴³ He found that some of the pre-adoption predictions substantially overestimated the control costs associated with the CFC-phasedown, in

38. 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'Y 859 (2000). For the OMB guidelines, see OFFICE OF MGMT. & BUDGET, GUIDELINES TO STANDARDIZE MEASURES OF COSTS AND BENEFITS AND THE FORMAT OF ACCOUNTING STATEMENTS (2000).

39. Hahn et al., *supra* note 38, at 874.

40. *Id.* at 866-70 (reporting that only about sixty percent of the analyses monetized all the costs identified by agencies, while only about thirty percent monetized all the identified benefits).

41. *Id.*

42. *Id.* at 865.

43. James K. Hammitt, *Are the Costs of Proposed Environmental Regulations Overestimated? Evidence from the CFC Phaseout*, 16 ENVTL. & RESOURCE ECON. 281 (2000).

part due to the unanticipated development of lower cost substitutes for CFCs.⁴⁴ In another study, researchers at Resources for the Future compared the ex ante cost predictions made by agencies in twenty-five rule-makings with ex post findings made by independent experts.⁴⁵ In nearly half the cases, costs were overestimated ex ante, while in a quarter they were underestimated.⁴⁶ The ex ante estimates were deemed “accurate”—by being, ex post, within the estimated range or within a range of no more than twenty-five percent above or below any point estimates—in only a quarter of the cases.⁴⁷

On the basis of findings such as these, some researchers have suggested that economic analyses may tend to exhibit “some upward bias of *ex ante* cost estimates relative to actual [costs] because neither firms nor regulators can predict accurately the cost-saving innovations that will likely occur once a real effort is made to comply with the rules.”⁴⁸ Of course, it is also possible that agencies underestimate the costs, as well as over or underestimate the benefits, of new regulations.⁴⁹

Even assuming that economic analyses conducted by agencies were always thorough and accurate, it would remain to be determined whether they had an impact on the types of decisions made by regulatory agencies. Based on the government’s own numbers, it would seem that agencies have not followed the results of their analyses. After all, most of the research purporting to show the inefficiency of existing regulation has been based on the very economic analyses that agencies have been required to produce.⁵⁰ Among those rules for which agencies monetized regulatory impacts (which is only a fraction of all rules), about a quarter of them fail a benefit-cost test.⁵¹ More than forty percent of all environmental regulations with monetized impacts reportedly fail to yield positive net benefits.⁵² Perhaps the most pessimistic interpretation of these findings might be that economic analysis has had its greatest impact in documenting the inefficiency of government regulation, not in reducing it.⁵³

44. *Id.* at 296–97.

45. Winston Harrington et al., *On the Accuracy of Regulatory Cost Estimates* (Jan. 1999) (Resources for the Future Discussion Paper No. 99-18) (on file with the University of Illinois Law Review).

46. *Id.*

47. *Id.*

48. Richard D. Morgenstern & Marc K. Landy, *Economic Analysis: Benefits, Costs, Implications*, in *ECONOMIC ANALYSES AT EPA: ASSESSING REGULATORY IMPACT* 455, 468 (Richard D. Morgenstern ed., 1997).

49. Hahn, *supra* note 29, at 228.

50. See sources cited *supra* notes 38, 43, and 45.

51. ROBERT W. HAHN, *REVIVING REGULATORY REFORM* 57 (2001), available at <http://www.aei.brookings.org/publications/books/trr.pdf>.

52. *Id.*

53. Cf. Robert W. Hahn & Cass R. Sunstein, *A New Executive Order for Improving Federal Regulation? Deeper and Wider Cost-Benefit Analysis*, 150 U. PA. L. REV. 1489 (2002) (suggesting that government’s commitment to benefit-cost analysis has often been “symbolic rather than real”).

The mere fact that inefficient regulations continue to be issued, however, does not necessarily mean that economic analysis requirements have had no impact on regulatory decision making. The appropriate empirical test is whether decisions made under a requirement for economic analysis turn out to be less inefficient overall than decisions made without such a requirement. Some researchers have suggested that, at the very least, the regime for economic review has resulted in eliminating or preventing regulations that were extremely inefficient outliers.⁵⁴ However, recent statistical analyses have failed to show that economic analysis and OMB review have significant effects on the cost-effectiveness of government regulations.⁵⁵

A series of a dozen case studies of EPA rulemakings collected in a volume by Richard Morgenstern does indicate that economic studies can help improve regulatory decisions by providing regulators with information needed to adopt more cost-effective policies.⁵⁶ Yet Morgenstern also acknowledges that it is not clear whether these improvements came about “solely because of the economic analysis . . . [nor whether] the same or similar changes might not have occurred for other reasons.”⁵⁷ Researchers have yet to identify a clear counterfactual to use in assessing the extent to which these requirements affect regulatory outcomes. Because relatively few economic analyses were produced (and still fewer were required) prior to 1981 when Reagan’s executive order was issued, it is difficult to compare regulatory outcomes before and after the imposition of economic analysis requirements. Yet the impact of analytical requirements can only be assessed with confidence by comparing regulatory decisions made under a regime of analytical requirements with decisions about similar issues made in the absence of such requirements. One possible avenue for future empirical research would therefore be to compare regulations on similar issues across states with different requirements for analysis.⁵⁸

54. See Lisa Heinzerling, *Regulatory Costs of Mythic Proportions*, 107 YALE L.J. 1981 (1998) (arguing that agencies never adopted some of their least cost-effective proposals); Viscusi, *supra* note 29, at 1436 (noting that “OMB has succeeded in eliminating only extremely ineffective regulations”).

55. See HAHN, *supra* note 51, at 52 (finding that “OIRA review does not significantly affect cost-effectiveness estimates”); Scott Farrow, *Improving Regulatory Performance: Does Executive Office Oversight Matter?* (July 26, 2000) (unpublished manuscript, available at <http://www.aei.brookings.org/publications/related/oversight.pdf>) (indicating that overall “Executive Office review does not seem to improve (reduce) the cost-per-life-saved of regulation”); see also Hahn & Sunstein, *supra* note 53, at 1540 (noting that although economic analysis has often helped lead to improvements, “the system for OIRA review has not succeeded in fundamentally redirecting regulation toward areas where it would do the most good”); Eric Posner, *Controlling Agencies with Cost-Benefit Analysis: A Positive Political Theory Perspective*, 68 U. CHI. L. REV. 1137 (2001) (developing a model of economic review that yields the prediction that greater inefficiencies will result).

56. ECONOMIC ANALYSES AT EPA: ASSESSING REGULATORY IMPACT (Richard D. Morgenstern ed., 1997).

57. Morgenstern & Landy, *supra* note 48, at 457.

58. An initial step in this direction can be found in Robert Hahn’s study of different states’ regulatory review requirements. See HAHN, *supra* note 31. Although we know that different states have different regulatory review requirements, we know much less about what kind of impact these differ-

Another avenue for future research might be to study more systematically why economic analysis requirements have apparently not had more of an impact on agency decision making. A variety of possible explanations have been offered, some of which may apply more to different agencies or with respect to different rulemakings. Agency officials, like others, may simply be boundedly rational, with a tendency to “satisfice” by not quantifying impacts or otherwise producing thorough analysis even when required to do so.⁵⁹ Alternatively, agency officials may be ideologically resistant to the quantification or monetization of different kinds of social benefits and costs.⁶⁰ Even if they are willing to quantify costs and benefits, agency officials may sometimes seek to promote other values that are not easily captured by economic analysis.⁶¹ They may respond, due to interest group pressures or other factors, to the distributional effects of policies (that is, to how the costs and benefits are distributed) more than to the aggregate net social benefits which have typically been the focus of economic analyses. Finally, they may simply be constrained by statutes that preclude the agency from considering benefit-cost analysis in setting regulatory standards.⁶²

The effectiveness of any new or modified economic analysis requirements will vary depending on which of these explanations accounts for inefficient regulation. If agency officials are constrained by statutes or are ideologically resistant to benefit-cost analysis, then requiring its use may not do much to make agency decisions more efficient. On the other hand, if agencies tend not to perform sound analyses because they tend simply to satisfice, regulatory requirements might prove to be more effective if they are accompanied by adequate incentives for agencies to undertake and rely upon serious, careful review. Recent proposals have emphasized strengthening OMB review of agency analysis and even providing opportunities for judicial review of an agency’s economic analysis.⁶³ Of course, these proposals, if enacted, will merit their own empirical evaluation as well.

The broader point is that, in order to develop institutional strategies to reduce the inefficiencies in government regulation, it will be beneficial

ent requirements have in terms of achieving efficiency gains. One recent study has examined the impact of state regulatory review requirements in terms of the timeliness and frequency of regulatory change, finding that they do not appear to slow down the regulatory process significantly. Stuart Orin Shapiro, *Speed Bumps and Roadblocks: Procedural Controls and Regulatory Change* (1998) (unpublished Ph.D. dissertation, Harvard University) (on file with author).

59. See JAMES G. MARCH & HERBERT A. SIMON, ORGANIZATIONS 140–41 (1958); see also Herbert A. Simon, *A Behavioral Model of Rational Choice*, 69 Q.J. ECON. 99 (1955); Cass R. Sunstein, *Cognition and Cost-Benefit Analysis*, 29 J. LEGAL STUD. 1059 (2000).

60. See generally STEVEN KELMAN, WHAT PRICE INCENTIVES?: ECONOMISTS AND THE ENVIRONMENT (1981).

61. See generally ELIZABETH ANDERSON, VALUE IN ETHICS AND ECONOMICS (1993).

62. See, e.g., *Whitman v. Am. Trucking Ass’n*, 531 U.S. 457 (2001) (holding that the Clean Air Act precludes the agency from taking costs into account when setting national ambient air quality standards).

63. See Hahn & Sunstein, *supra* note 53.

to understand better why they arise. The available empirical research indicates that simply mandating analysis does not eliminate inefficiency, and it may not even significantly reduce it. This is not to suggest that economic analysis requirements have had no important effects or should be abandoned. It is instead to say that these effects have been neither as straightforward nor substantial as those who imposed these requirements probably hoped they would be. To achieve greater regulatory coherence and efficiency, decision makers will require further empirical research, as they will need to know whether and how to strengthen existing requirements, improve the quality of regulatory analyses, and realign incentives so that agencies will act to achieve greater net benefits for society.

III. JUDICIAL REVIEW OF AGENCY RULEMAKING

Although compliance with economic analysis requirements is not currently enforceable through judicial review,⁶⁴ the courts do have the authority to enforce nearly all other legal requirements imposed on agencies. Much administrative law scholarship is based on the premise that judicial review of administrative action, if employed properly, can improve governance.⁶⁵ An analysis of what should be the proper role and standards for judicial review therefore depends on empirical claims about the effects courts have on the behavior of administrative agencies.⁶⁶ These effects may include making agencies more observant of legislative mandates, increasing the analytic quality of agency decision making, and promoting agency responsiveness to a wide range of interests.⁶⁷ Administrators who know that their actions may be subjected to judicial review may exercise greater overall care, making better, fairer, and more responsive decisions than administrators who are insulated from judicial oversight.

Notwithstanding these potential benefits, legal scholars have increasingly emphasized courts' potentially debilitating effects on agency rulemaking. In the early 1970s, rulemaking was considered to be, in Kenneth Culp Davis's terms, "one of the greatest inventions of modern government."⁶⁸ Yet it is now widely accepted that the rulemaking process has become "ossified," as agencies are thought to take years to issue

64. 2 U.S.C. § 1571 (2000); Exec. Order No. 12,866, 58 Fed. Reg. 51,735, 51,744 (Oct. 4, 1993).

65. See, e.g., CHRISTOPHER F. EDLEY, JR., *ADMINISTRATIVE LAW: RETHINKING JUDICIAL CONTROL OF BUREAUCRACY* (1990); CASS R. SUNSTEIN, *AFTER THE RIGHTS REVOLUTION: RECONCEIVING THE REGULATORY STATE* (1990).

66. Peter H. Schuck & E. Donald Elliot, *To the Chevron Station: An Empirical Study of Federal Administrative Law*, 1990 DUKE L.J. 984, 987 (describing the belief that courts control the behavior of agencies as "one of the *raison d'être* of most of administrative law").

67. See Cass R. Sunstein, *On the Costs and Benefits of Aggressive Judicial Review of Agency Action*, 1989 DUKE L.J. 522, 537 (suggesting that "judicial review has, in many settings, increased the incidence of legality, prevented arbitrariness, ensured against undesirable regulation, and brought about regulatory controls that have saved lives or otherwise accomplished considerable good").

68. KENNETH CULP DAVIS, *ADMINISTRATIVE LAW TREATISE* § 6.15, at 283 (1970 & Supp. 1971).

new regulations and in some cases have allegedly retreated altogether from issuing new rules.⁶⁹ Legal scholars agree that one of the principal reasons administrative rulemaking has become ossified is the threat of judicial review. Government agencies are thought to face a high probability that their actions will be subject to litigation.⁷⁰ This threat of judicial review, combined with the uncertainty over what a reviewing court will find to be “arbitrary and capricious,” has been viewed as creating significant delays for agencies seeking to develop regulations.⁷¹ The looming possibility of judicial review, Thomas McGarity has argued, means that “agencies are constantly ‘looking over their shoulders’ at the reviewing courts in preparing supporting documents, in writing preambles, in responding to public comments, and in assembling the rulemaking ‘record.’”⁷²

In some cases, agencies have allegedly retreated altogether from efforts to establish new regulations. The U.S. National Highway Traffic Safety Administration (NHTSA) is often viewed as the poster child of ossification. A prominent study by Jerry Mashaw and David Harfst is premised on the claim that NHTSA has shifted away from developing new auto safety standards in order to avoid judicial reversal.⁷³ Mashaw and Harfst claim that “devastating” losses in rulemaking litigation in the early 1970s led NHTSA to retreat from rulemaking.⁷⁴ They claim that most of NHTSA’s safety standards were put into place before 1974 and none have been issued since 1976.⁷⁵ They also argue that, instead of issuing new rules, NHTSA shifted its efforts toward increasing the number of recalls of defective vehicles, an approach which they argue leaves NHTSA less susceptible to judicial reversal.⁷⁶ Administrative law scholars appear almost universally to accept that pre-enforcement judicial re-

69. Thomas O. McGarity, *Some Thoughts on “Deossifying” the Rulemaking Process*, 41 DUKE L.J. 1385 (1992). The first use of the metaphor of “ossification” in this context is usually attributed to Donald Elliott. *Id.* at 1385–86.

70. See, e.g., CARNEGIE COMM’N ON SCI., TECH. & GOV’T, RISK AND THE ENVIRONMENT: IMPROVING REGULATORY DECISION MAKING 109 (1993) (“In some agencies, 80 percent of major rules are appealed.”).

71. See R. SHEP MELNICK, REGULATION AND THE COURTS: THE CASE OF THE CLEAN AIR ACT (1983); JOHN M. MENDELOFF, THE DILEMMA OF TOXIC SUBSTANCE REGULATION (1988); Jerry L. Mashaw & David L. Harfst, *Regulation and Legal Culture: The Case of Motor Vehicle Safety*, 4 YALE J. ON REG. 257 (1987); Richard J. Pierce, Jr., *The Unintended Effects of Judicial Review of Agency Rules: How Federal Courts Have Contributed to the Electricity Crisis of the 1990s*, 43 ADMIN. L. REV. 7 (1991).

72. McGarity, *supra* note 69, at 1412.

73. JERRY L. MASHAW & DAVID L. HARFST, THE STRUGGLE FOR AUTO SAFETY (1990).

74. *Id.* at 87–88.

75. *Id.* at 12.

76. *Id.*; see also Jerry L. Mashaw & David L. Harfst, *Inside the National Highway Traffic Safety Administration: Legal Determinants of Bureaucratic Organization and Performance*, 57 U. CHI. L. REV. 443, 443 (1990) (noting that “the judiciary reacted . . . favorably to NHTSA’s recall efforts”).

view of regulations at NHTSA, as well as at other agencies, has led to a decline in new regulations.⁷⁷

The view that judicial review has ossified the rulemaking process has important implications for regulatory reform debates. Judicial review has not only been advocated as a means of promoting compliance with economic analysis requirements, it has also been opposed because of concerns about the paralysis of the regulatory process.⁷⁸ What is needed is empirical evidence to inform decision making about whether to expand or contract opportunities for judicial review. Yet administrative law scholars have failed generally to produce systematic empirical analysis of the effects of judicial review.⁷⁹ Empirical analysis can help to determine the extent to which administrative rulemaking has declined as well as how heightened judicial review may have affected the level of rulemaking output by agencies.

The empirical evidence for a retreat from rulemaking in the face of stringent judicial review is not nearly as clear as has been generally supposed. As Figure 1 shows, the number of pages in the Code of Federal Regulations (CFR) has grown consistently over the years, even in the face of the courts' hard look review in the 1970s. Moreover, the volume of regulations issued by specific agencies has experienced a similar growth. From 1976–1996, the overall volume of regulations in the CFR slightly less than doubled.⁸⁰ NHTSA, the agency that has been widely perceived to have abandoned rulemaking, slightly more than doubled its

77. See, e.g., JERRY L. MASHAW, GREED, CHAOS, AND GOVERNANCE (1997) (arguing that “[t]he past decade’s case study literature on the performance of America’s administrative agencies details an agency-by-agency retreat from rulemaking.”); Robert Glicksman & Christopher H. Schroeder, *EPA and the Courts: Twenty Years of Law and Politics*, 54 LAW & CONTEMP. PROBS. 249, 249 n.2 (1991) (indicating that the effects of ossification should apply to the EPA because it “is the largest and most active of the environment, health, and safety regulatory agencies [and] over 80% of EPA’s regulations are challenged in court”); McGarity, *supra* note 69, at 1412 (“[S]tringent judicial review is largely responsible for [NHTSA’s] virtual abandonment of rulemaking in favor of case-by-case recalls.”); Richard J. Pierce, Jr., *Two Problems in Administrative Law: Political Polarity on the District of Columbia Circuit and Judicial Deterrence of Agency Rulemaking*, 1988 DUKE L.J. 300, 311 (“NHTSA has abandoned almost completely its efforts to establish policy through rulemaking.”).

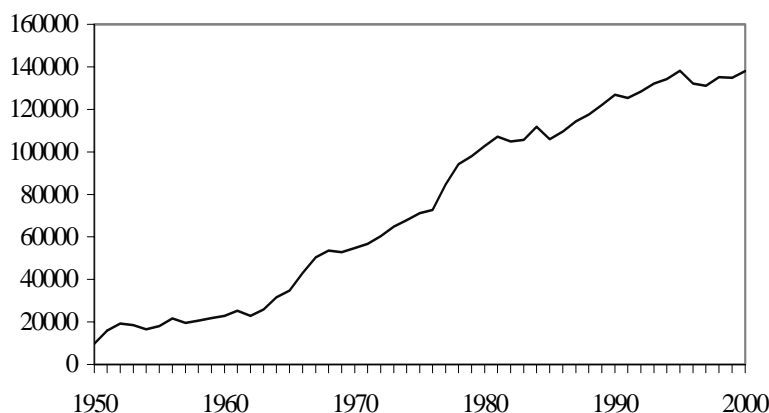
78. Frank B. Cross, *Pragmatic Pathologies of Judicial Review of Administrative Rulemaking*, 78 N.C. L. REV. 1013, 1014, 1020–27 (2000) (arguing against judicial review because it creates undesirable consequences, including ossifying “the rulemaking process, making administrators slow and timid to address their responsibilities.”); see also McGarity, *supra* note 67, at 1454 (urging courts to reduce the stringency of their review of rulemaking); Richard J. Pierce, Jr., *Seven Ways to Deossify Agency Rulemaking*, 47 ADMIN. L. REV. 59 (1995) (advocating changes to judicial doctrine and remedies to reduce the ossification of rulemaking). But see Mark Seidenfeld, *Demystifying Deossification: Rethinking Recent Proposals to Modify Judicial Review of Notice and Comment Rulemaking*, 75 TEX. L. REV. 483 (1997) (suggesting that changes to the standards for judicial review are premature and will not significantly reduce regulatory ossification).

79. See Mashaw & Harfst, *supra* note 71, at 275 (noting that “the normative expectations of administrative lawyers have seldom been subjected to empirical verification of a more than anecdotal sort”); Schuck & Elliott, *supra* note 66, at 985 (observing that “we still know little about what is perhaps the central question in [the] field [of administrative law]: How does judicial review actually affect agency decisionmaking?”).

80. In 1976, the CFR spanned 72,740 pages. By 1996, it had grown to 132,112 pages (or 1.8 times more pages).

CFR pages during the same period (a period subsequent to the early judicial defeats that purportedly sent NHTSA into rulemaking retreat).⁸¹ It seems clear that regulatory agencies have not abandoned their use of rulemaking.

FIGURE 1
CUMULATIVE PAGES IN THE CODE OF FEDERAL REGULATIONS,
1950–2000



The impact of rulemaking has also grown, as indicated by the costs that regulations impose on the economy. For example, the annual costs associated with environmental regulations have risen in constant dollars from \$33 billion in 1972 to \$141 billion in 1992.⁸² Even though NHTSA has been thought to have retreated from rulemaking since the mid-1970s, the agency continues to impose significant regulatory costs on the automobile industry. Prior to NHTSA's judicial defeats in 1972, complying with the agency's safety standards added no more than about \$200 to the cost of the average car, but by 1984 the agency's safety regulations had imposed costs of nearly \$900 per car.⁸³ These costs appear only to have risen further since the 1980s.⁸⁴

Available data on the volume and costs of regulation do not appear to support the prevailing view that agencies have retreated from rule-

81. NHTSA's auto safety regulations took up 218 pages in the CFR in 1976 and 484 pages in 1996 (or 2.2 times more pages).

82. Adam B. Jaffe et al., *Environmental Regulation and the Competitiveness of U.S. Manufacturing: What Does the Evidence Tell Us?*, 33 J. ECON. LITERATURE 132, 140 (1995).

83. ROBERT W. CRANDALL ET AL., *REGULATING THE AUTOMOBILE* 37 tbl.3-4 (1986). Even assuming a five percent rate of decline in costs due to a learning curve, Crandall et al. estimate that compliance costs would have increased nearly three times from 1972 to 1984. *Id.*

84. See CHARLES H. FINE ET AL., *THE U.S. AUTOMOBILE MANUFACTURING INDUSTRY* 77 (1996), available at <http://www.ta.doc.gov/Reports/autos/auto.pdf> (noting that "safety regulations have added about \$1,000 to the average selling price of passenger cars since 1980").

making. However, these data may not seem quite as surprising in light of recent empirical research on the frequency of judicial reversals of agency rulemaking. While many observers have previously thought that judicial review is virtually assured for most agencies following issuance of a new rule, the probability of judicial scrutiny is something that can be empirically determined.⁸⁵ It turns out, when the data are collected, that only a fraction of agency rules are ever subject to petitions for review.⁸⁶ Moreover, only a fraction of the challenges reach a judicial panel for decision; only a fraction of judicial decisions result in rules being remanded to the agency; and only a fraction of remands actually result in blocking the agency's decision.

For example, even though it is widely believed that most EPA rules, or at least most significant EPA rules, are challenged in court,⁸⁷ data reveal that the actual rate is only about 26%, and that even the most significant rules are subject to petitions for review only about 35% the time.⁸⁸ After petitions for review are filed challenging EPA rules, only about 29% of them ever result in a decision of an appellate panel.⁸⁹ Voluntary settlement, it turns out, is a common means of disposing of judicial review litigation.⁹⁰ Moreover, in those cases that do result in judges' decisions on the merits, in at least half of the cases the agency decision is upheld entirely.⁹¹ Of those rules that are remanded to the agency by a court, in only about 14% of the cases does the remand appear to present a serious obstacle to the agency in achieving its original objectives.⁹²

Some of these data come from different samples, so care is needed in extrapolating across the different studies. Nevertheless, it is illustrative to note that when these data are combined it appears that judicial review blocks the EPA from taking action in only about 0.5% of all its rulemakings. Rather than indicating that judicial review has devastating

85. Schuck & Elliott, *supra* note 66, at 988–89.

86. Since 1981, about 300 reported judicial decisions based on the arbitrary and capricious standard have appeared reviewing the actions of five federal regulatory agencies combined (NHTSA, EPA, Occupational Safety and Health Administration, Food and Drug Administration, and the Consumer Product Safety Commission). Yet over this same period, these five agencies have together promulgated more than 15,000 new regulations. The number of judicial decisions (not all of which involved reversals) therefore represents only about two percent of the overall output of these regulatory agencies.

87. For an extensive list of sources claiming that litigants challenge eighty percent of the rules that EPA issues, see Coglianesi, *supra* note 24, at app. D.

88. *Id.* at 1298–1300 (reporting data on the incidence of litigation filed against EPA's significant rules under the Clean Air Act and RCRA).

89. *Id.* at 1308 n.247.

90. See Cary Coglianesi, *Litigating Within Relationships: Disputes and Disturbance in the Regulatory Process*, 30 LAW & SOC'Y REV. 735, 756 (1996).

91. See Coglianesi, *supra* note 24, at 1308–09 n.249; Patricia M. Wald, *Regulation at Risk: Are Courts Part of the Solution or Most of the Problem?*, 67 S. CAL. L. REV. 621, 636–39 (1994).

92. William S. Jordan, III, *Ossification Revisited: Does Arbitrary and Capricious Review Significantly Interfere with Agency Ability to Achieve Regulatory Goals Through Informal Rulemaking?*, 94 NW. U. L. REV. 393, 440 (2000) (“[A]gencies have successfully implemented their policies in approximately 80% of the instances in which courts have originally remanded rules as arbitrary and capricious.”).

impacts on agencies, these data appear instead to support Martin Shapiro's observation that "the courts generally let the agencies do what they want."⁹³ Of course, this does not mean that there are never any important legal decisions reversing agency rulemakings, just that as a percentage of rulemakings such obstructive judicial decisions are quite a rare occurrence.⁹⁴

The fact that judicial review occurs much less frequently than thought also does not necessarily mean that judicial review has had no effects on agency behavior. Perhaps in some subset of the most significant rulemakings judicial review does make agencies more careful, hesitant, or both. Indeed, it is possible that agencies have prevailed so often because they refrain from taking action that would expose them to litigation risks.⁹⁵ This, of course, would generally be consistent with the ossification hypothesis, which supposes that agencies have to work harder to produce rules that will withstand judicial scrutiny. Yet if a rulemaking retreat is truly occurring, which several case study authors have claimed, this retreat is not reflected in the growth in CFR pages and the increasing costs associated with environmental and safety regulations. The growth in regulations and regulatory costs would appear to be more consistent with the evidence that shows that the probability of judicial reversal is quite low.

Admittedly, there are challenges in assessing the impact of judicial review or any other purportedly "ossifying" requirement on federal agencies. Since such requirements tend to apply across all federal agencies, it is often difficult to find appropriate cross-sectional comparisons between different agencies. Analysis of agency rulemaking over time may be complicated if changes in judicial doctrines or other regulatory oversight procedures have occurred at about the same time as changes in other plausible factors affecting rulemaking, such as the party affiliation of the executive branch.

In a recent study, Stuart Shapiro sought to overcome these challenges by examining the ossification of rulemaking at the state level. To ensure variation across states, he chose to study day care regulation, an area that has remained largely unencumbered by preemptive federal regulatory standards.⁹⁶ Relying on a series of carefully selected matched case studies, Shapiro found that day care regulators in states with seemingly cumbersome rulemaking procedures were generally not deterred

93. MARTIN SHAPIRO, *THE SUPREME COURT AND ADMINISTRATIVE AGENCIES* 270-71 (1968); see also Christine B. Harrington, *Regulatory Reform: Creating Gaps and Making Markets*, 10 *LAW & POL'Y* 293, 305 (1988) (observing that "[t]he pace of regulatory litigation has not increased sharply in the last fifteen years nor has judicial support for agency rules weakened").

94. These data appear generally consistent with the general deference courts give to agencies. Peter Schuck and Donald Elliott's study of published appellate decisions found a high level of judicial affirmances of agency decisions of all types. Schuck & Elliott, *supra* note 66, at 1011 (noting that "in administrative law . . . the agency wins almost 90% of the time").

95. *Id.* at 1010-11.

96. Shapiro, *supra* note 58.

from issuing new regulations. Even though positive political theory would suggest that enacting coalitions control agencies by adopting procedures for rulemaking review,⁹⁷ Shapiro found that the key determinant of regulatory activity in the states was the existing political climate. When the existing coalition was supportive of regulatory change, change tended to occur, notwithstanding the presence of procedural hurdles put in place by earlier coalitions.⁹⁸

Recent and emerging empirical research on both rulemaking trends and the frequency of judicial review raises questions about the extent to which judicial review has ossified the regulatory process. As these empirical findings run counter to the prevailing understanding among administrative law scholars, it should be clear that empirical analysis has become highly relevant to central issues in administrative law. Additional empirical research would help illuminate these issues and provide still further avenues for assessing claims that judicial review hampers agency rulemaking.

IV. NEGOTIATION AS REGULATORY REFORM

Although the effects of judicial review merit further empirical inquiry, many administrative law scholars and policy makers have advocated agency efforts designed to stave off the filing of litigation in the first place.⁹⁹ Specifically, they have encouraged agencies to employ formal negotiation with affected interests over the terms of new regulations in an effort to avoid litigation and speed up the rulemaking process.

Negotiated rulemaking is a procedure by which government regulations are negotiated by representatives from government, the private sector, and nongovernmental organizations prior to the agency's decision to issue a proposal for a new regulation.¹⁰⁰ A negotiated rulemaking committee comprising the affected interests and agency staff meets in an effort to reach unanimous agreement on a proposed rule.¹⁰¹ If the commit-

97. See *supra* note 16.

98. Shapiro, *supra* note 58.

99. See, e.g., Philip J. Harter, *Negotiating Regulations: A Cure for Malaise*, 71 GEO. L.J. 1, 18 (1982) (urging use of negotiated rulemaking as a cure for a "bitterly adversarial" regulatory process). Although the literature overall tends to stress the potential benefits of negotiated rulemaking, some scholars have recently expressed concerns about such a technique. See, e.g., William Funk, *Bargaining Toward the New Millennium: Regulatory Negotiation and the Subversion of the Public Interest*, 46 DUKE L.J. 1351, 1356 (1997) (arguing that "the principles, theory, and practice of negotiated rulemaking subtly subvert the basic, underlying concepts of American administrative law"); Michael McCloskey, *Problems with Using Collaboration to Shape Environmental Public Policy*, 34 VAL. U. L. REV. 423 (2000) (suggesting that "[t]urning over the power of government to collaboratives is misguided and a departure from democratic ideals"); Susan Rose-Ackerman, *Consensus Versus Incentives: A Skeptical Look at Regulatory Negotiation*, 43 DUKE L.J. 1206, 1212 (1994) (observing that the claims of benefits from negotiated rulemaking "are mostly speculative").

100. 5 U.S.C. §§ 584-585 (2000).

101. By statute, "consensus" is defined as unanimous concurrence or any lesser concurrence if agreed to unanimously by the committee. 5 U.S.C. § 562(2) (2002).

tee reaches such an agreement, the agency then uses it as a basis for its rule, which it then promulgates according to normal notice-and-comment procedures.¹⁰²

Because negotiated rulemaking is intended to encourage affected parties to reach agreement, rather than stake out protracted adversarial positions, its proponents have argued that it will decrease the amount of time it takes to develop regulations¹⁰³ and reduce subsequent judicial challenges.¹⁰⁴ In 1982, the Administrative Conference of the United States (ACUS) first recommended that agencies use negotiated rulemaking procedures. According to the then-chairman of ACUS, the “whole purpose of negotiated rulemaking was to keep things out of the courts.”¹⁰⁵ In addition, ACUS hoped that negotiated rulemaking could reduce the long delays that were thought to characterize the rulemaking process.¹⁰⁶

The Federal Aviation Administration initiated the first negotiated rulemaking in 1983, using the procedure to develop rules governing the frequency of flying time for airline personnel.¹⁰⁷ Since that time, about fifteen federal agencies have used negotiated rulemaking to develop more than thirty regulations.¹⁰⁸ In 1990, Congress formally authorized the practice by enacting the Negotiated Rulemaking Act of 1990.¹⁰⁹ Congress has also adopted more than two dozen other statutes requiring or

102. The Administrative Procedure Act requires agencies to publish a notice of proposed rulemaking, provide an opportunity for interested persons to comment on the rule, and when issuing the final rule provide a statement of the basis and purpose of the final decision. 5 U.S.C. § 553 (2000).

103. See, e.g., ADMIN. CONFERENCE OF THE U.S., BUILDING CONSENSUS IN AGENCY RULEMAKING: IMPLEMENTING THE NEGOTIATED RULEMAKING ACT 1 (1995) (“reg-neg can improve the . . . timeliness of regulations”); Harter, *supra* note 99, at 30 (negotiated rulemaking “can reduce the time and cost of developing regulations”).

104. See, e.g., NAT’L RESEARCH COUNCIL, UNDERSTANDING RISK: INFORMING DECISIONS IN A DEMOCRATIC SOCIETY 202 (Paul C. Stern & Harvey V. Fineberg eds., 1996) (“The purpose of regulatory negotiation is to reduce legal challenges to new rules by involving would-be adversaries directly in the rule-making process and by producing a draft rule that meets legal requirements and is acceptable to a wide array of interested and affected parties.”); Harter, *supra* note 99, at 102 (advocating negotiated rulemaking because it “may reduce judicial challenges to a rule because those parties most directly affected, who are also the most likely to bring suits, actually would participate in its development”); Patricia M. Wald, *Negotiation of Environmental Disputes: A New Role for the Courts?*, 10 COLUM. J. ENVTL. L. 1, 18 (1985) (noting that advocates of negotiated rulemaking claim this procedure will “soften the adversary posture that animates the current comment process and reduce the inevitability of legal challenges to adopted rules”).

105. Colloquium, *The Fifth Annual Robert C. Byrd Conference on the Administrative Process: The First Year of Clinton/Gore: Reinventing Government or Refining Reagan/Bush Initiatives?*, 8 ADMIN. L.J. AM. U. 23, 62 (1994) (statement of Judge Loren Smith, chairman of ACUS at the time of its first recommendation on negotiated rulemaking).

106. Admin. Conference of the U.S., Recommendation 82-4, Procedures for Negotiating Proposed Regulations, 1 C.F.R. § 305.82-4 (1983) (noting that traditional forms of rulemaking had resulted in “[l]ong periods of delay” and had become “needlessly expensive”).

107. See Flight Time, Duty Time & Rest Requirements for Flight Crewmembers Utilized by Air Carriers, 48 Fed. Reg. 21,339 (proposed May 12, 1983).

108. Coglianese, *supra* note 24, at 1273–75.

109. 5 U.S.C. §§ 561–570 (2000).

encouraging agencies to use negotiated rulemaking or similar consensus-based procedures.¹¹⁰

Although negotiated rulemaking has captured the attention of policymakers who view it as an attractive alternative to traditional rulemaking, empirical inquiry is needed to establish how successful it is in practice. Empirical analysis provides the appropriate basis for assessing the impact negotiation has had on the rulemaking process and how well it has achieved its goals of saving time and reducing litigation.¹¹¹

Over the years, administrative law scholars have published a series of case studies of individual negotiated rules, but these case studies provide an insufficient basis for determining the impact and value of negotiated rulemaking. First, many of these case studies have focused on what their authors perceive to be successful examples of negotiated rulemaking, rather than providing a representative sample of negotiations, both of failures as well as successes.¹¹² Second, these case studies have frequently been written by the very practitioners who were involved in the negotiations, rather than by independent observers.¹¹³ Finally, case studies that focus purely on negotiated rules—with no comparison with similar cases of nonnegotiated rules—do not permit any inferences to be made about what would have happened in the absence of negotiation.¹¹⁴

As with any evaluation of a regulatory innovation, it is necessary in evaluating negotiated rulemaking to compare rules that were negotiated against a counterfactual. In the case of negotiated rulemaking, this counterfactual is properly thought of as what would have likely happened in

110. Cary Coglianese, *Is Consensus an Appropriate Basis for Regulatory Policy?*, in ENVIRONMENTAL CONTRACTS: COMPARATIVE APPROACHES TO REGULATORY INNOVATION IN THE UNITED STATES AND EUROPE 93, 93 n.2 (Eric W. Orts & Kurt Deketelaere eds., 2001).

111. See, e.g., Lawrence Susskind & Gerard McMahon, *The Theory and Practice of Negotiated Rulemaking*, 3 YALE J. ON REG. 133, 142 (1985) (noting that the benefits of negotiated rulemaking need to be demonstrated).

112. For a discussion of the importance of including failures as well as successes in program evaluations, see Cary Coglianese, *Assessing the Advocacy of Negotiated Rulemaking: A Response to Philip Harter*, 9 N.Y.U. ENVTL. L.J. 386, 395 (2001).

113. See Barry G. Rabe, *The Politics of Environmental Dispute Resolution*, 16 POL'Y STUD. J. 585, 591 (1988) (indicating that most of what we know about consensus building comes from practitioners and advocates of alternative dispute resolution). For a careful case study that is an exception to this trend, see Christine B. Harrington, *Howard Bellman: Using "Bundles of Input" to Negotiate an Environmental Dispute*, in WHEN TALK WORKS 105 (Deborah M. Kolb et al. eds., 1994) (providing an account of a regulatory negotiation at the Nuclear Regulatory Commission).

114. There have only been a few efforts to make explicit comparisons between negotiated rulemaking and traditional rulemaking. For example, I have compared the performance of negotiated and traditional rulemaking in terms of the time it takes to develop the rule and any resulting litigation. See generally Coglianese, *supra* note 24; Coglianese, *supra* note 112. Steven Balla and John Wright have compared rules developed through collaborative processes and those developed through conventional means. Steven J. Balla & John R. Wright, *Consensual Rulemaking and the Time It Takes to Develop Rules* (1999) (unpublished paper presented at the Fifth National Public Management Research Conference, Dec. 3–4, 1999) (on file with the University of Illinois Law Review). In addition, Laura Langbein and Neil Kerwin have published findings comparing the views of participants in negotiated rulemakings with the views of individuals who filed comments in traditional rulemakings. See generally Laura Langbein & Cornelius M. Kerwin, *Regulatory Negotiation Versus Conventional Rule Making: Claims, Counterclaims, and Empirical Evidence*, 10 J. PUB. ADMIN. RES. & THEORY 599 (2000).

the absence of an agency's decision to use a negotiated rulemaking procedure. For example, does the process of negotiation allow agencies to promulgate rules in less time than would otherwise be required? Does negotiation reduce the amount of litigation that otherwise would have occurred?

An empirical study I conducted compared all of the negotiated rulemakings that the EPA had completed with the population of significant rulemakings EPA had developed through conventional means.¹¹⁵ The EPA was selected for examination because its conventional rulemaking process, including its time demands, had already been extensively studied.¹¹⁶ Moreover, the EPA was the agency that had completed the most negotiated rulemakings at the time of my study. The total number of negotiated rules promulgated across all agencies has actually been quite small, only about thirty-five rules—or less than one-tenth of one percent of all agency rules.¹¹⁷ EPA has completed twelve negotiated rules, or about one-third of the total rules that have been negotiated by more than a dozen different federal agencies.¹¹⁸

It turns out that the average and median negotiated rule at the EPA takes about the same amount of time to develop as the average and median nonnegotiated rule.¹¹⁹ As Table 1 shows, whether negotiated or not, significant EPA rules take on average about three years to develop.¹²⁰ Subsequent research by political scientists Steven Balla and John Wright has tended to confirm that regulatory negotiation does not shorten the regulatory process.¹²¹ In addition, these findings are consistent with the well-accepted view that negotiated rulemakings are intensive and time consuming for all who participate in them.¹²² According to another study, participants in negotiated rulemakings are more than three times as likely as participants in conventional rulemakings to complain that the rulemaking process takes too long.¹²³

When it comes to reducing litigation, the empirical evidence again fails to indicate that negotiated rulemaking has achieved its goal. The rate at which EPA rules generally are challenged in court is, as noted

115. See Coglianese, *supra* note 24.

116. See Cornelius M. Kerwin & Scott R. Furlong, *Time and Rulemaking: An Empirical Test of Theory*, 2 J. PUB. ADMIN. RES. & THEORY 113 (1992) (examining the duration of EPA rulemakings).

117. Coglianese, *supra* note 24, at 1277 tbl.2.

118. *Id.* at 1274.

119. *Id.* at 1280–84.

120. For an elaboration of my methods and results, see Coglianese, *supra* note 112, at 406–14.

121. Balla & Wright, *supra* note 114 (finding that “rules to which regulatory negotiation was applied took longer to issue than those developed through conventional proceedings, despite the fact that agencies were more likely to conduct regulatory negotiations in situations that were amenable to relatively rapid resolution”).

122. See Mark Seidenfeld, *Empowering Stakeholders: Limits on Collaboration as the Basis for Flexible Regulation*, 41 WM. & MARY L. REV. 411, 457 (2000) (noting that “all commentators agree that negotiated rulemaking is an intensive process” that demands “a concentrated devotion of resources by the agency and private negotiation participants”).

123. Langbein & Kerwin, *supra* note 114, at 620.

earlier, about twenty-five percent.¹²⁴ Surprisingly, EPA's negotiated rules have fared still worse when it comes to prompting legal challenges. As shown in Table 1, six of EPA's twelve negotiated rules have been subject to petitions for judicial review filed in federal court, or a litigation rate of fifty percent.¹²⁵ Moreover, these challenges to the negotiated rules do not appear to be any different than the challenges to conventional rules in terms of their contentiousness. The average number of petitioners in these challenges is about the same (actually slightly higher) for negotiated rules as for EPA rulemaking overall.¹²⁶ The percentage of legal challenges that result in a decision by judges is about the same for both groups, as is the percentage of challenges that are at least partially vindicated by the judges.¹²⁷

TABLE 1
NEGOTIATED RULEMAKING VS. CONVENTIONAL RULEMAKING

	Average Rule- making Dura- tion	Rules Challenged	Average Petitions per Challenge	Challenges Decided by Court	Challenges that Succeeded
EPA Negotiated Rules	2.8	50%	3.7	33%	50%
Significant EPA Rules	3.0	35%	3.0	29%	51%

The underlying sample of negotiated rules is admittedly small because the EPA, like other agencies, has simply not utilized the procedure very frequently. It is natural to wonder about the possibility of selection bias. For example, have agencies simply selected the more challenging or contentious rules for negotiation? While selection bias is always a potential concern, in this case the selection bias appears to be in the opposite direction.¹²⁸ Agencies have by no means selected trivial rules for negotiation, but generally speaking the rules they have selected have been the ones that have been easier to negotiate, not harder.¹²⁹ In fact, the Negotiated Rulemaking Act and agency guidelines instruct government officials to select rules for negotiation only if they have a prior likelihood

124. See *supra* note 89 and accompanying text.

125. See Coglianese, *supra* note 24, at 1290-93, 1301-07.

126. See *id.* at 1310 n.252.

127. *Id.*; see also Coglianese, *supra* note 112, at 426-27 & tbl.2 (noting that "[t]he typical challenge filed against an EPA negotiated rule does not differ in any discernible way from the typical challenge filed against a conventional rule").

128. See Coglianese, *supra* note 24, at 1320-21 (concluding that the rules selected for negotiation have tended to be ones that are more likely at the outset to be resolved without excessive delay or litigation).

129. See, e.g., Balla & Wright, *supra* note 114 (noting that agencies are more likely to use negotiation for those rules that are more amenable to quicker resolution); Jeffrey P. Cohn, *Clearing the Air*, GOV'T EXECUTIVE, Sept. 1, 1997, at 45, 50 (noting that "most negotiated rule-making involves relatively narrow issues").

of successful and prompt resolution.¹³⁰ The EPA has avoided using negotiated rulemaking for its most contentious and significant rulemakings.¹³¹ Instead, it has tended to utilize the procedure for what one EPA report characterized as “second-tier” rules.¹³² In short, the deck has been stacked in favor of finding that negotiated rules take less time and result in less litigation, making the resulting findings even stronger.

In the face of the empirical evidence showing that negotiated rulemaking at EPA has not achieved its major goals of saving the agency time and reducing legal contestation, some have argued that negotiation might achieve still other goals, such as improving the quality of rules.¹³³ However, no empirical analysis has yet demonstrated that negotiated rules achieve these other goals,¹³⁴ and other recent work actually suggests that negotiation can create new problems for policymaking, such as the lowest common denominator problem.¹³⁵ While there is room for further empirical analysis of the effects of negotiated rulemaking, the empirical research that has been conducted to date provides a basis for making more informed decisions about how to structure the rulemaking process. The empirical record indicates that further efforts to promote consensus building will not likely reduce litigation or save time and suggests that such efforts are also unwarranted on other grounds. Rather than simply accepting the enthusiastic promises that mediators and other advocates have made for negotiated rulemaking, policymakers can now rely on empirical findings to make better judgments in designing the rulemaking process.

130. See, e.g., 5 U.S.C. § 563(a)(4) (2000) (directing agencies to select rules for negotiation for which there is a “likelihood that a committee will reach a consensus on the proposed rule within a fixed period of time”). For an extended discussion of statutory and other guidelines for selecting rules for negotiation, see Coglianese, *supra* note 24, at 1319–20.

131. Coglianese, *supra* note 24, at 1318.

132. Program Evaluation Div., U.S. Env’tl. Protection Agency, *An Assessment of EPA’s Negotiated Rulemaking Activities*, in NEGOTIATED RULEMAKING SOURCEBOOK 34, 34 (1990).

133. See Philip J. Harter, *Assessing the Assessors: The Actual Performance of Negotiated Rulemaking*, 9 N.Y.U. ENVTL. L.J. 32, 54 (2000).

134. The Laura Langbein and Neil Kerwin study, *supra* note 114, has been said to suggest that negotiated rulemaking results in better quality rules. Harter, *supra* note 133, at 56 (arguing that the Langbein and Kerwin study provides “powerful” support for the claim that negotiation improves rulemaking quality); see also CORNELIUS M. KERWIN, *RULEMAKING: HOW GOVERNMENT AGENCIES WRITE LAW AND MAKE POLICY* 182 (2d ed. 1999) (arguing that his study with Langbein represents “the most compelling evidence to date . . . that negotiated rulemaking . . . produces results superior to conventional rulemaking”). However, the Langbein and Kerwin study actually never investigated the outcomes of negotiated rulemaking, but instead compared the perceptions of participants in negotiated rulemaking with those of individuals who filed comments in conventional rulemakings. See Langbein & Kerwin, *supra* note 114, at 601. Consequently, it does not provide a sound basis for drawing inferences about the relative quality of negotiated rules. For an extended discussion of the limitations of the Langbein and Kerwin study, see Coglianese, *supra* note 112, at 430–38.

135. See Charles C. Caldart & Nicholas Ashford, *Negotiation as a Means of Developing and Implementing Environmental and Occupational Health and Safety Policy*, 23 HARV. ENVTL. L. REV. 141, 201 (1999) (concluding that negotiated rulemaking can undermine the potential of regulation to encourage technological innovation); Coglianese, *supra* note 110 (discussing the pathologies of consensus); McCloskey, *supra* note 99, at 434 (arguing that consensus building is a “cumbersome process that is plagued by disadvantages that outweighs its perceived advantages”).

CONCLUSION

Each of the arenas for procedural reform that I have considered here have benefited from careful empirical research. Given the level of interest in reforming the regulatory process, still further empirical research will make a contribution to ongoing policy debates at the same time that it furthers scholarly understanding of law as a social instrument. I have raised each of the examples here to illustrate issues common to empirical analysis of law in a variety of areas of regulatory reform, not to suggest that these examples are exhaustive. Important empirical work remains to be done in other areas of administrative law, such as on the impacts of procedures on the outcomes of administrative law judges or the impact that varying standards of review may have on judicial decision making.

In order to understand how law can influence governing institutions within society, it is vital to examine how procedures actually affect the behavior of administrative agencies and to learn more about the conditions under which different procedural arrangements might yield better policy outcomes. Empirical analysis should therefore go hand in hand with the implementation of any regulatory reform. By choosing appropriate research strategies and attending with care to issues of empirical validity, researchers will be able to explain better how administrative law affects the behavior and outcomes of government agencies. Empirical research on administrative law has the potential for evaluating and ultimately improving prescriptive efforts to design administrative procedures in ways that contribute to more effective and legitimate governance.

