TEN PRINCIPLES FOR BETTER REGULATION

BY JERRY ELLIG

MERCATUS CENTER
George Mason University

Mercatus Center
George Mason University
3351 Fairfax Drive, 4th Floor
Arlington, VA 22201-4433
(703) 993-4930
mercatus.org

ABOUT THE AUTHOR

Jerry Ellig is a senior research fellow at the Mercatus Center at George Mason University and a former assistant professor of economics at George Mason University. He has published numerous articles on government regulation and business management in both scholarly and popular periodicals, including the *Wall Street Journal*, the *New York Times*, the *Washington Post*, the *Administrative Law Review*, and the *Journal of Regulatory Economics*. His most recent book, coauthored with Maurice McTigue and Henry Wray, is *Government Performance and Results: An Evaluation of GPRA's First Decade*. Previously, Ellig was deputy director and acting director of the Office of Policy Planning at the Federal Trade Commission (FTC). He also served as senior economist for the Joint Economic Committee of the US Congress. Ellig received his MA and PhD in economics from George Mason University.

For nearly four decades, presidential administrations have required executive branch regulatory agencies to identify the problem they are trying to address and assess its significance, examine a wide range of alternative solutions, estimate the costs and benefits of the alternatives, and regulate only when the benefits justify the costs. In 1993, President Clinton's Executive Order 12866 laid out the fundamental requirements that have governed regulatory analysis and review ever since.[1] In January 2011, President Obama's Executive Order 13563 reaffirmed the principles and processes articulated in the Clinton executive order:

> Our regulatory system must protect public health, welfare, safety, and our environment while promoting economic growth, innovation, competitiveness, and job creation. It must be based on the best available science. It must allow for public participation and an open exchange of ideas. It must promote predictability and reduce uncertainty. It must identify and use the best, most innovative, and least burdensome tools for achieving regulatory ends. It must take into account benefits

1. Executive Order 12866, *Federal Register* 58, no. 190 (1993): 51735–44, http://www.whitehouse.gov/sites/default/files/omb/inforeg/eo12866/eo12866_10041993.pdf.

> and costs, both quantitative and qualitative. It must ensure that regulations are accessible, consistent, written in plain language, and easy to understand. It must measure, and seek to improve, the actual results of regulatory requirements.[2]

Regulations, regulatory impact analyses (RIAs), and notices of proposed rulemaking (NPRMs) that reflect the following 10 principles have the best chance of accomplishing these goals. Regulatory agencies are permitted to follow these principles only to the extent that they do not conflict with the laws the agencies implement, so it would also behoove Congress to keep these principles in mind when it writes regulatory legislation.

1. Since regulations impose constraints that govern people's behavior, a sensible regulation should solve a real, widespread problem that could reasonably be addressed by altering constraints. It should not just respond to anecdotes of bad behavior by bad actors.

- The very first principle enunciated in Executive Order 12866 is that "each agency shall identify the problem that it intends to address (including, where applicable, the failures of private markets or public institutions that warrant new regulatory action) as well as assess the significance of that problem."[3]

---

2. Executive Order 13563, *Federal Register* 76, no. 11 (January 21, 2011): 3821–23, http://www.whitehouse.gov/sites/default/files/omb/inforeg/eo12866/eo13563_01182011.pdf.

3. Ibid., sec. 1(b)(1). "Market failure" and "government failure" are both pieces of economic terminology that have specific meanings; they indicate situations when markets or the government fails to produce economically efficient results, for several well-defined reasons. For a highly readable and brief description, see Susan E. Dudley and Jerry Brito, *Regulation: A Primer*, 2nd ed. (Arlington, VA: Mercatus Center at George Mason University and George Washington University Regulatory Studies Center, 2012), 12–20.

- It makes sense that this is the first principle. Before regulating, regulators should ascertain whether they are dealing with a systemic problem that regulation could solve. And understanding the nature of the problem is vital to crafting a solution that will actually work.
- Circular A-4, the Office of Management and Budget (OMB) guidance on regulatory analysis for agencies, elaborates further:

  > If the regulation is designed to correct a significant market failure, you should describe the failure both qualitatively and (where feasible) quantitatively. . . . For other interventions, you should also provide a demonstration of compelling social purpose and the likelihood of effective action. Although intangible rationales do not need to be quantified, the analysis should present and evaluate the strengths and limitations of the relevant arguments for these intangible values.[4]

- Agencies often fail to adequately identify or thoroughly analyze a systemic problem. The Mercatus Center's Regulatory Report Card assesses the extent to which agency RIAs comply with the major principles in Executive Order 12866 and Circular A-4.[5] Assessment of the systemic problem is the regulatory analysis criterion that earned the lowest score on the Regulatory Report Card in both the Bush and Obama administrations.[6]

---

4. Office of Management and Budget (OMB), Circular A-4, September 17, 2003, p. 4, available at http://www.whitehouse.gov/omb/circulars_a004_a-4.

5. Regulatory Report Card evaluations of economically significant regulations proposed since 2008 are available at http://mercatus.org/reportcard.

6. Jerry Ellig, Patrick A. McLaughlin, and John F. Morrall III, "Continuity, Change, and Priorities: The Quality and Use of Regulatory Analysis Across US Administrations," *Regulation & Governance* 7, no. 2 (2012): 161, available with registration at http://onlinelibrary.wiley.com/doi/10.1111/j.1748-5991.2012.01149.x/full.

BEST PRACTICE	WORST PRACTICE
An RIA explicitly defines a failure of market institutions, a failure of government institutions, or an overriding social need	A rulemaking simply cites an authorizing statute, providing little or no definition of the problem the rulemaking intends to address
An RIA outlines a theory of cause and effect that explains why the market or government may have failed, or why the social need may be met insufficiently	An RIA or NPRM defines the problem as the absence of a rule
An RIA presents empirical evidence that the problem actually exists and is widespread—not just anecdotal	An RIA or NPRM presents anecdotes of bad behavior, but no evidence of how widespread the behavior is

Note: For examples of actual RIAs that illustrate best and worst practices, see Jerry Ellig and James Broughel, "Regulation: What's the Problem?" (Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, November 2011), http://mercatus.org/sites/default/files/Ellig_broughel_Regulationwhatstheproblem.pdf.

2. A regulation should be accompanied by proof that it is likely to make life better for citizens in a significant and tangible way.

- Regulators should specify the ultimate outcomes that benefit citizens—not just inputs, activities, or processes. Circular A-4 notes, "In constructing measures of 'effectiveness,' final outcomes, such as lives saved or life-years saved, are preferred to measures of intermediate results, such as tons of pollution reduced, crashes avoided, or cases of disease avoided."[7]
- Circular A-4 further instructs agencies, "Explain how the actions required by the rule are linked to the expected benefits. For example, indicate how additional safety equipment will reduce safety risks."[8]
- Good intentions are not proof that a regulation will achieve the desired results. Executive Order 12866 states,

7. OMB, Circular A-4, p. 12.

8. Ibid., 2.

"Each agency shall base its decisions on the best reasonably obtainable scientific, technical, economic, and other information concerning the need for, and consequences of, the intended regulation."[9] In other words, regulation requires evidence, not just assertions.

- In the Mercatus Center's Regulatory Report Card, agencies receive a better score for analyzing outcomes than for other aspects of regulatory analysis. Nevertheless, the average score for analysis of outcomes is just 3.2 out of 5 possible points for regulations proposed in 2008–2012.[10]

BEST PRACTICE	WORST PRACTICE
An RIA and NPRM define the intended results as outcomes that clearly improve citizens' quality of life	An RIA or NPRM defines the goal as activities (e.g., adoption of a rule, improved enforcement of an existing rule or law) or outputs (e.g., more enforcement actions, reduced emissions) without identifying the proposed regulation's ultimate effect on people's lives
An RIA offers a theory of cause and effect, consistent with established economic and scientific theories, that shows how the regulation could produce the desired outcomes	An RIA offers no theory of cause and effect showing how the regulation could produce the desired outcomes, or the theory is incoherent, or it is self-contradictory
An RIA presents empirical evidence that each step of the theory is likely to be correct, instilling confidence that the regulation is likely to produce the desired outcomes	An RIA simply assumes the regulation will produce the intended outcomes without providing any evidence to support this assumption; it regards good intentions as sufficient to produce good results

Note: For an example of an RIA that illustrates both some of the best and some of the worst practices, see the discussion of the Occupational Safety and Health Administration's rule on cranes and derricks in Jerry Ellig and Patrick A. McLaughlin, "The Quality and Use of Regulatory Analysis in 2008," Risk Analysis *32, no. 5 (May 2012): 7–8.*

9. Executive Order 12866, sec. 1(b)(7).

10. Jerry Ellig, "Improving Regulatory Impact Analysis through Process Reform," testimony before the Joint Economic Committee, June 26, 2013, p. 4.

3. Regulators should define how they will know the problem is "solved" and no additional regulation is necessary.

- Presidents periodically require agencies to develop plans for retrospective review of existing regulations.[11]
- The Government Accountability Office and independent scholars have found that few agencies engage in genuine retrospective analysis of regulations—that is, evaluations to ascertain the actual benefits and costs of regulations after they have been implemented.[12]
- Agencies could greatly facilitate this kind of retrospective review by clearly explaining, when a regulation is implemented, what counts as "success." When will the problem be considered solved? When will the proposed regulation no longer be necessary, or when will no additional regulation be necessary?
- In the Mercatus Center's Regulatory Report Card, two of the criteria for which agencies earn the lowest scores are assessing whether they have articulated goals and measures to gauge the results of the regulation and indicating what data they will use to evaluate the regulation's results after it is adopted.[13]

---

11. Executive Order 12044, *Federal Register* 43 (March 24, 1978), sec. 4, http://www.presidency.ucsb.edu/ws/index.php?pid=30539; Executive Order 12291, *Federal Register* 46 (February 17, 1981), sec. 3i, http://www.archives.gov/federal-register/codification/executive-order/12291.html; Executive Order 12866, sec. 5; Executive Order 13563, sec. 1.

12. U.S. Government Accountability Office, "Re-examining Regulations: Opportunities Exist to Improve Effectiveness and Transparency of Retrospective Reviews," Report GAO-07-791 (2007); Randall Lutter, "The Role of Retrospective Analysis and Review in Regulatory Policy" (Working Paper No. 12-14, Mercatus Center at George Mason University, Arlington, VA, April 2012), http://mercatus.org/sites/default/files/Lutter_Retrospective_v1-2.pdf.

13. Ellig, "Improving Regulatory Impact Analysis," 4.

BEST PRACTICE	WORST PRACTICE
An RIA clearly indicates the size of the problem, and the benefit calculations show how much of the problem the regulation is likely to solve	An RIA repeats the same statistics on the size of the problem that were used to justify other regulations aimed at the same problem, suggesting that the agency never updated its assessment of the problem to reflect the effects of other regulations
An RIA or NPRM specifies a baseline against which the agency will measure benefits and costs in the future and indicates what results will be considered a "success" or a "failure"	An agency commits to no goals or measures for the regulation
An NPRM clearly indicates that the agency will assess the benefits and costs of the regulation at some reasonable time after it is implemented	An agency does not commit to any evaluation of the regulation's effects after it is implemented
An RIA or NPRM indicates what data the agency has access to or will commit to gather for this assessment	The data in the RIA are so sparse that it is not even clear how the agency could project the benefits or costs, much less assess them after the regulation is implemented

4. Regulators should consider alternatives to regulation and alternative forms of regulation.

- Executive Order 12866 indicates that agencies should consider a variety of alternative solutions to the problem identified, including performance standards, economic incentives, provision of information, modification of existing regulations or laws, and not regulating.[14]
- Circular A-4 provides a broader list of alternatives, such as fees, bonds, insurance, changes in liability rules, definition or redefinition of property rights, and information provision or disclosure.[15] It also directs

14. Executive Order 12866, secs. 1(a), 1(b)(2), 1(b)(3), 1(b)(8).

15. OMB, Circular A-4, pp. 8–9.

agencies to consider alternatives outside the scope of current law, in order to inform congressional deliberations under the Congressional Review Act.[16]

- Regulatory scholars suggest an even broader range of alternatives that can be effective in some situations, such as agencies requiring firms to analyze and plan for potential hazards or risks, or firms voluntarily adopting standards at the behest of customers or suppliers.[17]
- In reality, agencies rarely consider innovative alternatives. One agency economist notes, "We do what we always do, just trotting out the same old thing. That's why we don't come up with better regulations; we just come up with the same regulations in different areas."[18]

16. Ibid., 17.

17. Cary Coglianese and David Lazer, "Management-Based Regulation: Prescribing Private Management to Achieve Public Goals," *Law & Society Review* 37, no. 4 (December 2003): 691–730; Aseem Prakash and Matthew Potoski, "Racing to the Bottom? Trade, Environmental Governance, and ISO 14001," *American Journal of Political Science* 50, no. 2 (April 2006): 350–64.

18. Richard Williams, "The Influence of Regulatory Economists in Federal Health and Safety Agencies" (Working Paper No. 08-15, Mercatus Center at George Mason University, Arlington, VA, July 2008), 6, http://mercatus.org/sites/default/files/publication/WP0815_Regulatory%20Economists.pdf.

BEST PRACTICE	WORST PRACTICE
Regulators consider alternatives to federal regulation, such as information provision, liability through the legal system, state regulation, or the possibility that the evolving marketplace will solve the problem	An RIA and NPRM fail to consider alternatives to federal regulation
Regulators consider a wide variety of alternative regulatory approaches	An RIA or NPRM offers alternatives that merely tweak the favored regulatory approach
An RIA comprehensively assesses the benefits and costs of a wide variety of alternative solutions	An RIA or NPRM offers a cursory discussion of alternatives without appearing to seriously consider them

Note: For examples from actual Regulatory Impact Analyses of best and worst practices in the analysis of alternatives, see Jerry Ellig and James Broughel, "Regulatory Alternatives: Best and Worst Practices" (Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, February 2012), http://mercatus.org/sites/default/files/RegulatoryAlternativesElligBroughel2-21-12.pdf.

5. The regulatory alternative selected should provide the "biggest bang for the buck."

- Executive Order 12866 directs agencies to "select those approaches that maximize net benefits . . . unless a statute requires another regulatory approach"[19] and "propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs."[20]
- Agencies are explicitly permitted to consider unquantified benefits or costs, as well as other values that are neither benefits nor costs, including "equity, human dignity, fairness, and distributive impacts."[21]

19. Executive Order 12866, sec. 1(a).

20. Ibid., sec. 1(b)(6).

21. Executive Order 13563, sec. 1(c).

- During 2008–2012, agencies chose the alternative that maximized net benefits or explained why they chose another option for just 33 percent of proposed, economically significant prescriptive regulations.[22]
- Analysis of values other than benefits and costs is particularly sparse. For example, in the first round of regulations implementing the Patient Protection and Affordable Care Act, the RIAs characterized various results of the regulations as improvements in "equity" without ever defining equity or explaining how the regulation improved it.[23]

22. The percentage is calculated from the Mercatus Center's Regulatory Report Card data, available at http://mercatus.org/reportcard. These are the prescriptive regulations that received a score of 4 or 5 points (out of a possible 5) on the question whether the agency chose the alternative that maximized net benefits or explained its reasons for choosing another alternative. A total of 36 out of 108 prescriptive regulations received a score of 4 or 5 in 2008–2012. A "prescriptive" regulation is a regulation that imposes mandates or prohibitions.

23. Christopher J. Conover and Jerry Ellig, "Beware the Rush to Presumption, Part A: Material Omissions in Regulatory Analyses for the Affordable Care Act's Interim Final Rules" (Working Paper No. 12-01, Mercatus Center at George Mason University, Arlington, VA, January 2012), 21–25, http://mercatus.org/sites/default/files/publication/Beware_the_Rush_to_Presumption_PartA_ConoverEllig.pdf.

BEST PRACTICE	WORST PRACTICE
An RIA comprehensively assesses the benefits and costs of a wide variety of alternative solutions	An RIA offers a cursory discussion of alternatives that do not appear to be seriously considered or merely tweak the selected regulatory approach
An agency selects the alternative that maximizes net benefits, OR	An RIA is so incomplete that the net benefits of alternatives are unclear
If the agency does not select the alternative that maximizes net benefits, it presents a clear, evidence-based explanation of other factors that motivated its decision	An NPRM cites unquantified benefits or costs as a motivation for the decision without presenting evidence that these benefits or costs are real and that the regulation will affect them
If values other than benefits or costs (such as equity) motivated the decision, the agency clearly defines those values and presents evidence that the regulation will substantially advance those values	An NPRM merely asserts that the regulation is justified because it advances a value that is only vaguely defined, and the agency presents no evidence that the regulation will in fact advance that value

Note: For examples from actual regulations of best and worst practices in the analysis of alternatives, see Jerry Ellig and James Broughel, "How Well Do Federal Agencies Use Regulatory Impact Analysis?" (Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, July 2013), http://mercatus.org/sites/default/files/Ellig_FedAgenciesRIA_MOP_071513.pdf.

6. Regulation should respect consumers' freedom of choice.

- Executive Order 12866 rightly focuses regulatory agencies' attention on remedying failures of market or government institutions that allow people to harm each other, rather than trying to correct every "mistake" fallible individuals might make that harms themselves.[24] The government is more likely to be able to remedy institutional failures than to change fundamentally people's preferences or decision-making methods. Experimental evidence shows that market institutions often produce sensible results even when individuals appear to be behaving

24. Executive Order 12866, sec. 1(b)(1).

irrationally.[25] Focusing on institutions also helps regulators avoid a tempting analytical error: when people appear to be making "irrational" decisions, they may be doing so because they see some source of value that the regulatory analyst did not think to include in the analysis.

- When individual irrationality is proffered as a justification for regulation, there is no reason not to apply the same evidence-based standard of analysis that applies to other claims of market or government failure. The agency should have actual empirical evidence of irrational consumer decisions based on a study of consumer behavior in the market that would be affected by the regulation, not just speculation, analogies, or anecdotes.
- Executive Order 12866 also specifies that a regulation should be no more restrictive than necessary to correct the problem the agency identified. It directs each agency to consider a wide variety of alternatives (including economic incentives and information provision),[26] "design its regulations in the most cost-effective manner to achieve the regulatory objective,"[27] and "tailor its regulations to impose the least burden on society."[28]
- Nevertheless, many significant regulations assume, without rigorous evidence, that individuals—and sometimes businesses—make the "wrong" decisions because they have "irrational" preferences. Most of the benefits ascribed to energy-efficiency and fuel-efficiency standards, for example, stem from the assumption that for many people, the value of future cost savings from

25. Vernon L. Smith, "The Contrast Between Economics and Psychology," *Journal of Political Economy* 99, no. 4 (August 1991): 877–97.

26. Executive Order 12866, sec. 1(b)(3).

27. Ibid., sec. 1(b)(5).

28. Ibid., sec. 1(b)(11).

reduced energy usage is lower than the regulatory agency's analysts think is rational. The RIAs have not tested an alternative, equally plausible explanation: that consumer decisions reflect some aspect of quality that the analyst has not taken into account. The bulk of the estimated benefits for these regulations come from correcting these "irrational" choices, not from reduced pollution.[29]

- Other regulations limit consumer choice in ways that are broader than necessary to fix the genuine problem. If consumers lack information or process it incorrectly, the appropriate remedy is not to ban products or services, but rather to make the relevant information available or provide it in ways that are more understandable. As Circular A-4 notes, "A regulatory measure to improve the availability of information, particularly about the concealed characteristics of products, provides consumers a greater choice than a mandatory product standard or ban."[30]

---

29. See Ted Gayer and W. Kip Viscusi, "Energy Regulations: Protecting 'Irrational' Consumers from Themselves?" (Research Summary, Mercatus Center at George Mason University, Arlington, VA, August 1, 2012), http://mercatus.org/sites/default/files/Energy-Regulations-Protecting-Irrational-Consumers-From-Themselves.pdf; and Michael L. Marlow and Sherzod Abdukadirov, "Fat Chance: An Analysis of Anti-obesity Efforts" (Working Paper No. 12-10, Mercatus Center at George Mason University, Arlington, VA, March 2012), http://mercatus.org/sites/default/files/publication/Fat_Chance_MarlowAbdukadirov_WP1210_0.pdf.

30. OMB, Circular A-4, p. 9.

BEST PRACTICE	WORST PRACTICE
The benefits claimed in an RIA stem from the correction of genuine institutional failures, not merely the correction of consumers' "irrational" decisions	Most of a regulation's claimed benefits stem from the fact that the agency assumes with little or no evidence that people have the "wrong" preferences
The agency regulates to protect consumers only if consumers are vulnerable to monopoly, are poorly informed, or make decisions that impose significant costs on third parties	The regulation overrides consumers' freedom of choice by mandating or banning a product, service, or feature, even though consumers are reasonably well informed and experience all or almost all the benefits and costs of their decisions
The RIA or NPRM supports claims that consumers lack information or process it incorrectly by empirical research on the market that would be affected by the regulation	The RIA or NPRM theorizes that consumers lack information or process information incorrectly, but provides no empirical evidence that this is true
The regulation imposes a remedy that is no more restrictive than necessary to correct a well-documented problem; for example, it corrects consumers' lack of information by improving consumer information	The regulation imposes a remedy that is much more restrictive than necessary to fix an identified failure of private markets; for example, it mandates or bans a product because consumers lack adequate information

7. Regulation should be technologically neutral.

- Regulation should focus on establishing performance goals that create tangible results for the public—not picking the means by which businesses, states, local governments, or individuals have to achieve those results.
- Executive Order 12866 reflects this concern: "Each agency shall identify and assess alternative forms of regulation and shall, to the extent feasible, specify performance objectives, rather than specifying the behavior or manner of compliance that regulated entities must adopt."[31]

31. Executive Order 12866, sec. 1(b)(8).

- It also instructs agencies to consider the alternative of providing economic incentives for desired behavior, such as user fees or marketable permits.[32]
- But actual regulatory policy often picks winners and losers by favoring some technologies over others. Federal spectrum policy, for example, has for decades favored certain technologies over others (such as broadcast over broadband), instead of merely preventing signal interference and requiring all users of spectrum to bid for it so that spectrum can be allocated to the uses consumers value most highly.[33]

BEST PRACTICE	WORST PRACTICE
A regulation establishes an objective rather than mandating the method of compliance	A regulation requires a particular method of compliance
The objective is proven to produce significant public benefits or prevent significant public harm	An agency defines its regulatory objective as compliance, without any link to benefits for the public or with a link between compliance and benefits that is speculative
All potential users of a federally managed resource have the opportunity to bid for its use, regardless of their technologies or business models	Regulators plan the development of technologies or business models and allocate federal resources to carry out their vision

8. Regulation should be competitively neutral.

- Regulation should focus on creating tangible benefits for the public—not on singling out particular competitors to be winners or losers.

32. Ibid., sec. 1(b)(3).

33. Thomas W. Hazlett, "Liberalizing US Spectrum Allocation," *Telecommunications Policy* 27 (2003): 485–99.

- The emphasis in Executive Order 12866 on performance objectives and economic incentives[34] helps facilitate regulation that is competitively neutral as well as technologically neutral.
- The analysis of effects on small businesses required under the Regulatory Flexibility Act reflects a concern that regulatory burdens could disproportionately disadvantage small businesses, to the benefit of their larger competitors.
- Well-known economic research demonstrates how regulation can entrench some businesses at the expense of competitors and consumers.[35] The most obvious examples were the government-enforced cartels in the transportation and securities industries, which were largely dismantled by a bipartisan congressional coalition in the late 1970s.[36] But even well-intentioned social regulation can harm consumers by shielding some firms in an industry from competition.[37]
- The debate over public safety communications provides a striking example. More than a decade after 9/11, the FCC still has not managed to enable construction of a public safety communications network that would allow all first responders to communicate with each other. The reason is that the FCC tried to create a single monopoly provider governed by a politically appointed committee,

34. Executive Order 12866, secs. 1(b)(8) and 1(b)(3).

35. For a summary of relevant economic research, see Matthew Mitchell, "The Pathology of Privilege: The Economic Consequences of Government Favoritism" (Mercatus Research, Mercatus Center at George Mason University, Arlington, VA, July 9, 2012), http://mercatus.org/sites/default/files/The_Pathology_of_Privilege-Final_2.pdf.

36. Clifford Winston, "Economic Deregulation: Day of Reckoning for Microeconomists," *Journal of Economic Literature* 31 (September 1993): 1263–89.

37. Bruce Yandle, "Bootleggers and Baptists: The Education of a Regulatory Economist," *Regulation* 7 (May/June 1983): 12–16.

instead of simply auctioning public safety spectrum to competing providers and requiring that their networks be interoperable.[38]

BEST PRACTICE	WORST PRACTICE
Regulators avoid imposing price controls or quotas in competitive markets and avoid creating barriers to entry that inhibit new competition	A regulation explicitly bars new firms from entering a market and/or enforces cartels
A regulation establishes an objective, but leaves all competitors free to find ways of meeting the objective	Regulators try to design or engineer the creation of a new firm or industry
An RIA documents costs to consumers that arise when a regulation creates market power, and regulators take these costs into account when they make decisions	Regulators ignore costs to consumers that arise when a regulation creates market power

9. Regulation should be based on the best available evidence, not merely on assumptions, good intentions, or wishes.

- Executive Order 12866 directs agencies to base their decisions on "the best reasonably obtainable scientific, technical, economic, and other information concerning the need for, and consequences of, the intended regulation."[39]
- Regulatory analysis is about understanding reality as it is, not as regulators wish it to be. To provide an accurate understanding of reality, a good regulatory analysis must start with facts and evidence, not arbitrary assumptions.

38. Jerry Brito, "Sending Out an SOS: Public Safety Communications Interoperability as a Collective Action Problem," *Federal Communications Law Journal* 59, no. 3 (March 2007): 457–92, http://mercatus.org/uploadedFiles/Mercatus/Publications/Sending%20Out%20an%20S.O.S.pdf.

39. Executive Order 12866, sec. 1(b)(7).

- Nevertheless, many authors of regulations and decision makers believe that economists and other regulatory analysts can construct an analysis justifying any decision by "making assumptions" plucked from thin air. One former FDA economist elaborates:

  > When FDA was promulgating the seafood Hazard Analysis Critical Control Points (HACCP) regulation, it was obvious to both epidemiologists and economists from the beginning that there would be very few benefits. . . . Later on, when it became apparent that the costs were higher than benefits by about 10 to 1, the pressure was put on me as the chief economist to change the numbers. At one point, on a Friday, I was told not to bother coming back to work if I could not agree to change the benefits and costs.
  >
  > After the initial estimates showed very few benefits, the dictated solution from senior managers was to allow two scientists (one retiring and another from a completely different agency who was unfamiliar with the details of the rule) to "estimate" that 50 percent of all illnesses caused by seafood would decrease following imposition of the rule—an estimate that has not come true.[40]

- Regulatory Report Card data show that for 108 prescriptive regulations proposed in 2008–2012, 34 percent failed to document at least some data sources, and 33 percent cited no research supporting the models or assumptions used in the analysis.[41]

---

40. Williams, "Influence of Regulatory Economists," 10.

41. These are regulations that scored 2 or fewer points (out of a possible 5) on questions related to documentation of data and documentation of models and assumptions. Percentages are calculated from data available at http://mercatus.org/reportcard.

BEST PRACTICE	WORST PRACTICE
An RIA bases input values that provide a starting point for calculations of benefits, costs, etc. on peer-reviewed publications or other credible research	An RIA merely assumes input values or bases them on "agency estimates" with no further documentation
An RIA employs theories of cause and effect that are coherent, logical, and substantiated by empirical research	An RIA simply assumes that benefits, costs, or a problem exists, without any supporting evidence
An NPRM's justification for the regulation is consistent with findings in the RIA	An NPRM makes statements about the problem, benefits, or costs that contradict findings in the RIA

10. Regulation should acknowledge uncertainty.

- Many of the facts in a regulatory analysis are not known with certainty; there is a greater or lesser chance that they are true. Similarly, input values used to estimate benefits or costs are not known with certainty, but often fall within some plausible range. An accurate RIA accounts for these uncertainties by calculating ranges of possible results and informing readers about the likelihood of different results.
- Omitting this information misinforms decision makers about what is really known and not known. If, for example, the upper-bound cost estimate for a regulation exceeds the lower-bound benefit estimate, decision makers might make a different decision than they would if they were just given the two most likely numbers for benefits and costs. Alternatively, if decision makers know there is a great deal of uncertainty about the likely outcomes, they might decide to gather more information before making the decision.
- Circular A-4 contains detailed guidance on how regulatory agencies should deal with uncertainty. RIAs

should acknowledge statistical variability, incomplete knowledge, and the extent to which the results of the analysis change when input values change. For rules involving more than $1 billion in annual economic effects, the agency must prepare a formal, quantitative analysis of uncertainty that shows the probability of different outcomes.[42]

- Nevertheless, Regulatory Report Card data indicate that RIAs often engage in little or no analysis of uncertainty. For prescriptive regulations proposed in 2008–2012, 58 percent had little or no analysis of uncertainty about the systemic problem, 23 percent had little or no analysis of uncertainty about benefits, and 34 percent had little or no analysis of uncertainty about costs.[43]

BEST PRACTICE	WORST PRACTICE
An RIA identifies a systemic problem, presents evidence that the problem exists and is significant, and assesses the likelihood that the problem exists and is significant	An RIA and NPRM assume the problem the regulation seeks to solve exists with certainty, but provides no evidence of its existence or significance
An RIA presents cost and benefit figures as ranges of possible results	An RIA presents cost and benefit figures as single numbers, implying that each number is "the" correct answer
An RIA provides evidence about the likelihood of each possible result	An RIA does not consider the likelihood of each possible result
An RIA cites empirical research that justifies the input values used to assess the range and likelihood of different results	An RIA makes arbitrary assumptions about the input values used to assess the range and likelihood of different results

42. OMB, Circular A-4, pp. 38–42.

43. These are regulations that scored 0 points or 1 point (out of a possible 5) on the three Regulatory Report Card questions about uncertainty analysis. Percentages are calculated from data available at http://mercatus.org/reportcard.

FURTHER READING

Abdukadirov, Sherzod and Deema Yazigi. "Inflated Benefits in Agencies' Economic Analysis." Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, August 2012. http://mercatus.org/sites/default/files/InflatedBenefits_MOP112.pdf.

Conover, Christopher J. and Jerry Ellig. "The Poor Quality of Affordable Care Act Regulations." Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, January 2012. http://mercatus.org/sites/default/files/Poor_quality_of_ACA_ConoverEllig_MOP101.pdf.

Conover, Christopher J. and Jerry Ellig. "Rushed Regulation Reform." Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, January 2012. http://mercatus.org/sites/default/files/publication/Rush_Reg_Reform_ConoverEllig_MOP102_0.pdf.

Dudley, Susan E. and Jerry Brito. *Regulation: A Primer*. 2nd ed. Arlington, VA: Mercatus Center at George Mason University and George Washington University Regulatory Studies Center, 2012.

Ellig, Jerry and Sherzod Abdukadirov. "Regulatory Analysis and Regulatory Reform." Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, November 2011. http://mercatus.org/sites/default/files/ellig_abdukadirov_Regulatory_Analysis.pdf.

Ellig, Jerry and James Broughel. "Baselines: A Fundamental Element of Regulatory Impact Analysis." Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, June 2012. http://mercatus.org/sites/default/files/Baselines-MOP-final-v1-1-standard.pdf.

Ellig, Jerry and James Broughel. "Regulation: What's the Problem?" Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, November 2011. http://mercatus.org/sites/default/files/Ellig_broughel_Regulationwhatstheproblem.pdf.

Ellig, Jerry and James Broughel. "Regulatory Alternatives: Best and Worst Practices." Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, February 2012, http://mercatus.org/sites/default/files/RegulatoryAlternativesElligBroughel2-21-12.pdf.

"'Ready, Fire, Aim!': A Foundational Problem with Regulations." Mercatus Research, Mercatus Center at George Mason University, Arlington,VA. Accessed June 26, 2013. http://mercatus.org/sites/default/files/READY-FIRE-AIM-Foundational-Problem-Regulations.pdf.

Williams, Richard and Mark Adams. “Regulatory Overload.” Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, February 2012. http://mercatus.org/sites/default/files/Regulatory_Overload_WilliamsAdams_MOP103.pdf.

Williams, Richard and Jerry Ellig. “Regulatory Oversight: The Basics of Regulatory Impact Analysis.” Posted September 12, 2011. http://mercatus.org/sites/default/files/Mercatus-Regulatory-Impact-Analysis-Toolkit.pdf.

Who Will Run the EPA?

*Lisa Heinzerling**

With President Obama's nomination of Gina McCarthy as the new Administrator of the Environmental Protection Agency (EPA), much attention has turned to her record as the EPA official in charge of air pollution programs, experience as the head of two states' environmental agencies, and views on specific policies and priorities. And with the President's nomination of Sylvia Mathews Burwell to be the Director of the Office of Management and Budget (OMB), attention has likewise turned to her record and experience. Few recognize, however, the tight relationship between the two nominations: the Obama administration's approach to governing will make Ms. Burwell Ms. McCarthy's boss.

Few environmental statutes in this country put the President (or his aides in the White House) in charge of environmental decisions; most give the job to the EPA or, more specifically, its Administrator. Even fewer environmental statutes require rules to be evaluated according to cost-benefit analysis; most specify a different kind of decision-making framework for such rules.

Nevertheless, the Obama administration has continued and deepened a longstanding practice of White House control over EPA rules, with cost-benefit analysis as the guiding framework. OMB is the central player in this structure: it reviews, under a cost-benefit rubric, all agency rules that it deems "major" under executive orders mandating this review. EPA rules deemed major by OMB are not issued without OMB's imprimatur. Thus does the OMB director become the EPA Administrator's boss.

This result would be bad enough, given the tension between it and the legal structures governing environmental policy. But it turns out the OMB itself seems not to want to accept accountability for running U.S. environmental policy. In a new law review article by Cass Sunstein, the former head of the OMB office that acts as the White House's regulatory gatekeeper, Sunstein insists that he actually didn't have very much power.[1] In fact, he says, decisions about rules most frequently turned on other players in the White House, Cabinet heads outside the agency proposing the rule, or even career staff in other agencies or in the OMB itself. In Sunstein's rendering, it appears

* Professor of Law, Georgetown University Law Center. The author was Senior Climate Policy Counsel to EPA Administrator Lisa P. Jackson from January to July 2009, and Associate Administrator of the Office of Policy from July 2009 to December 2010. This essay is based on public documents and the author's experience in those positions.

1. Cass R. Sunstein, *The Office of Information and Regulatory Affairs: Myths and Realities*, HARV. L. REV. (forthcoming 2013), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2192639.

that everyone is responsible for the shape and scope of environmental policy in this administration. Which means no one is accountable.

In concrete terms, this leaves us unable to know whom to blame when the OMB delays the EPA's list of "chemicals of concern" for almost three years,[2] holds the Occupational Safety and Health Administration's rule on crystalline silica for over two years,[3] does not accept delivery of a notice of new data on EPA's proposal to regulate coal ash impoundments,[4] or insists on extensive, substantive changes to the Food and Drug Administration's new rules on food safety.[5] Perhaps it is the OMB itself, or another office in the White House, or the White House Chief of Staff, or the head of the Department of Agriculture, or a GS-12 at the Small Business Administration.[6] We just don't know.

Part of the reason we don't know is that the Obama administration does not follow its own rules on transparency in the process of OMB review. Two years ago, President Obama issued an executive order reaffirming his embrace of a Clinton-era executive order governing OMB review.[7] The Clinton-era order requires transparency throughout the OMB process; at almost every step of the way, the order – which, again, President Obama reaffirmed in his own executive order on OMB review – requires disclosure of important decision points and documents:

- if an agency plans a regulatory action that the OMB thinks is inconsistent with the President's policies or priorities, the OMB must tell the agency so, in writing;[8]

2. The government website on regulatory review shows that this list has been under review at OMB since May 12, 2010. *See TSCA Chemicals of Concern List*, REGULATORY REVIEW DASHBOARD, http://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201010&RIN=2070-AJ70 (last visited Mar. 25, 2013) (pending OMB review as of Mar. 25, 2013).

3. This rule has been under review since February 14, 2011. *See OSHA Occupational Exposure to Crystalline Silica Rule*, REGULATORY REVIEW DASHBOARD, http://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201104&RIN=1218-AB70 (last visited Mar. 25, 2013) (pending OMB review as of Mar. 25, 2013).

4. The EPA's website on rulemaking shows that a Notice of Data Availability was sent to the OMB for review on March 12, 2012. *Coal Combustion Residuals generated by Electric Power Plants*, U.S. ENVTL. PROT. AGENCY, http://yosemite.epa.gov/opei/RuleGate.nsf/byRIN/2050-AE81?opendocument (last visited Mar. 25, 2013). Neither the EPA's nor the OMB's website indicates that the rule has been accepted by OMB for review. *Id*.; Search Results, REGULATORY REVIEW DASHBOARD, http://www.reginfo.gov/ (search "RIN" for "2050-AE81" and search "Agency for Environmental Protection Agency) (returning "no results found") (last visited Mar. 25, 2013).

5. Documents showing extensive changes to the FDA's rule on the growing, harvesting, packing and holding of produce for human consumption are available through Regulations.gov at http://www.regulations.gov/#!documentDetail;D=FDA-2011-N-0921-0029. Documents showing extensive changes to the FDA's rule on good manufacturing practice and hazard analysis and risk-based preventive controls for human food are available through Regulations.gov at http://www.regulations.gov/#!documentDetail;D=FDA-2011-N-0920-0014.

6. Sunstein mentions all of these kinds of possibilities in explaining the influences on the OMB process of regulatory review. Sunstein, *supra* note 1, at 17.

7. Exec. Order No. 13,563, 76 Fed. Reg. 3821, 3833 (Jan. 21, 2011) (reaffirming Exec. Order No. 12866 of Oct. 4, 1993).

8. Exec. Order No. 12,866, 58 Fed. Reg. 51735, 51744 (Oct. 4, 1993) at § 6(a)(3)(E)(iii).

- if a dispute arises between the OMB and the action agency over whether a particular rule should issue, and one of these parties requests resolution of the dispute by the President or Vice-President, the OMB must note – in a "publicly available log" – who requested elevation and when;[9]
- if the OMB returns a rule to an agency for further consideration, the Office of Information and Regulatory Affairs Administrator must provide a "written explanation" for this return;[10]
- if a regulatory proposal changes between the time it goes to OMB and the time it emerges, the agency must identify those changes ("in a complete, clear, and simple manner");[11]
- and if the OMB insists on changes to the regulatory proposal during its review, the agency must identify those changes for the public ("in plain, understandable language").[12]

The Obama administration follows almost none of these rules on transparency. The OMB does not explain in writing to agencies that items on their regulatory agenda do not fit with the President's agenda. The OMB does not keep a publicly available log explaining when and by whom disputes between the OMB and the agencies were elevated. Indeed, when the first elevation of an EPA rule occurred in President Obama's first term, I drafted a brief memo for the EPA's docket explaining that elevation had occurred and noting the outcome. The OMB told me in no uncertain terms that the memo must not be made public. Moreover, except in one instance – President Obama's direction to then-EPA Administrator Lisa Jackson to withdraw the final rule setting a new air quality standard for ozone – the OMB has not returned rules to agencies with a written explanation about why they have not passed the OMB review.[13] Instead, the OMB simply hangs onto the rules indefinitely, and they wither quietly on the vine. This is how it comes to pass that a list of chemicals of concern or a workplace rule on crystalline silica lingers at the OMB for years.

Some agencies do post "before" and "after" versions of rules that have gone to the OMB. These redlined documents often feature hundreds of changes. There is nothing here like the "complete, clear, and simple manner" of disclosure contemplated by the Executive Order. There is also often no document that explains which changes were made at the OMB's behest. Where, as Sunstein explains, changes might come from the OMB, from another White House office, from another Cabinet head, or from a career staffer in a

9. *Id*. at § 6(b)(4)(C)(i).

10. *Id*. at § 6(b)(3).

11. *Id*. at § 6(a)(3)(E)(ii).

12. *Id*. at § 6(a)(3)(E)(iii).

13. The website on regulatory review shows only one return letter (on ozone) issued during the Obama administration. *OIRA Return Letters*, OFFICE OF INFO. AND REGULATORY AFFAIRS, http://www.reginfo.gov/public/do/eoReturnLetters (last visited Mar. 25, 2013).

separate agency, the failure to follow the Executive Order's rules on transparency means that no one is ultimately accountable for the changes that occur. Who is responsible, for example, for the hundreds of technical changes made to the EPA's scientific analyses of air quality rules?[14] We simply don't know.

Here, too, the OMB is the stumbling block when it comes to transparency. Agencies know full well that they are not to be too transparent. The OMB reprimanded the EPA when the EPA accidentally posted interagency comments on its proposal to regulate coal ash impoundments.[15] But why shouldn't the public know who is responsible for changing the rules? In fact, without knowing the expertise and affiliation of the kibitzers, it is hard to evaluate their comments.

The problems go deeper still. The OMB maintains a "Regulatory Review Dashboard" that contains a good deal of information about rules under review, how long they have been under review, and so on.[16] It is spiffy and informative, but woefully incomplete. Some rules go to the OMB "informally" and do not appear on the Dashboard at that time. Some rules go to the OMB and appear on the Dashboard only weeks after the agency has sent them.[17] Some items go to the OMB and never appear on the Dashboard.[18] Some rules are done, from the agency's perspective, but the White House prevents their transmittal to the OMB.[19] The truth is, the Dashboard purports to be, but is not, a full picture of the items under review at any given time. Thus it misleads at the same time it informs.

What can be done?

First, Senators considering the nominations of Ms. McCarthy and Ms. Burwell should ask them about the relationship between the EPA and the OMB. They should ask who will be in charge of the EPA's regulatory

14. Wendy Wagner has painstakingly documented such changes in a study prepared for the Administrative Conference of the United States. WENDY WAGNER, SCIENCE IN REGULATION: A STUDY OF AGENCY DECISIONMAKING APPROACHES (2013), *available at* http://www.acus.gov/sites/default/files/documents/Science%20in%20Regulation_Final%20Report_2_18_13_0.pdf.

15. *See* CENT. FOR EFFECTIVE GOV'T, CHANGES TO COAL ASH PROPOSAL PLACE UTILITY'S CONCERNS ABOVE PUBLIC HEALTH (2010) (recounting the same episode), *available at* http://www.foreffectivegov.org/node/11041.

16. REGULATORY REVIEW DASHBOARD, http://www.reginfo.gov (last visited Mar. 25, 2013).

17. For example, compare the EPA's report of when it sent its rule on electronic reporting regarding water pollution permits to the OMB, Dec. 22, 2011, to its report on when the OMB "received" the rule, Jan. 20, 2012. *See NPDES Electronic Reporting Rule*, U.S. ENVTL. PROT. AGENCY, http://yosemite.epa.gov/opei/rulegate.nsf/byRIN/2020-AA47?opendocument (last visited Mar. 25, 2013) (listing dates for "NPRM: Sent to OMB for Regulatory Review" and "NPRM: Received by OMB"). *See also* Search Results for NPRM Review Status, REGULATORY REVIEW DASHBOARD, http://www.reginfo.gov/ (search "RIN" for "2020-AA47" and search "Agency for Environmental Protection Agency) (showing OMB's received date to be Jan. 20, 2012).

18. *See supra* note 4.

19. Juliet Eilperin, *Obama Administration Slows Environmental Rules as it Weighs Political Cost*, WASH. POST, Feb. 12, 2012, (stating that the White House had not given EPA permission to send a rule on cars and trucks to OMB).

program. They should ask whether we will know who is in charge. They should ask on what basis decisions about environmental policy will be made.

Second, the OMB should follow – and allow agencies to follow – the disclosure requirements of the Executive Order under which its review occurs.

Third, if the OMB decides not to allow a rule to issue, it should return the rule to the relevant agency with a written (and public) explanation as to why it is doing so. It should stop holding onto rules indefinitely. It is not plausible to suggest – as Professor Sunstein has[20] – that long periods of review simply mean that the OMB and the agencies are working hard on getting the rules right. This may be true in some cases, but some of those rules are never going home to the agencies. The OMB should say so and explain why.

Fourth, the OMB should follow the deadlines set out in the Executive Order. The Order quite clearly contemplates that the OMB has 90 days to review rules, 120 if the head of the OMB and the head of the relevant agency agree on an extension.[21] But the OMB takes the position that if the head of the agency asks for an extension, review can continue indefinitely. This is a strained reading of the Executive Order (as Sunstein himself seems to acknowledge).[22] More important, the way the head of an agency often comes to "request" an extension is that she (or her staff) receives a call from the OMB, asking the agency head to ask the OMB for an extension. Thus the OMB has unmoored itself completely from the deadlines set out in the Executive Order; review is over only when the OMB says it's over.

Changes like these would be modest; they would simply bring the OMB into line with the Executive Orders it purports to be following. More substantial changes – such as loosening the OMB's grip on the agencies, ceasing the OMB's meddling with agencies' scientific findings, relaxing the cost-benefit stranglehold on regulatory policy – would also be welcome. But to start, just following the rules laid out by the President himself would be nice.

20. Sunstein, *supra* note 1.
21. Exec. Order. No. 12866, *supra* note 8, at § 6(b)(2)(B),(C).
22. *Id*.

MERCATUS
RESEARCH

THE PATHOLOGY OF PRIVILEGE: The Economic Consequences of Government Favoritism

Matthew Mitchell

MERCATUS CENTER
George Mason University
Bridging the gap between academic ideas and real-world problems

ABOUT THE MERCATUS CENTER AT GEORGE MASON UNIVERSITY

For over 25 years, the Mercatus Center at George Mason University has been the world's premier university source for market-oriented ideas—bridging the gap between academic ideas and real-world problems. A university-based research center, Mercatus works to advance knowledge about how markets work to improve our lives by training graduate students, conducting research, and applying sound economics to offer solutions to society's most pressing problems.

Mercatus Center
George Mason University
3351 North Fairfax Drive, 4th Floor
Arlington, VA 22201-4433
(703) 993-4930
mercatus.org

Release date: July 9, 2012
Corrected version

ABOUT THE AUTHOR

Matthew Mitchell is a senior research fellow at the Mercatus Center at George Mason University. His primary research interests include economic freedom and economic growth, government spending, state and local fiscal policy, public choice, and institutional economics. Dr. Mitchell received his Ph.D. and his M.A. in economics from George Mason University. He received his B.A. in political science and B.S. in economics from Arizona State University. He has testified before the U.S. Congress and his work has been featured in numerous national media outlets, including the *New York Times*, the *Wall Street Journal*, the *Washington Post*, the *Washington Times*, National Public Radio, and C-SPAN.

ACKNOWLEDGMENTS

I thank Ted Bolema, Garrett Brown, Tyler Cowen, Veronique de Rugy, Emma Elliott, Jason Fichtner, Hester Peirce, Rob Raffety, Adam Thierer, Richard Williams, and an anonymous reviewer for numerous helpful comments. I alone am responsible for any errors or omissions that remain. Please direct correspondence to mmitche3@gmu.edu.

ABSTRACT

In this paper, Matthew Mitchell shows that the financial bailouts of 2008 were but one example in a long list of privileges that governments occasionally bestow upon particular firms or particular industries. At various times and places, these privileges have included (among other things) monopoly status, favorable regulations, subsidies, bailouts, loan guarantees, targeted tax breaks, protection from foreign competition, and noncompetitive contracts. Whatever its guise, government-granted privilege is an extraordinarily destructive force. It misdirects resources, impedes genuine economic progress, breeds corruption, and undermines the legitimacy of both the government and the private sector.

JEL codes: H1, H2, P1, P5

Despite the ideological miles that separate them, activists in the Tea Party and Occupy Wall Street movements agree on one thing: both condemn the recent bailouts of wealthy and well-connected banks. To the Tea Partiers, these bailouts were an unwarranted federal intrusion into the free market; to the Occupiers, they were a taxpayer-financed gift to the wealthy executives whose malfeasance brought on the financial crisis.[1] To both, the bailouts smacked of cronyism.

In this paper, I show that the financial bailouts of 2008 were but one example in a long list of privileges that governments occasionally bestow upon particular firms or particular industries. At various times and places, these privileges have included (among other things) monopoly status, favorable regulations, subsidies, bailouts, loan guarantees, targeted tax breaks, protection from foreign competition, and noncompetitive contracts. Whatever its guise, government-granted privilege is an extraordinarily destructive force. It misdirects resources, impedes genuine economic progress, breeds corruption, and undermines the legitimacy of both the government and the private sector.

I. THE GAINS FROM EXCHANGE

It is helpful in understanding any pathology to begin by examining the characteristics of a healthy state of affairs. With that in mind, consider a market in which no firms enjoy favoritism: all are equal in the eyes of the law.[2] In such a situation, free

1. According to Occupy Wall Street activists, "Corporations . . . run our governments . . . have taken bailouts from taxpayers with impunity, and continue to give Executives exorbitant bonuses." New York City General Assembly, "Declaration of the Occupation of New York City," http://www.nycga.net/resources/declaration/ (accessed April 30, 2012). And according to the Tea Party Patriots, "The Tea Party movement spontaneously formed in 2009 from the reaction of the American people to fiscally irresponsible actions of the federal government, misguided "stimulus" spending, bailouts, and takeovers of private industry." Tea Party Patriots, "About Tea Party Patriots," http://www.teapartypatriots.org/about/ (accessed April 30, 2012).

2. In an interview with James Buchanan, F.A. Hayek once remarked, "[The First Amendment] ought to read, 'Congress shall make no law authorizing government to take any discriminatory measures of coercion.' I think that would make all the other rights unnecessary." Quoted in James Buchanan and Roger Congleton, *Politics by Principle, Not Interest: Toward Nondiscriminatory Democracy* (Indianapolis: Liberty Fund, [1998] 2003), vii.

and voluntary trade results in gains for both sellers and buyers. Consider a simple trade: *A* offers *B* $6.00 in exchange for a sandwich. *A* must value the sandwich more than $6.00; otherwise he would not part with his money. Similarly, *B* must value the $6.00 more than the sandwich; otherwise *he* would not part with his sandwich. Though no new sandwiches and no new dollars have been created, the very act of exchange miraculously elevates the well-being of all concerned. (Figure 1 in the appendix describes the gains from trade using supply and demand curves.)

This simple idea—that voluntary exchange is mutually beneficial—is at the heart of modern economics.[3] Indeed, a national economy, with all its sophistication and complexity, is simply a very large number of mutually beneficial trades. And a recession is nothing more than a collapse in the number of such trades. Moreover, as individuals expand the number of people with whom they exchange, they are able to consume a wider diversity of products while becoming more specialized in production. Specialized production, in turn, permits greater productive efficiency and allows us to do more with less. It is no exaggeration to say that the expansion of mutually beneficial exchange accounts for the lion's share of human progress.[4]

In a healthy market, there will be so much exchange that the gains from trade are maximized. This is more likely when markets are competitive.[5] And markets tend to be competitive when property rights are well-defined, the costs of transacting (negotiating the terms of trade) are minimal, and—most important—there are no barriers to entering or exiting the industry.[6] Markets can achieve competitive conditions with relatively few buyers and sellers. In a famous experiment, economic Nobel Laureate Vernon Smith showed that even when there are as few as four buyers and sellers, a market will tend toward the competitive equilibrium.[7]

II. TYPES OF PRIVILEGE

In the next section, I will review the various ways in which government-granted privileges diminish the gains from exchange, threaten economic growth, and undermine the legitimacy of government and the private sector. For now, consider the forms that privilege might take.

3. This point is not disputed by economists. See, for example, the microeconomic textbooks by Paul Krugman (of the left) and Gregory Mankiw (of the right). Paul Krugman and Robin Wells, *Microeconomics*, 2nd ed. (New York: Worth Publishers, 2009); Gregory Mankiw, *Principles of Microeconomics*, 6th ed. (Mason, OH: South-Western, 2012).
4. See, for example, Matt Ridley, *The Rational Optimist: How Prosperity Evolves* (New York: Harper Collins, 2011).
5. There are exceptions. In some markets, up-front or fixed costs are so great that the competitive price is not high enough to make the venture worthwhile (think of a new drug, which can costs millions in R&D). In this case, the gains from trade are maximized when the industry is monopolized.
6. These characteristics appear in one form or another in most microeconomic textbooks.
7. Vernon Smith, "An Experimental Study of Competitive Market Behavior," *Journal of Political Economy* 30, no. 2 (1962): 111–137.

A. Monopoly Privilege

In April 2004, Chinese officials arrested Dai Guofang and sentenced him to five years in prison. Mr. Dai's crime was founding a low-cost steel firm that competed with a number of factories backed by the Chinese government.[8] The government, it seems, wanted to send a message: certain firms are privileged and it is illegal to compete with them. Monopoly privileges of this sort are more common in nations where governments direct large sectors of the economy.[9] But monopoly privileges are not an artifact of the developing world.

The United States Postal Service is a case in point. While the U.S. Constitution grants Congress "the power to establish post offices and post roads," it does not, like the Articles of Confederation before it, grant Congress the "sole and exclusive right" to provide these services. By the 1840s, a number of private firms had begun to challenge the postal service monopoly. Up and down the East Coast, these carriers offered faster service and safer delivery at lower cost.[10] While the competition forced the postal service to lower its rates, it also encouraged the postal service to harass its private competitors: within a few years, government legal challenges and fines had driven the private carriers out of business.[11] More than a century later, in 1971, the postal service was finally converted into a semi-independent agency called the United States Postal Service (USPS). Its monopoly privileges, however, remain. No other carriers are allowed to deliver nonurgent letters and no other carriers are allowed to use the inside of your mailbox.[12]

Privately owned firms, including local cable operators and many publicly regulated utilities, may enjoy legal monopoly protection as well.[13]

B. Regulatory Privilege

While it is relatively uncommon for U.S. firms to enjoy legal monopoly status, many firms do enjoy regulatory preferences that give them a measure of monopoly power. Until recently, for example, regulations governing banks, broker-dealers, and money market funds effectively required them to hold securities that had

8. Daron Acemoglu and James Robinson, *Why Nations Fail: The Origins of Power, Prosperity, and Poverty* (New York: Random House, 2012), 437–438. See also Richard McGregor, *The Party: The Secret World of China's Communist Rulers* (New York: Harper Collins, 2010), 220–223.
9. See, for example, "The Rise of State Capitalism: The Emerging World's New Model," *The Economist*, January 21, 2012,
http://www.economist.com/node/21543160.
10. Kelly B. Olds, "The Challenge to the U.S. Postal Monopoly, 1839–1851," *Cato Journal* 15, no. 1 (Spring/Summer 1995).
11. Ibid.
12. In addition to these perquisites, the USPS pays no taxes and is exempt from local zoning laws.
13. Some of these firms have significant fixed costs, which suggests that the market might only support one or two firms in any event. This possibility does not imply, however, that there is an economic case for outlawing competition. See George Stigler, "Monopoly," in *The Concise Encyclopedia of Economics*, ed. David Henderson (Indianapolis: Liberty Fund, 2008).

been rated by one of only a handful of private credit ratings agencies that had been blessed with a seal of approval from the Securities and Exchange Commission. This regulation may have resulted in more costly and less reliable credit ratings, but it was a boon to the three ratings agencies: Moody's, Fitch, and Standard and Poor's.[14]

Though business leaders and politicians often speak of regulations as "burdensome" or "crushing," the example shows that sometimes it can be a privilege to be regulated, especially if it hobbles one's competition. This insight prompted consumer advocates Mark Green and Ralph Nader to declare in 1973 that "the verdict is nearly unanimous that economic regulation over rates, entry, mergers, and technology has been anticompetitive and wasteful,"[15] and that "our unguided regulatory system undermines competition and entrenches monopoly at the public's expense."[16] It also prompted bipartisan support for deregulation or partial deregulation of airlines, trucking, telecommunications, and finance in the late 1970s and early 1980s.[17]

But in many industries, barriers to entry remain. Thirty-six states, for example, require government permission to open or expand a health care facility.[18] Thirty-nine require government permission to set up shop as a hair braider.[19] In the 1950s, less than 5 percent of the work force needed an occupational license; the number rose to 18 percent in the 1980s and it now stands at 29 percent.[20]

While barriers to entry impose costs on all firms, the costs are more burdensome to newer and smaller operators. This is why existing firms often favor regulations.[21] University of Chicago economist George Stigler won the Nobel Prize in economics

14. The privilege grew out of a 1975 Securities and Exchange Commission rule that designated the big three agencies as "Nationally Recognized Statistical Ratings Organizations." Over the next 25 years, only four additional firms qualified for this designation. By the end of 2000, however, mergers had reduced the number to the original three. Lawrence J. White, "A Brief History of Credit Rating Agencies: How Financial Regulation Entrenched this Industry's Role in the Subprime Mortgage Debacle of 2007–2008," *Mercatus on Policy* 59 (Arlington, VA: Mercatus Center at George Mason University, 2009).
15. Mark Green and Ralph Nader, "Economic Regulation vs. Competition: Uncle Sam the Monopoly Man," *Yale Law Journal* 82, no. 5 (April 1973): 871–889, 881.
16. Ibid., 871.
17. On the benefits of this deregulation, see Clifford Winston, "Economic Deregulation: Days of Reckoning for Microeconomists," *Journal of Economic Literature* 31 (1993): 1263–1289.
18. National Conference of State Legislatures, "Certificate of Need: State Health Laws and Programs," http://www.ncsl.org/issues-research/health/con-certificate-of-need-state-laws.aspx (accessed May 2012).
19. Valerie Bayham, *A Dream Deferred: Legal Barriers to African Hairbraiding Nationwide* (Arlington, VA: Institute for Justice, September 2006).
20. Morris Kleiner and Alan Krueger, "The Prevalence and Effects of Occupational Licensing," *British Journal of Industrial Relations* 48, no. 4 (2010): 676–687.
21. Rajan and Zingales argue that large incumbent firms invest in political influence in order to lock in the status quo, which preserves their dominance. Raghuram Rajan and Luigi Zingales, *Saving Capitalism From the Capitalists: Unleashing the Power of Financial Markets to Create Wealth and Spread Opportunity* (New York: Crown Business, 2003).

for showing that regulatory agencies are routinely "captured" and used by the firms they are supposed to be regulating.[22]

In the nineteenth century, the Interstate Commerce Commission (ICC) was famously captured by the railroads it was supposed to regulate. While the commission had been created to force railroad shipping rates down, railway men soon found that they could influence the commission and get it to force prices above what the competitive market would bear.[23] In 1892, U.S. Attorney General Richard Olney explained this point to his former employer, a railway boss:

> The Commission. . . is, or can be made, of great use to the railroads. It satisfies the popular clamor for a government supervision of the railroads, at the same time that that supervision is almost entirely nominal. Further, the older such a commission gets to be, the more inclined it will be found to take the business and railroad view of things. . . . The part of wisdom is not to destroy the Commission, but to utilize it.[24]

As the ICC case makes clear, regulations can be especially useful to firms if they give the *appearance* of being anti-business or somehow pro-consumer. Regulations are often supported by strange bedfellows. Bruce Yandle of Clemson University has studied the phenomenon extensively:

> The pages of history are full of episodes best explained by a theory of regulation I call "bootleggers and Baptists." Bootleggers. . . support Sunday closing laws that shut down all the local bars and liquor stores. Baptists support the same laws and lobby vigorously for them. Both parties gain, while the regulators are content because the law is easy to administer.[25]

The moralizing arguments are often front and center in regulatory policy debates, while the narrow interests that stand to benefit from certain regulations are much less conspicuous.

22. George Stigler, "The Theory of Economic Regulation," *Bell Journal of Economics and Management Science* 2, (1971): 3–21.
23. Milton Friedman and Rose Friedman, *Free to Choose: A Personal Statement* (New York: Harcourt Brace Janovich, 1980), 194–203.
24. Ibid., 197.
25. Bruce Yandle, "Bootleggers and Baptists: The Education of a Regulatory Economist," Regulation 3, no. 3 (May/June 1983): 12–16.

C. Subsidies

Some privileges are more obvious. In the last 10 years, the federal government has transferred over $191 billion in subsidies to farmers and the owners of farmland.[26] These benefits are directed toward a relatively small number of producers. According to an Environmental Working Group analysis of USDA data, just 10 percent of U.S. farms collect 74 percent of subsidy payments while 62 percent of farms receive no direct payments at all.[27] Agricultural subsidies are often characterized as a safety net for poor farmers. But in 2008, the last year for which data were available, the average household income of farms receiving $30,000 or more in subsidies was $210,000.[28] The agricultural industry is the largest beneficiary of direct subsidization, but other industries are privileged as well. The energy industry, for example, received more than $14 billion in direct subsidies in FY2010 (in addition to indirect subsidies such as tax privileges, discussed below).[29]

D. Loan Guarantees

A number of firms and industries receive indirect support through loan guarantees or through subsidies given to their customers. In 2009, the energy firm Solyndra received $535 million in loan guarantees from the federal government. If the firm succeeded, it would repay its debt; if it failed, taxpayers would pick up the tab. Just two years later, the firm filed for bankruptcy, laying off its 1,100 employees and leaving taxpayers with the cost of the loan. The case has garnered a great deal of attention because there is evidence the White House rushed the approval process so that Vice President Joe Biden could announce the deal at a groundbreaking ceremony for the company's factory.[30]

But Solyndra is not alone in receiving special treatment. Since its inception in 2005, dozens of firms have taken advantage of the Energy Department's loan guarantee program.[31] And similar loan guarantee programs are administered by the Export-Import Bank, the Small Business Administration, and the Department of Agriculture. The Export-Import Bank, for example, offers loan guarantees to airlines that are customers of Boeing.[32]

26. Office of Management and Budget, *Historical Tables*, Table 3.2, budget function 351. In addition to these direct transfers, the government has spent another $50 billion subsidizing crop insurance and marketing for various agricultural products. See budget function 352.
27. Environmental Working Group, *2011 Farm Subsidy Database* (Washington, DC: EWG, 2012).
28. Ibid.
29. U.S. Energy Information Administration, *Direct Federal Financial Interventions and Subsidies in Energy in Fiscal Year 2010*, Table 10 (Washington, DC: U.S. Department of Energy, July 2011), http://www.eia.gov/analysis/requests/subsidy/pdf/subsidy.pdf.
30. Joe Stephens and Carol Leonnig, "Solyndra Loan: White House Pressed on Review of Solar Company Now Under Investigation," *Washington Post*, September 13, 2011.
31. U.S. Department of Energy Loan Programs Office, http://loanprograms.energy.gov/ (accessed May 3, 2012).
32. Air India, for example, has been a big beneficiary. Air India's competitor, Delta, has complained vociferously. Zachary A. Goldfarb, "Obama's Support for Export Industry Leads to Clash of U.S. Interests," *Washington Post*, February 18, 2012.

E. Tax Privileges

In 1773, the British Parliament voted for a tax cut and the American colonies erupted in protest. The problem—from the perspective of the original Tea Party patriots—was that the tax cut applied to just one firm: the East India Company. The company was the largest government-sponsored enterprise of its day, benefiting from a number of perquisites including a government charter and a monopoly on trade in the East.[33] But the tax cut added one more privilege. Since American merchants would continue to pay duties on tea that did not pass through Britain or the company, the act threatened to give the company a monopoly on the tea trade in America.[34]

Today, thousands of U.S. companies benefit from special provisions in both federal and state tax codes that offer "targeted tax relief" to particular firms or industries. Film production companies operating in the state of Virginia, for example, pay no sales tax on production-related products and are allowed refundable individual and corporate income tax credits. Thirty-nine other states offer similar special treatment to film production companies.[35] Manufacturers also benefit from a federal tax credit that allows them to reduce their tax liability. The credit isn't available to nonmanufacturing businesses such as health care, education, or entertainment companies. Since targeted tax breaks are often no more than subsidies in disguise, policy experts refer to them as "tax expenditures."[36]

F. Bailouts

In 1971, the United States government, for the first time in its nearly 200-year history, bailed out a single firm.[37] The firm was Lockheed Aircraft Corporation, and the bailout took the form of $250 million in emergency loan guarantees.[38] Three years later, Penn Central Railroad received $676 million in loan guarantees.[39] Then, in the winter of 1979–80, Congress passed and President Carter signed the Chrysler Corporation Loan Guarantee Act.[40] With that, the government cosigned

33. Like the so-called government-sponsored enterprises of our time—Fannie Mae and Freddie Mac—the government charter implied that the firm was backed by the full faith and credit of the British government.
34. Edward Countryman, *The American Revolution* (New York: Hill and Wang, 1985),52–56.
35. In addition to these tax subsidies, production companies may also receive grants from the state. See Virginia Film Office, "Incentives," http://www.film.virginia.org/incentives/ (accessed March 30, 2012). For a tally of all state film tax credits, see Mark Robyn and I. Harry David, "Movie Production Incentives in the Last Frontier," *Tax Foundation Special Report* 199 (April 2012).
36. Jason Fichtner and Jacob Feldman, "When Are Tax Expenditures Really Spending? A Look at Tax Expenditures and Lessons from the Tax Reform Act of 1986" (working paper, Mercatus Center at George Mason University, Arlington, VA, 2011).
37. Barry Ritholtz, *Bailout Nation: How Greed and Easy Money Corrupted Wall Street and Shook the World Economy* (Hoboken, NJ: Wiley, 2009), 34.
38. Ibid.
39. Ibid, 11.
40. *Chrysler Corporation Loan Guarantee Act of 1979*, Public Law No. 96-185, *U.S. Statutes at Large* 93 (1980): 1324.

a $1.5 billion emergency loan package for the nation's third-largest auto manufacturer. In 1984, the Federal Deposit Insurance Corporation rescued the creditors of Continental Illinois National Bank and Trust Company. This bailout marked the first application of the theory that some firms—or at least their creditors—are "too big to fail."[41] Next, taxpayers saved the creditors of hundreds of savings and loan (S&L) associations in the S&L crisis of the early 1990s. This cost taxpayers almost $179 billion.[42] In the late 1990s, the Fed orchestrated the private bailout of hedge fund Long-Term Capital Management. This time, no taxpayer money was involved. But the Fed's keen interest in the case led many industry observers to believe that the Fed would not let large institutions—or their creditors—fail.[43]

One decade later there would be a spasm of bailouts: first the New York Federal Reserve made a $30 billion loan to J.P. Morgan Chase so that it could purchase Bear Stearns. Next, in order to save them from bankruptcy, the federal government took over mortgage giants Fannie Mae and Freddie Mac. Then the government paused, allowing Lehman Brothers and its creditors to fall on September 15, 2008. Two days later, bailouts resumed and the Federal Reserve made an $85 billion loan to the insurance firm American International Group. This bailout ultimately topped $173 billion. The culmination of this series of bailouts was the Troubled Asset Relief Program (TARP), a $700 billion bailout that gave hundreds of financial firms and auto companies emergency government assistance.[44]

G. Expected Bailouts

Well before they were rescued by the federal government, Fannie Mae and Freddie Mac benefited from the *expectation* of government assistance. The firms were chartered by Congress and widely assumed to have its financial support. This assumption meant that compared with firms lacking support from the federal government, Fannie and Freddie appeared to be safer investments. This expectation, in turn, allowed the companies to obtain loans at interest rates fully one half of one percent lower than their competitors—a major competitive edge.[45] The federal government's history of bailing out creditors made this expectation particularly strong.[46]

41. Ritholtz, *Bailout Nation*, 212.
42. Ibid, 11
43. Luigi Zingales, *A Capitalism for the People: Recapturing the Lost Genius of American Prosperity* (Philadelphia, PA: Basic Books, 2012), 58.
44. See Reports and Audits, *Office of the Special Inspector General for the Troubled Asset Relief Program*, http://www.sigtarp.gov/pages/reportsaudits.aspx.
45. Gretchen Morgenson and Joshua Rosner, *Reckless Endangerment: How Outsized Ambition, Greed, and Corruption Led to Economic Armageddon* (New York: Times Books, 2011), 16.
46. Barry Ritholtz, "Ritholtz on Bailouts, the Fed, and the Crisis," *EconTalk*, March 1, 2010.

H. Tariffs and Quotas on Foreign Competition

For much of American history, trade barriers have historically been a significant—perhaps the dominant—source of privilege.[47] But in a remarkable triumph of economic evidence over special-interest pleading (the vast majority of economists oppose trade barriers), tariffs have steadily fallen throughout the course of the twentieth century.[48] The average tax on dutiable imports peaked at 59 percent in 1932 and steadily fell to 4.84 percent in the year 2000 (the last year for which comparable data were available).[49]

Two exceptions to this decline are noteworthy: on April 1, 1983, the Reagan administration broke with its stated preference for free trade and, in response to a petition from Harley-Davidson, imposed tariffs of up to 49.4 percent on imported heavyweight motorcycles.[50] Nearly two decades later, the George W. Bush administration would impose tariffs ranging from 8 to 30 percent on foreign producers of steel.

Other barriers to trade, such as import quotas, anti-dumping laws, exchange-rate manipulation, and direct or indirect subsidies, also privilege certain domestic firms. As tariffs have come down, such policies may have become a more important source of privilege for certain firms.

I. Noncompetitive Bidding

When President Dwight Eisenhower warned against the "unwarranted influence" of the "military-industrial complex," he was concerned that certain firms selling to the government might obtain untoward privilege.[51] It is telling that one of those contractors, Lockheed Aircraft, was the first bailout recipient.

A century later, accusations would fly that the George W. Bush administration's "no-bid" contracts to Halliburton and Blackwater were just the sort of nefarious deals that Eisenhower had warned of.[52] It is true that the firms were awarded con-

47. Jeffrey Rogers Hummel, "The Civil War and Reconstruction," in *Government and the American Economy: A New History*, ed. Price Fishback (Chicago: University of Chicago Press, 2007).
48. On economists' views of trade, see Robert Whaples, "Do Economists Agree on Anything? Yes!" *Economists' Voice* 3, no. 9 (November 2006): 1–6.
49. Douglas Irwin, "Table Ee424-430 – Merchandise Imports and Duties: 1790–2000," in *Historical Statistics of the United States: Millennial Edition Online* (Cambridge University Press, 2012).
50. Daniel Klein, "Taking America for a Ride: The Politics of Motorcycle Tariffs," *Cato Policy Analysis* 32 (1984).
51. Dwight D. Eisenhower, "Military-Industrial Complex Speech, 1961," in *The Avalon Project: Documents in Law, History, and Diplomacy*, Yale Law School, http://avalon.law.yale.edu/20th_century/eisenhower001.asp (accessed March 30, 2012).
52. See, for example, Dan Briody, *The Halliburton Agenda: The Politics of Oil and Money* (Hoboken, NJ: Wiley, 2004).

tracts that did not go out to open bidding. But it is also true that federal regulations explicitly permit such sole-source contracts in certain circumstances, such as when only one firm is capable of providing a certain service, when there is an unusual or compelling emergency, or when national security is at stake.[53] Also, had the government *not* contracted with these private firms, a government agency would have performed the service. In this case the agency itself would be a privileged monopolist.[54] These examples highlight the point that not all privileges are clear cut. Sometimes contracts are awarded by cronyism. Sometimes they are awarded by merit. It is not always easy to tell the difference.

J. Multiple Privileges

The list of categories of privilege above is not exhaustive. Moreover, none of the species of privilege I have listed are mutually exclusive. For example, in addition to the lower borrowing costs that attended its implicit (and then explicit) bailout guarantee, Fannie Mae also enjoyed a line of credit at the U.S. Treasury, an exemption from state and local taxes, an exemption from Securities and Exchange Commission filing requirements, and lower capital requirements (while regulations required other firms to have at least $10 of shareholder equity backing every $100 of mortgages on their books, Fannie only needed to have $2.50 in shareholder funds for every $100 in mortgages and could borrow the rest).[55]

III THE ECONOMIC AND SOCIAL COSTS OF PRIVILEGE

There are a number of economic and social costs associated with privilege, and I will discuss each in turn. To motivate the discussion, assume that a firm has been granted an exclusive monopoly right: by law, no other firms are allowed to compete with it. From the firm's perspective, this privilege is particularly profitable; from society's perspective, it is particularly costly. But *all* of the varieties of privilege described above entail some degree of monopoly power and all are susceptible to the sorts of problems described herein.

53. *Code of Federal Regulations*, title 48, chapter 1, part 6.302.
54. A large economic literature models government agencies as monopolists selling services to elected officials. See William Niskanen, *Bureaucracy and Representative Government* (Chicago: Aldine-Atherton, 1971).
55. Morgenson and Rosner, *Reckless Endangerment*, 16 and 28.

A. Monopoly Costs

In the ideal competitive market described in section I, individual firms are said to be "price takers" because they must accept the price that prevails in the overall market. If they set their prices above this prevailing market price, their customers will turn to other sellers. And because competitive pressures tend to push the market price toward the marginal cost of production, if they set their prices below the market level, they will lose money and might even go out of business. In such a market, the profits of any one firm are modest (economists call these "normal profits").

In the short run, however, firms may be able to earn above-normal profits by either finding innovative ways to lower their costs or by differentiating their products from those of their competitors with improvements in quality that allow them to charge a higher price. In a free and open market, the innovative firms will soon be imitated by other firms who will enter the market and bid the price back down to competitive levels.

This process is known as "monopolistic competition" because firms are constantly pushing to differentiate themselves from their competitors and gain some degree of monopoly pricing power.[56] This type of market structure is in some ways ideal: in the short run, the lure of monopoly profit encourages innovation, while in the long run, the discipline of an open market keeps prices low. Thus, firms that fail to innovate or fail to economize on cost will eventually be driven out of the industry. But the key to the process is open entry and exit. New firms must be allowed to enter the industry and compete; old firms that fail to innovate and provide value to customers must be forced to shutter their doors. In this way, open entry and exit discipline the industry to focus on maximizing consumer benefits while minimizing production costs.

When a government grants one firm a monopoly, however, there is no discipline. The firm will possess pricing power that a competitive firm lacks. It need not accept the price that would emerge in a competitive market and is instead said to be a "price maker." If the firm is interested in maximizing its profit, it will set a higher price than that which would prevail in a competitive industry.

There are five obvious implications of monopoly (and some not-so-obvious ones, as we will see in the following sections). First, a monopoly firm gains more from exchange than it would were it a competitive firm. This is because it captures the entire market and charges that market a higher price than a competitive firm would. Second, consumers still gain from exchange, but they gain less than they would were the market subject to free entry by competitors. Third, would-be competitors—those not blessed with monopoly privilege—lose out on the opportunity to gain from exchange. Fourth, total sales under monopoly are less than total

56. Edward Chamberlain, *The Theory of Monopolistic Competition: A Reorientation of the Theory of Value* (Cambridge, MA: Harvard University Press, 1933).

sales under competition because the higher price drives some customers out of the market. Finally, the monopolist's gains are less than the losses of consumers and would-be producers. Hence, society as a whole is worse off under monopoly than under competition (see figure 2 in the appendix for a fuller explanation).

Economists refer to these social costs as the "deadweight loss" of monopoly. Under monopoly, there are mutually beneficial trades that could occur, but do not. It is estimated that each year, monopolies cost Americans between $60 billion and $240 billion in deadweight costs.[57]

B. Productive Inefficiencies (*X*-Inefficiency)

Deadweight losses are not the only costs associated with a government-granted monopoly. Shielded from the discipline of a competitive market, managers and workers at monopolistic firms may exert less effort and may be less efficient than they would be under competitive circumstances. This insight was first developed by economist Harvey Leibenstein. To distinguish this type of inefficiency from other types, such as traditional deadweight loss, he called it "*X*-inefficiency."[58]

Leibenstein noted that in most circumstances, individuals and firms are not as efficient as economists' models assume. There is always room for "slack." And when firms are protected from competition, there will tend to be more slack. He writes, "For a variety of reasons people and organizations normally work neither as hard or as effectively as they could. In situations where competitive pressure is light, many people will trade the disutility of greater effort, or search for the utility of feeling less pressure and of better interpersonal relations."[59]

Thus, due to workers' diminished efforts, marginal production costs in an *X*-inefficient firm will be greater than those of a competitive firm (see figure 3 in the appendix for more details). The firm will also sell less, consumers will gain less from exchange, and the deadweight loss of monopoly will be larger.

The USPS is a classic example of *X*-inefficiency. While USPS must compete with private firms in package and urgent delivery services, its monopoly status in the areas where it does not face competition, such as nonurgent deliveries, seems to have made the USPS inefficient. Postage prices offer evidence of this inefficiency. While most goods tend to get cheaper in inflation-adjusted terms over time, the price of a first-class stamp rose by twice the rate of inflation from 1970 to 2010.[60]

57. John Taylor and Akila Weerapana, *Principles of Microeconomics: Global Financial Crisis Edition* (Mason, OH: South-Western Cengage Learning, 2010), 285–286.
58. Harvey Leibenstein, "Allocative Efficiency vs. 'X-Efficiency,'" *American Economic Review* 56, no. 3 (June 1966): 392–415.
59. Ibid., 413.
60. William McEachern, *Microeconomics: A Contemporary Introduction*, 9th ed. (Mason, OH: South-Western Cengage Learning, 2012), 217.

C. Inattention to Consumer Desires

Protected firms are not only unlikely to minimize costs; they are also unlikely to maximize consumer benefits. In other words, they will be less attentive to consumer desires and will tend to produce lower-quality products. Thus, *X*-inefficiency may result in both increased marginal costs *and* decreased consumer benefits.[61] Because consumers will derive less value from each unit they buy, they will not demand as much of the product and the firm will sell less than it otherwise would.

Here, again, the USPS is illustrative. Not only does the firm have trouble containing costs; it also has trouble maintaining quality. Packages shipped via USPS are more likely to break than those shipped via the United Parcel Service (UPS).[62] And when Hurricane Katrina struck, the private shippers UPS, FedEx, and DHL all restored service to New Orleans within weeks, while the USPS took seven months to reopen its processing and distribution center.[63]

D. Rent-Seeking

As we have seen, privilege is costly for society at large but, at least for a time, it can be quite lucrative for those fortunate enough to obtain government favors. Economists refer to the above-normal profits of a privileged firm as "rent."[64] And because rents can be substantial, firms are willing to go to some effort to obtain and maintain them. Firms will donate to political campaigns and political action committees, sponsor advertisements designed to sway public policy, maintain expensive lobbying operations in state and national capitols, and go to great lengths to curry favor with politicians. Even those firms that do not seek their own privileges may invest heavily in political activities in order to fend off attempts by competitors to obtain their own privileges.

Economists refer to these activities as "rent-seeking."[65] Because rent-seeking requires resources—time, money, and effort—and because it creates no value for consumers, it is another social cost of government-granted privilege. The amount of money wasted in rent-seeking depends on the value of the rent. The more valuable

61. In an influential paper, Michael Mussa and Sherwin Rosen show that a "monopolist almost always reduces the quality sold to any customer compared with what would be purchased under competition" (p. 301). To my knowledge, however, no one has explored the link between X-inefficiency and decreased consumer benefits. See Mussa and Rosen, "Monopoly and Product Quality, *Journal of Economic Theory* 18 (1978): 301–317.

62. McEachern, *Microeconomics*, 217.

63. Ibid.

64. Classical economist David Ricardo was the first to introduce the term. It has no relation to the word "rent" as it is normally used in English.

65. Gordon Tullock developed the concept in 1967, and Anne Krueger introduced the term in 1974. See Tullock, "The Welfare Costs of Tariffs, Monopolies and Theft," *Western Economic Journal* 5 (1967): 224–232; Anne Krueger, "The Political Economy of the Rent-Seeking Society," *American Economic Review* 64 (1974): 291–303.

the privilege, the more resources will be wasted in rent-seeking. The amount lost also depends on the returns to political activity. For example, it may be the case that the more a firm plays politics, the better it gets at the game. In this case, economists have shown that the total cost of all efforts to obtain rent, maintain rent, or fend off a competitor's attempts to rent-seek can exceed the total value of the rent itself.[66] Though no one firm would rationally spend more to obtain a privilege than the privilege is worth, the sum of all firms' efforts may be greater than the value of the privilege.

There have been a number of attempts to measure the aggregate social cost of rent-seeking. These studies suggest that the annual cost is somewhere between 7 percent and 22.6 percent of gross national output.[67] For the U.S. economy, this means the annual cost may range from $1 to $3.5 trillion.

E. Distributional Effects

Before moving on to discuss some of the other implications of privilege, it is important to emphasize that monopoly privileges create winners and losers. The owners and operators of the monopoly firm, of course, win. They capture the entire market and charge it a high price. Unlike the owners and operators of competitive firms, monopolists need not worry about competition. As the economist John Hicks once put it, "the best of all monopoly profits is a quiet life."[68] Those who help monopolists obtain rent also win: lobbyists and political consultants can command impressive salaries because their connections are worth it.

On the losing side are the consumers and would-be competitors. Consumers pay higher prices for low-quality goods. And would-be competitors are unable to reap any gains from exchange. Economists often emphasize that the losers lose more than the winners win (see the appendix for details). This outcome explains why economists consider monopoly to be inefficient. But for many people, it may be just as important to note that the winners are more likely to be wealthy and well-connected than the losers. This disparity may explain why both the Tea Party and the Occupy Wall Street movements opposed the Wall Street bailouts.

66. "Overdissipation" is the term for this scenario. For details, see Dennis Mueller, *Public Choice III* (New York: Cambridge University Press, 2003), 336–337. On the possibility of increasing returns to rent-seeking, see Kevin Murphy, Andrei Shleifer, and Robert Vishny, "Why Is Rent-Seeking So Costly to Growth?" *American Economic Review Papers and Proceedings* 83, no. 2 (1993): 409–414.
67. Keith Cowling and Dennis Mueller, "The Social Costs of Monopoly Power," *Economic Journal* 88 (1978): 727–748; Richard Posner, "The Social Cost of Monopoly and Regulation," *Journal of Political Economy* 83 (1975): 807–827; Krueger, "The Political Economy of the Rent-Seeking Society"; and David Laband and John Sophocleus, "The Social Cost of Rent-Seeking: First Estimates," *Public Choice* 58 (1988): 269–275.
68. J. R. Hicks, "Annual Survey of Economic Theory: The Theory of Monopoly," *Econometrica* 3, no. 1 (January 1935): 8.

F. Unproductive Entrepreneurship

Joseph Schumpeter is credited with highlighting the key role of entrepreneurship in economics. The entrepreneur's function, he wrote, is to "reform or revolutionize the pattern of production."[69] The entrepreneur does this by developing new goods and new production methods, by opening new markets and exploiting previously unused resources, and by developing new ways to organize firms.[70] More recently, however, economists have come to realize that entrepreneurs may innovate in socially unproductive ways as well. New York University economist William Baumol is credited with this insight. According to Baumol, there is such a thing as unproductive entrepreneurship. "Schumpeter's list of entrepreneurial activities" Baumol writes, "can usefully be expanded to include such items as innovations in rent-seeking procedures, for example, discovery of a previously unused legal gambit that is effective in diverting rents to those who are first in exploiting it."[71] Baumol hypothesizes that when governments hand out rents, talented people will be less likely to engage in productive entrepreneurism and more likely to engage in unproductive or even destructive entrepreneurism that results in the destruction of wealth.

Similarly, economists Kevin Murphy, Andrei Shleifer, and Robert Vishny note that a country's "most talented people" can organize production in two different ways.[72] On the one hand, they may "start [or improve] firms," in which case they will "innovate and foster growth." On the other hand, they may "become rent seekers," in which case, "they only redistribute wealth and reduce growth."[73]

Think of the thousands of talented lawyers, lobbyists, and strategic thinkers who occupy the expensive office buildings lining K Street in Washington, D.C. All of this talent might be employed in the discovery of new ways to bring value to consumers and to expand the gains from exchange. Instead, many of these smart and hardworking people spend their time convincing politicians to hand out privileges to their own firms or fending off attempts to hand out privileges to their competitors.

Empirical tests support the theory of unproductive entrepreneurship. Economists Russell Sobel of West Virginia University and Thomas Garrett of Kansas State University have developed a number of measures of unproductive entrepreneurial activity based on the concentration of political and lobbying organizations in state capitals.[74] Using these measures, Sobel has found that those states in which

69. Joseph Schumpeter, *Capitalism, Socialism, and Democracy* (New York: Harper & Brothers, [1942] 1950), 132.
70. Joseph Schumpeter, *The Theory of Economic Development* (Leipzig: Duncker and Humblot, [1912] 1934), 66.
71. William Baumol, "Entrepreneurship: Productive, Unproductive, and Destructive," *The Journal of Political Economy* 98, no. 5, part 1 (October 1990): 893–921, 897.
72. Kevin Murphy, Andrei Shleifer, and Robert Vishny, "The Allocation of Talent: Implications for Growth," *Quarterly Journal of Economics* 106, no. 2 (May 1991): 503–530.
73. Ibid.
74. Russell Sobel and Thomas Garrett, "On the Measurement of Rent Seeking and Its Social Opportunity Cost," *Public Choice* 112 (2002): 115–136.

privileges are more likely to be dispensed (as indicated by a low level of economic freedom) tend to have higher levels of unproductive entrepreneurship and lower levels of productive entrepreneurship.[75]

Other research suggests that unproductive entrepreneurship is associated with slower economic growth. Murphy, Shleifer, and Vishny, for example, studied this question using data from 55 countries. As a proxy for productive entrepreneurism, they used the proportion of college students majoring in engineering. And as a proxy for unproductive entrepreneurism, they used the proportion of students concentrating in law. Up to a certain point, lawyers are theoretically good for growth; they help delineate and define property rights and they help maintain the rule of law. But beyond some minimum point, more lawyers may lead to more rent-seeking. Even if lawyers themselves are not the cause of rent seeking, they may be an indication of it. In the same way that a large number of police per capita may be an indication of a city's inherent violence, a large number of lawyers per capita may be an indication of a nation's tendency to rent-seek.

In their analysis of the data, the authors found that a 10 percentage point increase in the share of students concentrating in law was associated with 0.78 percent slower annual growth in per capita GDP.[76] This can add up over time. In 2010, per capita GDP was about 65 percent greater than it was in 1980. But if the economy had grown 0.78 percent slower over that same period, per capita GDP in 2010 would only be 30 percent greater than it was in 1980.[77]

G. Loss of Innovation and Diminished Long-Run Economic Growth

Privilege can also have a profoundly negative effect on innovation. And a lack of innovation, in turn, can disadvantage an entire society. For example, economist Chun-Lei Yang has shown that as rent-seeking activities grow more prevalent, firms have less of an incentive to invest in productivity-enhancing research and development. Thus, privileged firms are less likely to innovate.[78]

Empirical research supports this claim. For example, economists Stefanie Lenway, Randall Morck, and Bernard Yeung studied a decade's worth of data from 130 steel firms to look for differences between firms that lobby heavily and those that do not. They found that the most active lobbyers "tend to be larger, older, less diversified, and less profitable than non-lobbyers" and concluded that protection

75. Russell Sobel, "Testing Baumol: Institutional Quality and the Productivity of Entrepreneurship," *Journal of Business Venturing* 23 (2008): 641–655.
76. Murphy, Shleifer, and Vishny, "The Allocation of Talent," 526.
77. Author's calculations based on Census population estimates and BEA data. See Bureau of Economic Analysis, *Current Dollar and 'Real' GDP* (Washington, DC: U.S. Department of Commerce, 2012) and U.S. Census Bureau, *Population and Housing Unit Estimates* (Washington, DC: U.S. Department of Commerce, 2012).
78. Chung-Lei Yang, "Rent Seeking, Technology Commitment, and Economic Development," *Journal of Institutional and Theoretical Economics* 154, no. 4 (December 1998): 640–658.

"appears to reward less innovative firms."[79] International evidence supports the claim that firms that are more likely to ask for privilege tend to be less profitable. In a survey of 450 politically connected firms from 35 countries, Mara Faccio, Ronald Masulis, and John McConnell concluded that "among bailed-out firms, those that are politically connected exhibit significantly worse financial performance than their nonconnected peers at the time of and following the bailout."[80]

As protected firms become less innovative, a country's overall economic growth may suffer. This is because, as Schumpeter emphasized nearly a century ago, economic growth thrives on "creative destruction." In a healthy economy, new firms constantly arise to challenge older, less-innovative behemoths.[81] One of the leading experts on entrepreneurship, Amar Bhidé of the Columbia Business School, has argued that big firms, encumbered by larger internal bureaucracies, are virtually incapable of capitalizing on radical ideas.[82] Indeed, research finds that new firms are more likely than existing firms to license novel technology.[83] And compared with larger firms, smaller firms are about twice as likely to file "high-impact" patents.[84]

For these reasons, turnover among a nation's largest firms is a sign of vitality. The list of U.S. Fortune 500 companies is illustrative: Only 13.4 percent of those companies on the Fortune 500 list in 1955 were still there in 2010.[85] But not all nations experience the same sort of "churn" among their top firms. To test Schumpeter's theory, Kathy Fogel, Randall Morck, and Bernard Yeung recently examined the link between turnover among nations' top firms and economic growth.[86] They looked at the lists of top firms in 44 countries in 1975 and again in 1996. After controlling for other factors, they found that those nations with more turnover among their top

79. Stefanie Lenway, Randall Morck, and Bernard Yeung, "Rent Seeking, Protectionism and Innovation in the American Steel Industry," *The Economic Journal* 106 (March 1996): 410–421, 410.
80. Mara Faccio, Ronald Masulis, and John McConnell, "Political Connections and Corporate Bailouts," *Journal of Finance* 61, no. 6 (December 2006): 2597–2635, 2597.
81. Schumpeter, *Capitalism, Socialism and Democracy*. More recently, this argument has been formalized. See Philippe Aghion and Peter Howitt, "A Model of Growth Through Creative Destruction," *Econometrica* 60 (1992): 323–351, and Philippe Aghion and Peter Howitt, *Endogenous Growth Theory* (Cambridge, MA: MIT Press, 1998).
82. Amar Bhidé, "How Novelty Aversion Affects Financing Options," *Capitalism and Society* 1, no. 1 (2006): 1–31.
83. Scott Shane, "Technology Opportunities and New Firm Formation," *Management Science* 47, no. 2 (2001).
84. CHI Research, Inc., *Small Serial Innovators: The Small Firm Contribution in Technical Change*, prepared for the Small Business Administration's Office of Advocacy (Haddon Heights, NJ: CHI, 2003); Council on Competitiveness, *Innovate America* (Washington, D.C.: Council on Competitiveness, 2004); Zoltan Acs and David Audretsch, *Innovation and Small Firms* (Cambridge, MA: MIT Press, 1990).
85. Mark Perry, "Fortune 500 Firms in 1955 vs. 2011," *Carpe Diem* blog, November 23, 2011, http://mjperry.blogspot.com/2011/11/fortune-500-firms-in-1955-vs-2011-87.html.
86. Kathy Fogel, Randall Morck, and Bernard Yeung, "Big Business Stability and Economic Growth: Is What's Good for General Motors Good for America?" *Journal of Financial Economics* 89 (2008): 83–108.

firms tended to experience faster per capita economic growth, greater productivity growth, and faster capital growth. Looking at the factors that correlate with faster firm turnover, they found that "big business turnover also correlates with smaller government, common law, less bank-dependence, stronger shareholder rights, and greater openness [to trade]."[87] Thus, turnover is less likely when firms are priveleged.

In a classic, sweeping study, economist Mancur Olson went so far as to claim that special-interest privilege can account for the "rise and decline of nations."[88] As societies grow wealthy and stable, he argued, the seeds of their own destruction are sewn. Stable societies are fertile ground for special interests. These interest groups grow in power and influence over time, and once entrenched, rarely disappear. "On balance," they "reduce efficiency and aggregate income in the societies in which they operate and make political life more divisive." Eventually, "The accumulation of distributional coalitions [those that seek rents] increases the complexity of regulation, the role of government, and the complexity of understandings, and changes the direction of social evolution."[89]

Olson used his theory to explain the relative decline of the United Kingdom throughout the twentieth century. As a remarkably stable society, by 1982 the UK had accumulated large numbers of powerful, entrenched interest groups. These groups obtained various government privileges, which, in turn, slowed the UK's economic growth compared to that of other large, industrialized nations. In contrast, World War II and postwar reconstruction swept away the entrenched interests in Germany and Japan, allowing these countries to grow much faster than the UK. (In the 30 years since Olson's study, one might argue that powerful interest groups have again begun to ensnare Germany and Japan). Similarly, Olson found that the economies of those U.S. states that had been settled the longest tended to grow slower, presumably because they had accumulated a greater number of powerful special-interest groups.[90]

H. Macroeconomic Instability

In the previous section, I discussed the ways in which government-granted privilege can undermine long-run economic growth. For a number of reasons, privilege may also undermine short-run macroeconomic stability.

For one thing, government privilege often encourages undue risk-taking. The problem is especially acute when gains are privatized while losses are socialized

87. Ibid., 83.

88. Mancur Olson, *The Rise and Decline of Nations: Economic Growth, Stagflation and Social Rigidities* (New York: Yale University Press, 1982).

89. Ibid., 74.

90. A large literature has evolved to test Olson's central hypothesis. Jac Heckelman recently reviewed 50 studies in this literature. He found that "on the whole, the theory of institutional sclerosis is generally but certainly not universally supported." Heckelman, "*Explaining the Rain: The Rise and Decline of Nations After 25 Years,*" *Southern Economic Journal* 74, no. 1 (2007): 18–33.

(for example, through a bailout or the promise of a bailout). The economic term for this behavior is "moral hazard." It refers to the tendency for individuals to take on undue risk when they know they will not bear the full costs of failure.

A group of economists at the International Monetary Fund (IMF) recently studied this problem and its contribution to the 2008 financial crisis.[91] They looked at data from nearly 9,000 lenders in 378 U.S. metropolitan areas spanning the years 1999 to 2007. They found that those lenders that lobbied more intensively tended to take on more risk as characterized by higher loan-to-income ratios, more securitization, and faster credit expansion. When the crisis hit, delinquency rates were higher in those areas where lobbying lenders aggressively expanded their lending practices, causing these lenders to suffer abnormally large losses during the crisis. The implication is clear: those lenders that lobbied more intensely (other things being equal) were more likely to be bailed out than their counterparts. As a result, the heavy lobbyers took on more undue risk. Thus, the true costs of a bailout like TARP encompasses more than the opportunity cost of taxpayer money paid to the failing company. It also includes the cost of the moral hazard it induces.

Privilege can also induce undue risk if it makes it more difficult for market participants to identify and learn from their mistakes. Financial economist and risk expert Nassim Taleb has explored this phenomenon in a number of works.[92] In a paper coauthored with political scientist Mark Blyth, he explained,

> Complex systems that have artificially suppressed volatility tend to become extremely fragile, while at the same time exhibiting no visible risks. In fact, they tend to be too calm and exhibit minimal variability as silent risks accumulate beneath the surface. Although the stated intention of political leaders and economic policymakers is to stabilize the system by inhibiting fluctuations, the result tends to be the opposite.[93]

Even when privilege does not lead to excessive, undue risk-taking, it can still lead to instability by misallocating resources. When governments dispense privileges, the basic building blocks of growth—labor and capital—tend to be allocated on the basis of political considerations rather than on the basis of fundamental costs and

91. Deniz Igan, Prachi Mishra, and Thierry Tressel, "A Fistful of Dollars: Lobbying and the Financial Crisis" (working paper, International Monetary Fund, Washington, DC, 2009).
92. See, for example, Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2007).
93. Nassim Taleb and Mark Blyth, "The Black Swan of Cairo: How Suppressing Volatility Makes the World Less Predictable and More Dangerous," *Foreign Affairs* 90, no. 3 (2011): 33–39. Taleb is currently working on a book that will elaborate on this point.

benefits. This misallocation can lead to large and painful adjustments when the political considerations fail to coincide with market fundamentals.[94]

A number of economists have argued that political cronyism caused or at least exacerbated the financial crisis that rippled through many Asian economies in 1997. Indeed, the term "crony capitalism" was first popularized during this crisis.[95] In a study measuring the value of political connections in Indonesia, for example, Raymond Fisman of Columbia University stated a well-known hypothesis for the 1997 crisis: "The claim was that in Southeast Asia, political connectedness, rather than fundamentals such as productivity, was the primary determinant of profitability and that this had led to distorted investment decisions."[96] Fisman's analysis confirms that politically connected firms were particularly sensitive to changes in the health of their benefactor, President Suharto, and when the crisis hit, these firms suffered more than their unconnected counterparts.

William Baumol, Robert Litan, and Carl Schramm of the Kauffman Foundation describe a similar dynamic in South Korea:

> Long accustomed to directing its banks to provide loans to the larger South Korean conglomerates ("chaebols"), South Korea's government induced too many banks to invest excessively in the expansion of the semiconductor, steel, and chemicals industries. When the financial crisis that began in Southeast Asia during the summer of 1997 spread to South Korea, the country's banks and, more important, the companies that had borrowed to expand were so overextended that the South Korean economy came close to collapse.[97]

As often happens with privilege, the "solution" to this problem involved more privilege: South Korea was rescued by a U.S.-led effort to prop up South Korean financial institutions.[98] Baumol, Litan, and Schramm document similar problems in China and Japan.[99]

94. Arnold Kling has argued that economies are constantly adjusting to new circumstances, often brought on by technological change. "Unemployment fluctuations," he argues, are "a reflection of the difficulty that markets sometimes have in making the necessary adjustments." See Kling, "PSST: Patterns of Sustainable Specialization and Trade," *Capitalism and Society* 6, no. 2 (2011): 1–18.
95. Raghuram G. Rajan and Luigi Zingales, "Which Capitalism? Lessons from the East Asian Crisis," *Journal of Applied Corporate Finance* 2, no. 3 (fall 1998): 40-8.
96. Raymond Fisman, "Estimating the Value of Political Connections," *The American Economic Review* 91, no. 4 (September 2001): 1095–1102.
97. William Baumol, Robert Litan, and Carl Schramm, *Good Capitalism, Bad Capitalism, and the Economics of Growth and Prosperity* (New Haven, CT: Yale University Press, 2007), 67–68. See also Stephan Haggard and Jongryn Mo, "The Political Economy of the Korean Financial Crisis," *Review of International Political Economy* 7, no. 2 (2000): 197–218.
98. Paul Bluestein, *The Chastening* (New York: Public Affairs, 2001).
99. Baumol, Litan, and Schramm, chapters 6 and 7.

But we need not look so far for examples. Atif Mian of the University of California at Berkeley and Amir Sufi and Francesco Trebbi of the University of Chicago recently conducted an extensive examination of the political activity of the U.S. mortgage industry and housing interests in the run-up to the subprime meltdown of 2008.[100] The authors found, "Beginning in 2002, mortgage industry campaign contributions increasingly targeted U.S. representatives from districts with a large fraction of subprime borrowers." Analyzing more than 700 votes related to housing, the authors found that these contributions became an increasingly strong predictor of congressional votes. They also found that the share of constituents with low credit scores exerted increasing influence over voting patterns. Thus, "Pressure on the U.S. government to expand subprime credit came from both mortgage lenders and subprime borrowers."[101] Indeed, a slew of policies encouraged the expansion of credit in the subprime market. These policies, of course, benefited the privileged firms as well as the privileged subprime borrowers. But they also fanned the flames of an overheating housing market. For nearly a decade, capital and labor poured into housing and related industries, and when the bubble eventually burst, it threw the United States into its worst recession in decades.[102]

I. Cronyism

Privilege entails cultural as well as economic costs. When governments dispense privileges, concerns of fairness and impartiality almost always arise. These concerns can undermine the legitimacy of both government and business, sometimes encouraging worse policy.

Objective criteria for dispensing privilege are hard to come by. Without objective standards, politicians may end up picking winners and losers on the basis of

100. Atif Mian, Amier Sufi, and Francesco Trebbi, "The Political Economy of the Subprime Mortgage Credit Expansion" (National Bureau of Economic Research Working Paper Series no. 16107, Cambridge, MA, 2010).

101. Ibid., 23. The authors caution that "given the nature of political influence and the complexity of government decisions that affect mortgage markets, it is difficult to find a 'smoking gun' which shows with certainty the determinants of government policy. Our findings should therefore be viewed as suggestive evidence of the influence of subprime borrowers and lenders on policy." It should be noted, however, that theirs is not the only study to find such "suggestive evidence." See, for example, Atif Mian, Amir Sufi, and Francesco Trebbi, "The Political Economy of the U.S. Mortgage Default Crisis," *American Economic Review* 100, no. 5 (2010): 1967–1998. For a journalistic account, see Morgenson and Rosner, *Reckless Endangerment*.

102. The housing crisis is beyond the scope of this paper. There are, however, a number of good analyses of these events. See, for example, Arnold Kling, *Not What They Had in Mind: A History of Policies that Produced the Financial Crisis of 2008*, Mercatus Special Study (Arlington, VA: Mercatus Center at George Mason University, 2009). See also Peter J. Wallison, *Dissent from the Majority Report of the Financial Crisis Inquiry Commission* (Washington, DC: AEI Press, 2011); Raghuram Rajan, *Fault Lines: How Hidden Fractures Still Threaten the World Economy* (Princeton, NJ: Princeton University Press, 2011); Morgenson and Rosner, *Reckless Endangerment*. For a treatment that does not emphasize interest group politics, see John Taylor, *Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis* (Stanford, CA: Hoover Institution Press, 2009).

personal connections and political expediency. When they do, their reputations and those of the firms they favor suffer. Even when politicians try their best to be objective, those who dispense particular favors are almost always open to charges of nepotism or corruption. As the humorist P. J. O'Rourke once put it, "When buying and selling are controlled by legislation, the first things to be bought and sold are legislators."[103]

The data suggest these suspicions are well-founded. For example, the previously cited study by Faccio, Masulis, and McConnell found that politically connected firms were far more likely to be bailed out than similar firms without political connections.[104] A new study by Utah State University professors Benjamin Blau, Tyler Brough, and Diana Thomas offers further confirmation. They studied the lobbying expenditures and political activities of the 237 firms that received TARP funds. Controlling for other factors, they found that more intense lobbying and political activity made firms more likely to receive TARP funding, likely to receive a larger amount of it, and more likely to receive it sooner. To be precise, they found that "for every dollar spent on lobbying during the five years before the TARP bailout, firms received between $485.77 and $585.65 in TARP support."[105]

The problem of cronyism is compounded by the phenomenon of the "revolving door," or the tendency for ex-government officials to find jobs in the industries they once oversaw and for industry insiders to find regulatory jobs overseeing their former colleagues. According to data from the Center for Responsive Politics, among those federal legislators who left office in 2010 and found new employment, nearly 33 percent went to work for lobbying firms and another 20 percent went to work for a major client of a lobbying firm.[106] Former Speaker of the House Newt Gingrich famously did some work for Freddie Mac after he left office in 1999. Between 1999 and 2007, Gingrich's firm received $1.6 million from the mortgage giant. According to the nonpartisan Congressional Budget Office, annual federal subsidies to the firm were about $4.6 billion during this time period.[107] The former speaker maintains that he was paid for his expertise and not for his connections.[108] But it is hard to believe that an equally knowledgeable person without his connections could command such a salary.

Indeed, research suggests that even after controlling for lobbyists' expertise, connections matter. Economists Jordi Blanes i Vidal, Mirko Draca, and Christian

103. Quoted in James Gwartney, Richard Stroup, Russell Sobel, and David Macpherson, *Macroeconomics: Private and Public Choice*, 13th ed. (Mason, OH: Cengage Learning, 2011), 136.
104. Faccio, Masulis, and McConnell, "Political Connections and Corporate Bailouts."
105. Benjamin Blau, Tyler Brough, and Diana Thomas, "Corporate Lobbying, Political Connections, and the 2008 Troubled Asset Relief Program" (under review at the *Journal of Financial Economics*).
106. Center for Responsive Politics, "Revolving Door: Former Members of the 111th Congress," OpenSecrets.org, http://www.opensecrets.org/revolving/departing.php (accessed March 28, 2012).
107. Congressional Budget Office, *Federal Subsidies and the Housing GSEs*, May 2001.
108. Peter Overby, "Gingrich Fights Against the Lobbyist Label," *All Things Considered*, NPR, March 28, 2012.

Fons-Rosen examined the political connections of over 7,000 firms. To isolate the influence of political connections on earnings, they looked at the change in lobbyists' revenue after the departure of senators with whom they were connected. They found, "Lobbyists with experience in the office of a US Senator suffer a 24% drop in generated revenue when that Senator leaves office."[109] Similarly, a study by economists at MIT, Yale, and Brigham Young University looked at the value of political connections to Treasury Secretary Timothy Geithner. After controlling for other factors, they found, "The announcement of Timothy Geithner as President Barack Obama's nominee for Treasury Secretary in November 2008 produced a cumulative abnormal return for Geithner-connected financial firms of around 15 percent from day 0 (when the announcement was first leaked) to day 10."[110]

J. Diminished Legitimacy of Government and Business

The appearance of impropriety can have a profound effect on cultural perceptions of both business and government. University of Chicago economist Luigi Zingales, for example, argues that privileges sully the reputations of businesses and business leaders.[111] "The larger the share of capitalists who acquire their wealth thanks to their political connections," he avers, "the greater the perception that capitalism is unfair and corrupt."[112] The problem is increasingly evident in the U.S. financial sector, where,

> [I]ncreasing concentration and growing political muscle have undermined the traditional American understanding of the difference between free markets and big business. This means not only that the interests of finance now dominate the economic understanding of policymakers, but also—and perhaps more important—that the public's perception of the economic system's legitimacy is at risk.[113]

Zingales notes that other countries have gone down this path before. He cites the example of his birth country, Italy. There, businessman and (now former) Prime

109. Jordi Blanes i Vidal, Mirko Draca, and Christian Fons-Rosen, "Revolving Door Lobbyists" (Centre for Economic Performance Discussion Paper no. 993, London School of Economics and Political Science, London, 2010), conditionally accepted by the *American Economic Review*.
110. Daron Acemoglu, Simon Johnson, Amir Kermani, James Kwak, and Todd Mitton, "The Value of Political Connections in the United States" (working paper, December 2011). Alarmingly, they note, "The quantitative effect is comparable to standard findings in emerging markets with weak institutions, and much higher than previous studies have found for the United States or other relatively rich democracies." For a previous study that found zero impact from political connections, see David Fisman, Ray Fisman, Julia Galef, and Rakesh Khurana, "Estimating the Value of Connections to Vice-President Cheney" (working paper, December 2005).
111. Luigi Zingales, "Capitalism After the Crisis," *National Affairs*, no. 1 (Fall 2009): 22–35.
112. Ibid., 26.
113. Ibid., 33.

Minister Silvio Berlusconi "often seems to run the country in the interest of his media empire."[114] The melding of public and private interests has had a dramatic effect on public perception of the way to get ahead in Italy. Zingales writes, "When asked in a recent study to name the most important determinants of financial success, Italian managers put 'knowledge of influential people' in first place (80% considered it 'important' or 'very important'). 'Competence and experience' ranked fifth, behind characteristics such as 'loyalty and obedience.'"[115]

When business success becomes a function of who you know and not what you do for the customer, the public tends to look upon success with suspicion. Zingales points to international polls that suggest that compared to Brazilians, Danes, and Germans, a larger share of Americans believe that hard work rather than luck plays a major role in determining income differences.[116] This attitude, Zingales argues, explains why Americans have traditionally supported an open and free market. Things may be changing, however. In the years following the bailouts of hundreds of U.S. financial firms, public satisfaction with the size and influence of both business and government have plummeted. According to Gallup, public satisfaction with the federal government has fallen from a high of 60 percent in 2002 to a low of 29 percent in 2012, while satisfaction with "big business" has fallen from a high of 50 percent in 2002 to just 30 percent in 2012.[117]

In his work on entrepreneurship, economist William Baumol makes an argument similar to Zingales's.[118] Where Zingales believes that privilege may blur the distinction between productive and unproductive activity, Baumol hypothesizes that it may do more. In some cases, he argues, privilege may elevate unproductive activity to a higher cultural status than productive activity. He points to ancient Rome, where policies afforded plenty of opportunities to seek government privilege. While it was possible to gain wealth through productive entrepreneurship, Baumol argues that this choice was not the path to prestige. Productive activity such as commerce and industry tended to be the occupations of freed slaves for whom other, more prestigious, career paths were closed. Citing the noted classical scholar Moses Finley, Baumol argues that "persons of honorable status" resorted to other forms of "entrepreneurship." As Finley put it,

> The opportunity for "political moneymaking" can hardly be overestimated. Money poured in from booty, indemnities, provincial taxes, loans and miscellaneous extractions in quantities without precedent in Graeco-Roman history, and at an accelerating rate. . .

114. Ibid., 28.
115. Ibid., 25; for the survey, see Primo Rapporto Luiss, *Generare Classe Dirigente: Un Percorso da Costruire* (Rome: Luiss University Press, 2007).
116. Ibid., 24.
117. Frank Newport, "Americans Anti-Big Business, Big Gov't," *Gallup*, January 19, 2012.
118. Baumol, "Entrepreneurship."

> Nevertheless, the whole phenomenon is misunderstood when it is classified under the headings of "corruption" and "malpractice," as historians still persist in doing.[119]

As the final sentence makes clear, these unproductive forms of entrepreneurship were not—at the time—considered dishonorable. Corruption was so routine that it was not looked upon as abhorrent or even unusual. This example may have disturbing implications if cultural mores encourage entrepreneurs to enter industries that redistribute rent rather than those that create wealth.

K. Lost Social Trust

Lastly, privilege may entail cultural costs if it weakens the bonds of social trust. A number of economists have documented the important role that trust plays in fostering growth; when humans are more likely to trust strangers, they are more likely to do business with them.[120] Trust, then, facilitates economic exchange. As Senior World Bank Economist Stephen Knack has put it, "If you take a broad enough definition of trust, then it would explain basically all the difference between the per capita income of the United States and Somalia."[121] Just as trust is a necessary ingredient for long-run economic growth, a sudden and precipitous collapse in trust can be the catalyst for a deep and protracted recession.[122]

In his 1999 book *Government's End*, journalist and Brookings Institution writer in residence Jonathan Rauch extensively documents the link between the rise of special-interest politics and the decline of public trust in American democracy.[123] If Rauch's account is accurate and privilege really is correlated with declining trust, economic growth may be threatened. To compound the problem, policy may also get worse because public policy and trust interact in complex ways. Economists Philippe Aghion, Yann Algan, Pierre Cahuc, and Andrei Shleifer recently studied the interaction between government regulation and trust using data from a cross section of countries and from extensive surveys of individuals within those countries.[124] They found that "distrust fuels support for government control over the economy," but "distrust generates demand for regulation even when people realize

119. Quoted in Baumol, "Entrepreneurship," 899.
120. Stephen Knack and Philip Keefer, "Does Social Capital Have an Economic Payoff? A Cross-Country Investigation," *Quarterly Journal of Economics* 112, no. 4 (November 1997): 1251–1288; Paul Zak and Stephen Knack, "Trust and Growth," *Economic Journal* 111 (2001): 295–321; and Yann Algan and Pierre Cahuc, "Inherited Trust and Growth," *American Economic Review* 100, no. 5 (2010): 2060–2092.
121. Quoted in Tim Harford, "The Economics of Trust," Forbes.com, July 2010.
122. Bruce Yandle, "Lost Trust: The Real Cause of the Financial Meltdown" (working paper, Mercatus Center at George Mason University, Arlington, VA, 2009).
123. Jonathan Rauch, *Government's End: Why Washington Stopped Work* (New York: Public Affairs, 1999); see also John Garen, "How to Spend the Public's Money While Losing the Public's Trust," Special Study, Mercatus Center at George Mason University, forthcoming.
124. Philippe Aghion, Yann Algan, Pierre Cahuc, and Andrew Shleifer, "Regulation and Distrust," *Quarterly Journal of Economics* 125, no. 3 (2010): 1015–1049.

that the government is corrupt and ineffective; they prefer state control to unbridled production by uncivic entrepreneurs." Most interestingly, they found that trust and regulation "coevolve." Distrust seems to lead to more regulation, but more regulation seems also to lead to more distrust.[125]

IV CONCLUDING REMARKS

Government-granted privileges are pathological. Privileges limit the prospects for mutually beneficial exchange—the very essence of economic progress. They raise prices, lower quality, and discourage innovation. They pad the pockets of the wealthy and well-connected at the expense of the poor and unknown. When governments dispense privileges, smart, hardworking, and creative people are encouraged to spend their time devising new ways to obtain favors instead of new ways to create value for customers. Privileges depress long-run economic growth and threaten short-run macroeconomic stability. They even undermine cultural mores, fostering cronyism, blurring the distinction between productive and unproductive entrepreneurship, and eroding people's trust in both business and government.

But for all of the problems with privileges, governments dispense them freely and sometimes proudly. In the 2012 presidential race, for example, both President Obama and former Senator Rick Santorum endorsed lucrative privileges for the manufacturing industry.[126] And at least anecdotal evidence suggests that in the United States, government-granted privileges are becoming more common than ever.

If we are to restore the economy and the body politic to health, we must rout out and eliminate the sources of government-granted privilege. And if our institutions are to remain healthy, we must develop a better understanding of the sources of privilege and the ways to guard against it.

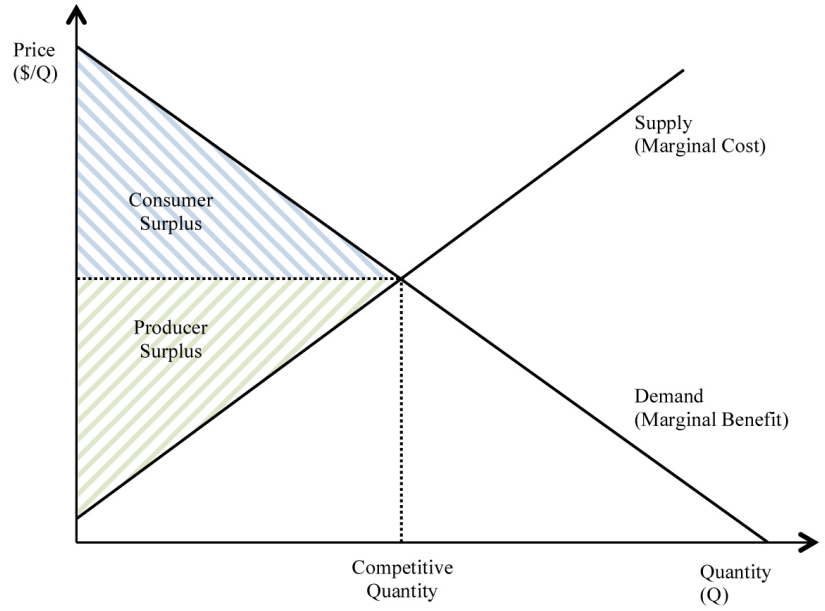
125. Ibid., 1016.

126. President Obama in his 2012 State of the Union address, for example, singled out the manufacturing sector for special tax treatment and support. And in the Republican presidential primary, Rick Santorum has suggested that manufacturing firms—and only manufacturing firms—should be exempted from taxation.

APPENDIX I: PRIVILEGE DIMINISHES THE GAINS FROM EXCHANGE

Figure 1, which should be familiar to all students of economics, depicts the mutual gains from trade. The figure shows industry supply and demand curves in a given market. The demand curve, also known as the marginal benefit curve, represents the maximum price that buyers are willing to pay for each quantity purchased. But notice that for every unit sold, the market price that these buyers *actually* pay is less than the amount they would be *willing* to pay (i.e., price is below the industry demand curve). Because they are able to purchase the good for less than what they would be willing to pay for it, these consumers enjoy what economists call "consumer surplus."

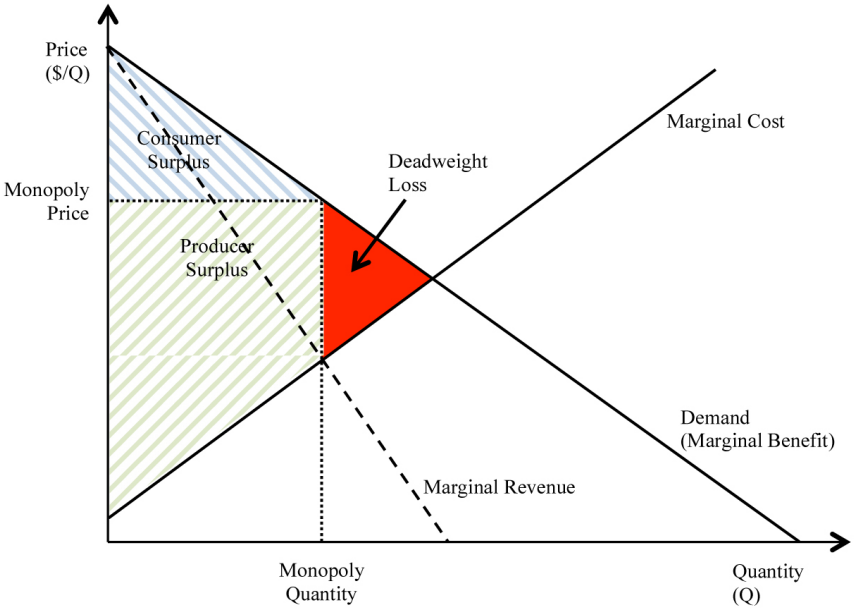
FIGURE 1. THE GAINS FROM FREE AND VOLUNTARY EXCHANGE



Sellers also gain. The supply curve, also known as the marginal cost curve, represents the minimum price that sellers would be willing to accept for each quantity they sell. Notice that for every unit sold, the market price that these sellers actually receive exceeds the amount that they would be willing to accept (the price is above the industry supply curve). Because they are able to sell the good for more than they would be willing to accept, these producers enjoy what economists call "producer surplus." In a competitive industry, the producer surplus is shared by all producers and represents a "normal return."

As figure 2 shows, a monopolist with pricing power will charge a price that is higher than that charged by a competitive firm.[127] Compared with competitive conditions, consumer surplus is smaller while producer surplus is larger. Since the monopolist is the only firm, it captures the entire producer surplus. Thus, monopoly profits are quite substantial compared with the normal profits of a competitive firm. Note that the sum of producer and consumer surplus under monopoly is less than the sum of producer and consumer surplus under competition. To put it another way, the monopolist gains less than consumers and would-be competitors lose. The lost social gain is known as "deadweight loss" and is indicated in figure 2.

FIGURE 2. THE COSTS OF MONOPOLY

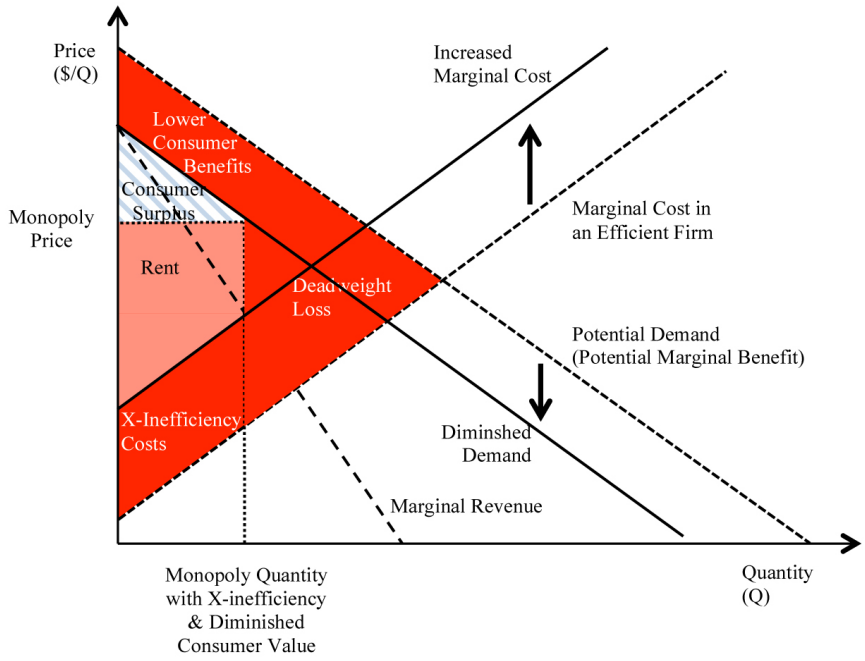


But monopoly privileges may entail more than conventional deadweight loss. Privileged firms are likely to waste resources, leading to higher production costs. Figure 3 depicts this problem with a higher marginal cost curve. This results in so-called "*X*-inefficiency" costs.[128]

127. The profit maximizing price is that which ensures that the cost of the last unit produced just equals the revenue obtained from that unit. The monopolist's marginal revenue curve traces the revenue received from the last unit sold.

128. Notice that with higher marginal production costs, producer surplus is smaller. This doesn't mean that the firm is necessarily worse off. While its pecuniary benefits are smaller, the managers and workers in the firm enjoy more leisure time at work. Recall Hicks's observation that "the best of all monopoly profits is a quiet life." Hicks, "Annual Survey of Economic Theory."

FIGURE 3. *X*-INEFFICIENCIES, INATTENTION TO CONSUMER DESIRES, AND RENT-SEEKING



If managers and workers are less attentive to their work, consumers will derive less satisfaction from each product they consume. Thus, the demand curve for a privileged monopolist's product will lie below the potential demand curve. Figure 3 shows this scenario as a downward shift in the demand curve.[129] Because of the diminished demand for its product, the firm will sell less than it otherwise would. Consumers will derive less consumer surplus from exchange and total losses will expand as shown in figure 3.

There are also likely to be rent-seeking losses. The cost of rent-seeking is related to the size of the rent in figure 3. The larger the rent, the more firms will be willing to invest in rent-seeking. But other factors matter as well. For example, rent-seeking losses tend to be larger when more firms are competing for the privilege. This scenario is just the opposite of what we expect in a

129. This, in turn, means that marginal revenue also lies below its potential. As with higher production costs, it also means that the firm will reap less producer surplus. Here again, Hicks's observation pertains.

traditional market in which more competition leads to a more efficient outcome.[130] Rent-seeking losses may be larger or smaller than the rent itself.

When all of the costs of privilege are considered, it is possible that only a small fraction of the gains from exchange remain. But even these costs understate the problems with privilege; figure 3 only shows the "static" costs of privilege at a particular point in time. Over time, however, privilege likely entails "dynamic" costs that include lost innovation and slower economic growth.

130. Dennis Mueller, *Public Choice III* (New York: Cambridge University Press, 2003), 335–336.

APPENDIX II: QUESTIONS FOR FURTHER RESEARCH

For all that we know about privileges and the costs that they entail, there is still much that we do not know. The following questions may be fruitful avenues for future research:

- What conditions give rise to privilege?
- Is privilege more prominent now than in decades past?
- Are there objective ways to measure privilege on an economy-wide scale?
- Are privileges more prominent in some sectors of the American economy than in others?
- In which guise (monopoly, tax treatment, etc.) is privilege most likely to manifest itself?
- In which guise is it most destructive?
- Do governments pass out privileges because firms have developed ties with political decision makers? Or do firms get close with political decision makers because they are passing out favors?
- How often are privileges "sold" as something else?[131]
- How does privilege affect the prevailing political beliefs in a society?
- How does one eradicate privilege? What role do constitutional limits on government play in checking privilege? Are cultural taboos against privilege just as important as legal impediments?
- Can governments credibly commit to not bailing out firms? What moves can they take to make such commitments *more* credible?

131. For example, wind farms often claim that they need "infant industry" subsidies even though their technology is centuries old.

No. 13-13
July 2013

WORKING PAPER

REGULATORY PROCESS, REGULATORY REFORM, AND THE QUALITY OF REGULATORY IMPACT ANALYSIS

by Jerry Ellig and Rosemarie Fike

MERCATUS CENTER
George Mason University

About the Authors

Jerry Ellig
Senior Research Fellow
Mercatus Center at George Mason University
jellig@mercatus.gmu.edu

Rosemarie Fike
Doctoral Candidate
Department of Economics
Florida State University
rfike@fsu.edu

Acknowledgments

The authors wish to thank Ted Bolema, Robin Bowen, Antony Davies, Randy Holcombe, Patrick McLaughlin, Thomas Stratmann, Richard Williams, and two anonymous reviewers for helpful comments on earlier drafts of this paper. We also thank Mark Adams for helpful discussions and research assistance, and Steve Rossi and Patrick McLaughlin for developing the word-count data.

Abstract

Numerous regulatory reform proposals would require federal agencies to conduct more thorough analysis of proposed regulations or expand the resources and influence of the Office of Information and Regulatory Affairs (OIRA), which currently reviews executive branch regulations. We employ data on variation in current administrative procedures to assess the likely effects of proposed regulatory process reforms on the quality and use of regulatory impact analysis (RIA). Many specific types of activity by agencies and OIRA are correlated with higher-quality analysis and greater use of analysis in decisions, and the effects are relatively large. Our results suggest that greater use of Advance Notices of Proposed Rulemakings for major regulations, formal hearings for important rules, articulation of retrospective review plans at the time regulations are issued, and expansion of OIRA's resources and role may improve the quality and use of RIAs.

***JEL* codes:** D61, D73, D78, H11, H83, K23, L51, P16

Keywords: regulation, regulatory reform, regulatory process, benefit-cost analysis, cost-benefit, regulatory impact analysis, regulatory review

Regulatory Process, Regulatory Reform, and the Quality of Regulatory Impact Analysis

Jerry Ellig and Rosemarie Fike

I. Introduction

Regulatory impact analysis (RIA) has become a key element of the regulatory process in developed and developing nations alike. A thorough RIA identifies the potential market failure or other systemic problem a regulation is intended to solve, develops a variety of alternative solutions, and assesses the benefits and costs of those alternatives. Governments have outlined RIA requirements in official documents, such as Executive Order 12866 (Clinton 1993) and Office of Management and Budget Circular A-4 (2003) in the United States and the Impact Assessment Guidelines in the European Union (European Commission 2009). More recently, President Obama's Executive Order 13563 reaffirmed Executive Order 12866 and noted some additional values agencies could consider, such as fairness and human dignity (Obama 2011).

Yet all over the globe, evaluations of regulatory impact analysis have found that government agencies' actual practice often falls far short of the principles outlined in scholarly research and governments' own directives to their regulatory agencies. "Checklist" scoring systems reveal that many RIAs in the United States lack basic information, such as monetized benefits and meaningful alternatives (Hahn et al. 2000; Hahn and Dudley 2007; Fraas and Lutter 2011a; Shapiro and Morrall 2012). Similar analyses find that European Commission impact assessments have similar weaknesses (Renda 2006; Cecot et al. 2008; Hahn and Litan 2005). Case studies often find that RIAs have significant deficiencies and little effect on decisions (Harrington et al. 2009; Graham 2008; Morgenstern 1997; McGarity 1991; Fraas 1991). Some commentators have characterized individual RIAs as "litigation support documents" (Wagner 2009) or at least documents drafted to justify decisions already made for other reasons (Dudley 2011, 126; Keohane

2009). Interviews with agency economists indicate that this happens frequently (Williams 2008). A meta-analysis of 31 European Union and United Kingdom RIAs found that about half of them were used in a "perfunctory" fashion and only about 40 percent were used to enhance substantive understanding of the consequences of regulation (Dunlop et al. 2012, 33).

In the United States, deficiencies in the quality and use of regulatory analysis have led to calls for significant reforms of the regulatory process to motivate higher-quality analysis and promote its use in decisions (House Judiciary Committee 2011; President's Jobs Council 2011; Harrington et al. 2009; Hahn and Sunstein 2002). Some proposed reforms would encourage or require agencies to undertake additional discrete actions. One would require that agencies publish an advance notice of proposed rulemaking (ANPRM) for all "major" regulations—typically regulations that have economic effects exceeding $100 million annually. The ANPRM would analyze the nature and cause of the problem the regulation seeks to solve, identify a wide variety of alternative solutions, and offer preliminary estimates of the benefits and costs of each alternative. The President's Jobs Council (2011, 43) recommended expanded use of ANPRMs without making them a requirement. The Regulatory Accountability Act, which passed the House in 2011 but failed to pass the Senate, would have required such ANPRMs for all major regulations (House Judiciary Committee 2011, 57).

The legislation would also have required trial-like, formal rulemaking hearings for "high impact" regulations—generally, those that imposed costs or other burdens exceeding $1 billion annually—and would have required agencies to develop retrospective review plans for major regulations at the time the regulations were promulgated. This latter requirement also appeared in President Carter's Executive Order 12044 on regulatory analysis (Carter 1978), but disappeared from subsequent executive orders.

Some reforms would augment the resources and role of the Office of Information and Regulatory Affairs (OIRA), the office within the Office of Management and Budget that reviews regulations and their accompanying RIAs for compliance with Executive Order 12866. Commentators have called for a doubling of OIRA's staff to restore it to its 1981 level, when it first started reviewing regulations (President's Jobs Council 2011, 45), and for subjecting regulations from independent regulatory commissions to RIA requirements and OIRA review (Hahn and Sunstein 2002, 1531–37; House Judiciary Committee 2011, 24–26; President's Jobs Council 2011, 45; Tozzi 2011, 68; Katzen 2011, 109; Fraas and Lutter 2011b). Shapiro and Morrall (forthcoming) calculate that expanding OIRA's staff is the lowest-cost way of improving RIAs. The Regulatory Accountability Act would have written many of the major regulatory analysis requirements in Executive Order 12866 into law (thus applying them to independent agencies) and would have required agencies to consult OIRA before issuing a proposed rule (House Judiciary Committee 2011).

In a sense, the reform proposals represent a continuation of a trend toward greater uniformity in administrative procedures that began with the Administrative Procedure Act (APA) of 1946. The APA instituted uniform procedures and established minimum standards for information gathering and disclosure across agencies (McCubbins et al. 1987, 256). The RIA requirements in executive orders further raised the standards by enunciating a series of substantive questions all executive branch regulatory agencies are supposed to address.[1] The proposed reforms would further standardize agency procedures for developing regulations and RIAs and apply these standards to independent agencies as well.

[1] Unlike the APA, however, the executive orders on regulatory analysis are not judicially enforceable. Each one contains a sentence to that effect. See for example Carter (1978), sec. 7; Clinton (1993), sec. 10.

Recent regulatory history provides a rich database of experience that can be used to test the prospective impact of proposed reforms. Many of the proposed reforms are similar to actions that agencies sometimes undertake voluntarily or are actions that are currently required by law only for some regulations. OIRA already subjects some regulations to a lengthier or more thorough review than others (McLaughlin and Ellig 2011). If more extensive action by agencies and OIRA is correlated with higher-quality or more influential RIAs, it is more likely that "deepening and widening" such action will make agencies more accountable to elected leaders and the public.[2]

This paper combines newly gathered data on the variation in current regulatory processes with an extensive set of expert scores that evaluate the quality and use of regulatory impact analysis for proposed federal regulations to assess whether four proposed regulatory reforms would likely affect the quality of regulatory analysis and the extent to which agencies claim to use it in decisions. The four reforms are (1) expanded use of ANPRMs for major regulations, (2) public hearings for "high impact" regulations after they are proposed, (3) preparation of retrospective analysis plans at the time regulations are issued, and (4) expansion of OIRA's influence and resources. None of our process variables are identical to the proposed regulatory reforms, but they are similar enough to be analogous, and the results are informative. Principal findings include the following:

- Several types of agency actions that expand pre-proposal information-gathering are associated with higher-quality RIAs and greater claimed use of analysis in decision-

[2] This phrase comes from Hahn and Sunstein (2002), who call for "deeper and wider cost-benefit analysis." They suggest some of the reforms mentioned in the text, and the phrase is consistent with the spirit of most of the reforms listed.

making. These include a prior notice of proposed rulemaking (NPRM) in the same regulatory proceeding, a public request for information by the agency, and consultation with state, tribal, or local governments.

- Two other pre-proposal actions—public meetings and advisory committees—do not appear to improve the quality and use of analysis and may even diminish them.
- An agency's commitment to hear feedback on the regulation at a hearing or other public meeting in the future is associated with more extensive explanation of how the agency used the analysis in its decisions.
- A proposed rule that results from review or revision of a previous rule may be associated with lower-quality analysis than other rules. However, a legislative requirement for review is associated with higher-quality analysis.
- The quality and use of regulatory analysis is positively correlated with the length of OIRA review time. OIRA's influence in the administration (measured by whether the administrator is a political appointee or acting administrator) is positively correlated with claimed use of regulatory analysis.

These results suggest that many types of activity by agencies and OIRA result in higher-quality regulatory analysis and greater use of analysis in decisions. In addition, our results suggest that regulatory reforms designed to expand agency activity and OIRA's influence and resources could lead to noticeable improvement in the quality and use of regulatory analysis. Such improvement would aid policymakers and the public in monitoring and assessing the likely effects of proposed regulations.

II. Some Theoretical Considerations

Elected leaders delegate significant decision-making authority to regulatory agencies. Delegation of decision-making to expert agencies makes accountability more difficult, due to the asymmetry of information between the agencies and the elected leaders whose directives they are supposed to implement.

From the perspective of elected policymakers, agencies may be under- or overzealous about adopting new regulations. Agency success is usually defined as success in creating regulations intended to achieve the agency's specific mission, such as workplace safety (OSHA) or clean water (EPA), rather than balancing pursuit of that mission with other worthy goals that require government and social resources. This perspective creates a degree of "tunnel vision" that discourages agencies from considering important tradeoffs between their specific mission and the broader public interest (DeMuth and Ginsburg 1986; Dudley 2011). On the other hand, issuing new regulations requires effort, which is costly (McCubbins et al. 1987, 247). Hence, bureaucratic inertia may lead to regulation that is less vigorous than elected leaders desire (Kagan 2001). Antiregulatory interests are also often well organized and well funded, and they may influence agencies to under-regulate (Bagley and Revesz 2006, 1282–304).

By adopting procedural requirements that compel agencies to publicize regulatory proposals in advance and disclose their likely consequences, Congress and the president mitigate information asymmetries and make it easier for affected constituencies to monitor and alert them about regulatory initiatives of concern (McCubbins et al. 1987). As Horn and Shepsle (1989) note, this can increase the value of the legislative "deal" generating the regulation if constituents can monitor the effects of proposed regulations at lower cost than elected leaders can.

Executive orders requiring agencies to conduct and publish regulatory impact analyses (RIAs) and clear regulations through the Office of Management and Budget (OMB) are examples of presidential initiatives that seek to reduce information asymmetries.[3] Posner (2001) argues that elected leaders should often find RIA requirements useful even when their goal is something other than economic efficiency, because the RIA is supposed to provide a structured and systematic way of identifying the regulation's likely consequences. As if to confirm Posner's hypothesis, seminal articles by DeMuth and Ginsburg (1986) and Kagan (2001) portray centralized regulatory review and RIAs as important tools for ensuring agency accountability under presidents Reagan and Clinton—the two US presidents who did the most to shape the current requirements and review process in the executive branch, despite their rather different attitudes toward regulation. President Reagan was the first president to subject agency regulations to OIRA review. President Clinton and his staff actively directed agencies to issue regulations, continued OIRA oversight, and took credit for regulatory successes.

As a first approximation, therefore, we expect that regulatory reforms aimed at increasing agencies' activity and OIRA's influence would lead to more thorough RIAs and increase the extent to which agencies claim to have used analysis to inform decisions. Several complicating factors, however, could lead to different predictions under specific circumstances.

A. Agency Effort

Many regulatory reform proposals would require agencies to take certain actions that are currently discretionary, or required by law only for some regulations. It is plausible to expect that

[3] Dunlop et al. (2012) offer an explanation of this use of RIAs in the European context.

these reforms could improve the quality and use of regulatory analysis, but some of them may have the potential to generate perverse effects, for two reasons.

First, increased agency activity will not necessarily improve the quality of the RIA. Agencies can also devote analytical effort to increasing information asymmetries by making the RIA more complex but less informative. Commentators already note that some RIAs spend an inordinate amount of time on less important benefit or cost calculations while missing more substantial issues, such as significant alternatives (Keohane 2009; Wagner 2009). In addition, since agencies know OIRA will review their RIAs and regulations, they may attempt to game the system by preemptively using additional analysis to create the impression of quality review and blunt the effectiveness of OIRA review to improve the quality of the RIA.

Second, expanded procedural requirements could reduce the quality or use of RIAs by giving interest groups greater influence over the regulatory process. Public meetings or other forums that gather stakeholders together may facilitate collusion among stakeholders at the expense of the general public, even if the purpose of the meeting is merely information-gathering. To the extent that the agency is guided by agreement among stakeholders rather than the results of analysis, the RIA may be used less extensively. If analysts expect this to occur, they will likely put less effort into creating a high-quality analysis. Of course, greater responsiveness to stakeholders may be precisely the result elected leaders intend. In this case, the quality and use of the RIA may decline rather than increase. Even if stakeholders wield no inappropriate influence, public meetings or other extensive discussions may lead agencies to document the analysis or its effects less extensively in the NPRM or RIA, since major stakeholders already heard this discussion in meetings where many topics relevant to regulatory analysis were aired. We discuss these possibilities in our description of the explanatory variables below.

B. OIRA Influence and Resources

Executive Order 12866 explicitly gives OIRA two distinct functions, which may sometimes conflict (Arbuckle 2011; Dudley 2011). OIRA has a dual role of ensuring that the regulations reflect the regulatory analysis principles enunciated in Executive Order 12866 and ensuring that they reflect the president's policy views. If OIRA primarily enforces the principles of Executive Order 12866, then we would expect greater effort on OIRA's part to improve the quality and use of RIAs. If OIRA primarily enforces the president's policy views on agencies, then OIRA's efforts may have no effect or even a negative effect on the quality and use of RIAs. In the latter case, OIRA review ensures that regulatory decisions reflect the president's policies regardless of what consequences the analysis reveals.

A 2003 Government Accountability Office report found numerous instances in which OIRA review affected the content of an agency's regulatory analysis or the agency's explanation of how the analysis was related to the regulation. Other research, however, has concluded that OIRA has had little systematic impact on the cost-effectiveness of regulations. Hahn (2000) finds that the introduction of OIRA was not correlated with improvement in the cost-effectiveness of regulations. Farrow (2006) finds that cost per life saved had a miniscule effect on the decision to reject a proposed regulation and that OIRA had no tendency to reduce the cost per life saved. These previous studies, however, presume that OIRA can only act to improve the efficiency of regulations. A more recent paper finds that the length of OIRA review is positively correlated with the amount of information in RIAs (Shapiro and Morrall forthcoming). We assess OIRA's effect on broader outcomes—the quality and use of RIAs—and employ different explanatory variables to measure OIRA's influence and effort. We thus provide a test that is more consistent with Posner's (2001) hypothesis that elected leaders utilize RIAs to curb information asymmetries.

III. Data and Variables of Interest

A. Dependent Variables

Our dependent variables measuring the quality and use of regulatory impact analysis are qualitative scores awarded by the Mercatus Center at George Mason University's Regulatory Report Card, which assesses the quality and use of RIAs for proposed, economically significant regulations.[4] Economically significant regulations are those that have costs or other economic effects exceeding $100 million annually or that meet other criteria specified in section 3f1 of Executive Order 12866 (Clinton 1993), which governs regulatory analysis and review for executive branch agencies. For 2008–10, the years covered in this paper, the Regulatory Report Card consists of 10 criteria derived from requirements in Executive Order 12866, supplemented by two criteria on retrospective analysis that are not explicitly required by the executive order but are logically necessary if agencies are to conduct regular retrospective reviews of regulations, as required by section 5a of the executive order. Ellig and McLaughlin (2012) list the criteria and demonstrate how they mirror elements in the OMB's Regulatory Impact Analysis Checklist (OMB 2010).

To produce the Report Card scores, two trained evaluators assessed each criterion on a Likert (0–5) scale, where 0 indicates no relevant content and 5 indicates reasonably complete analysis with one or more best practices that other agencies might imitate. The scores do not indicate whether the evaluators agreed with the regulation or the analysis; they indicate how complete the analysis was and how well the agency explained its use of analysis. The 12 criteria are grouped into three categories: Openness, Analysis, and Use. To develop scores for each of the four Analysis criteria, the evaluators scored the RIA on a series of sub-questions, then

[4] A complete set of Regulatory Report Card score data can be downloaded at www.mercatus.org/reportcard.

averaged and rounded these scores to calculate the score for each Analysis criterion. As a result, the Regulatory Report Card database actually includes scores for 30 separate questions. Table 1 (page 48) lists these questions.

Readers concerned solely with the quality of RIAs would want to focus on the Openness and Analysis scores. As the list of questions in table 1 indicates, the Openness criteria assess the transparency of the analysis, but several of them also provide insight about the quality of the analysis. An RIA that scores high on Openness because it has clear documentation of source data, studies, and underlying theories, for example, is likely to have better analysis than an RIA that uses little data or shows scant evidence of research.

The first two Use criteria assess the extent to which the agency claimed in the RIA or NPRM to use the analysis in its decisions. The second two assess how well the agency made provisions in the RIA or NPRM for retrospective analysis of the regulation in the future. The developers of the Report Card acknowledge that these criteria assess only whether the agency claimed to use the analysis or appears prepared to evaluate the regulation in the future (Ellig and McLaughlin 2012). The actual influence of the RIA is unobservable without interviewing the key decision-makers who wrote each regulation. Both of these scores could also be vulnerable to "false positives," since agencies may have incentives to claim they used the analysis even if they did not, or to promise to conduct retrospective review even if they do not follow through.[5] Therefore, the Use scores may be somewhat noisier indicators of actual agency behavior than the Openness or Analysis scores.

[5] It is not clear whether this is a serious problem in reality. The Use category has a lower average score than the Openness or Analysis categories (see table 2), and the two retrospective analysis questions have the lowest scores of all the 12 criteria. (Ellig et al. 2012). Thus, there may be few false positives because there are relatively few high scores at all on the Use criteria; agencies rarely claim to have used the analysis extensively.

As a qualitative evaluation using Likert-scale scoring, the Report Card represents an approach midway between checklist scoring systems and detailed case studies of individual regulations. The evaluation method is explained more fully in Ellig and McLaughlin (2012). Inter-rater reliability tests indicate that the training method for evaluators produces consistent evaluations across multiple scorers (Ellig and McLaughlin 2012; Ellig et al. 2013). The Report Card is the most in-depth evaluation we know of that covers more than 100 proposed federal regulations.

We use the scores for 71 prescriptive regulations proposed in 2008–10, the same time period covered by Ellig, McLaughlin, and Morrall's (2013) study that compares the quality and use of RIAs during the Bush and Obama administrations.[6] This lets us determine whether their results still hold after controlling for the regulatory process variables that are the primary focus of our analysis.

In keeping with the current debate about regulatory reform, we focus on prescriptive regulations for several reasons. First, prescriptive regulations fill the conventional role of regulations: they mandate or prohibit certain activities (Posner 2003). This makes them distinct from budget regulations, which implement federal spending programs or revenue collection measures. Second, empirical evidence shows that budget regulations tend to have much lower-quality analysis (Posner 2003; McLaughlin and Ellig 2011). By focusing on prescriptive regulations, we hope to identify the aspects of the regulatory process most conducive to higher-quality analysis. Finally, OIRA review of prescriptive regulations tends to focus on the major elements of regulatory impact analysis as articulated in Executive Order 12866; review of budget regulations focuses mostly on whether the regulations' implications for the federal budget are

[6] Ellig, McLaughlin, and Morrall's (2013) study includes 72 prescriptive regulations and 39 budget regulations. We reclassified one regulation they labeled prescriptive—dealing with abandoned mine lands—as a budget regulation, because it specifies conditions attached to federal grants for the restoration of abandoned mine lands.

accurately estimated (McLaughlin and Ellig 2011). Since one of the pre-proposal process factors we examine is OIRA review, it seems logical to examine the type of regulation for which OIRA tries hardest to enforce the provisions of the executive order.

Table 2 (page 49) shows summary statistics for the dependent variables. The total score averages just 32.5 out of a maximum possible 60 points. The highest-scoring regulation received 48 out of a possible 60 points, equivalent to 80 percent. For Openness, Analysis, and Use, the maximum possible score was 20 points each; no regulation achieved the maximum in any category. For the retrospective review questions, the maximum possible score was 10 points, which one regulation achieved.

B. Regulatory Process Variables

A major contribution of this paper is a new dataset, which provides our primary explanatory variables of interest.[7] This dataset consists of observable indicators denoting the type of pre-proposal activity OIRA and the agencies devoted to the production, review, and use of RIAs for each proposed rule, plus several additional variables characterizing other aspects of the regulatory process. The authors and a graduate student research assistant read through the NPRMs, RIAs, and other supporting documents, searching for key words and concepts. The data were then coded as dummy variables to capture the types of actions accompanying each proposed regulation.[8] Below, we provide a brief description of each variable and the coding. When the definition or coding might not be obvious from the description, we also provide an example from the dataset. Table 3 (page 49) lists summary statistics for the regulatory process variables.

[7] The dataset is available from the authors upon request.

[8] In a spreadsheet, we compiled an extensive record of exactly where in the text of the NPRM and supporting documents the information used in our coding can be found. Some of the variables required careful reading of the regulation and some subjective interpretation of what type of power the agency has.

ANPRM. An advance notice of proposed rulemaking usually includes some initial analysis, along with a tentative proposal and/or some options the agency is considering. ANPRMs also often request comment on specific questions the agency would like more information on. An ANPRM provides additional time for interested parties to participate in the rulemaking process, react to agency proposals, and furnish information. This dummy variable is coded as "1" if the agency published an advance notice of proposed rulemaking (abbreviated ANPRM or ANOPR depending on the agency) and "0" if no such document was published in the *Federal Register*. In our sample, 18 observations had an ANPRM or ANOPR. Since the publication of an ANPRM means the agency engaged in additional information-gathering and analysis before proposing the regulation, we would expect *ANPRM* to have a positive influence on the quality and use of regulatory analysis.

Prior NPRM. Agencies sometimes publish and seek comments on multiple versions of a proposed rule in the *Federal Register* before issuing a final rule. Each successive NPRM incorporates new information into the proposal and may also reflect additional changes the agency has made to the RIA. For example, formal comments submitted by concerned parties, who often have specialized knowledge about the potential impact of regulation, may be reflected in updated versions of the NPRM. Several of the regulations in our dataset were the most recent versions of rules that had been previously published in the *Federal Register*. This dummy variable is coded as "1" if the agency published an NPRM before the publication of the NPRM in the dataset. It is coded as "0" otherwise.

A 2008 rule proposed by the Office of the Comptroller of the Currency (OCC), "Standardized Risk-Based Capital Rules (Basel II)," offers a straightforward example (US Dept.

of the Treasury et al., 2008). On December 26, 2006, the OCC issued an NPRM which preceded the 2008 NPRM in our dataset. Thus the *Prior NPRM* variable is coded as "1" for this regulation. For some regulations (such as the Department of the Interior's annual migratory-bird-hunting rules), the agency may have published NPRMs after the publication of the NPRM included in our dataset. The *Prior NPRM* variable would be "0" in such cases, because we only seek to assess the effect of an NPRM that precedes the one in the dataset.

A prior NPRM means the agency engaged in additional work and received more information from the public before proposing the current version of the rule. For nine of the proposed rules in our sample, the agencies issued prior NPRMs. We would generally expect *Prior NPRM* to have a positive effect on the quality of regulatory analysis.

Request for Information. This dummy variable reflects the agency's attempt to obtain information from the public before drafting the proposed rule. If the agency issued a formal request for information, published a notice announcing the availability of framework documents, or published a notice of data availability (NODA) and requested comments from the public on these documents, this variable is coded as "1." If the agency did not issue any formal requests for information from the public, this variable is coded as "0." A request for information preceded 11of the proposed rules.

We expect *Request for Information* to have a positive effect on the dependent variable, for two reasons. First and most obviously, it gives the agency access to more information. Second, a request for information may signal that the agency is less settled on a course of action and is more likely to be persuaded by the results of the RIA. This could lead to higher scores for use of analysis. It may also lead to higher scores for quality of analysis, since an agency that is

less settled on its course of action may have more interest in ensuring that a high-quality analysis is conducted. Conover and Ellig (2012), for example, suggest that the first round of regulations implementing the Affordable Care Act have low-quality RIAs precisely because most decisions were made before the RIA was completed, and so the Department of Health and Human Services had little reason to produce a high-quality analysis to inform decisions.

Advisory Committee. This variable captures the influence of advisory committees created as part of the US regulatory process. An entry is coded as "1" if the regulatory agency created, formed, initiated the creation of, and consulted with a committee on the particular regulation proposed in the NPRM. A committee formed for a negotiated rulemaking is also classified as an advisory committee.[9] If the NPRM utilizes the research or recommendations of a committee that the agency had no role in creating (such as a committee formed by the United Nations or a congressional committee), this variable is coded as "0." Agencies utilized advisory committees for 33 of the proposed rules.

Advisory Committee is coded as "1" regardless of whether the agency's consultation with the committee was required by law. In 2008, for example, the Pipeline and Hazardous Materials Safety Administration proposed a rule establishing maximum operating pressures for gas transmission pipelines. The NPRM states that the administration must consider any comments received from the public and any comments and recommendations of the Technical Pipeline Safety Standards Committee (US Dept. of Transportation 2008, 13174). Thus, we have coded *Advisory Committee* as "1" for this regulation.

[9] We considered using negotiated rulemaking as a separate explanatory variable, but there is only one negotiated rulemaking in the sample.

The NPRMs issued for other regulations mention consultations with advisory committees but provide no indication that the consultation is required. In 2009, the EPA proposed a regulation titled "Control of Emissions from New Marine Compression-Ignition Engines at or above 30 Liters per Cylinder." The NPRM mentions that the agency consulted the Clean Air Scientific Advisory Committee of the EPA's Science Advisory Board several times. Additionally, the NPRM references a peer review panel the agency held with the Science Advisory Board's Health Effects Subcommittee (US EPA 2009a, 44503–10). The NPRM did not mention that the EPA was required to undertake these actions. We have recorded "1" as the entry for the *Advisory Committee* variable. The expected sign on *Advisory Committee* is ambiguous. Advisory committees could increase the quality of regulatory analysis if they serve as an additional source of information and expertise, but they may reduce the quality of analysis if they serve mainly as a forum for stakeholder negotiation rather than information-gathering.

State Consultation. This variable indicates whether the agency consulted any representatives from state or local governments when drafting the proposed rule. It captures whether the agency actively sought states' input and engaged them in the rulemaking process. This dummy variable is coded as "1" if the NPRM explicitly mentions that the agency met with representatives of state and local governments or if the agency actively sought input from these parties. It is coded as "0" otherwise.

State consultation can occur in many different ways. Agencies can hold public meetings at which state representatives and relevant stakeholders are present. This was the case for the 2009 Greenhouse Gas Mandatory Reporting Rule. The NPRM mentions that during the rulemaking process, the EPA held meetings with state, local, and tribal environmental control

agencies and regional air-quality planning organizations (US EPA 2009b, 16457). Agencies can actively seek input from state and local stakeholders in other ways. In 2010, the EPA published the NPRM establishing standards for coal combustion residuals from commercial electric power producers. The EPA modeled the provisions in the proposed rule after the EPA's Guide for Industrial Waste Management, which represents a consensus view of best practices for industrial waste management based on involvement from EPA, state, and tribal representatives, and a focus group of industry and public interest organizations (US EPA 2010, 35208). Additionally, an agency can create an advisory committee that has state and local government representatives as members. For the annual establishment of its migratory bird hunting rules, the Department of the Interior relies on the recommendations of the Flyway Council system, which is a long-standing example of state and federal cooperative management. Representatives of many different states are members of this council (US Dept. of the Interior 2009, 41010).

Any action taken by the agency that actively incorporates the input of state representatives or local government stakeholders into the rulemaking process will result in a coding of "1" for the *State Consultation* variable. We do not consider the agency to have consulted with a state representative simply because the agency used state data or studies, states submitted comments in prior proceedings, particular states would be affected by the proposed regulation, or the agency was responding to a petition or lawsuit initiated by a state. Agencies consulted state and local stakeholders for 11 of the proposed rules.

State, tribal, and local governments are additional sources of information. They may offer perspectives the agency has not thought of. More importantly, they have access to local knowledge about costs, benefits, or other consequences of regulation that federal officials might

not even be aware of. For these reasons, we would expect this variable to have a positive impact on our dependent variables.

Public Meeting. This variable indicates whether the agency held a public event to receive comments from interested parties before publishing the proposed regulation. The *Public Meeting* dummy variable is coded as "1" if the agency held a public hearing or public meeting before publishing the NPRM, and as "0" otherwise. For 23 of the proposed rules, the agency held a public hearing or public meeting. Like a request for information, a pre-proposal public meeting allows the agency to gather more information, and it may also signify that the agency has not yet made up its mind and will find the results of the RIA valuable. To some extent, a public meeting may also substitute for analysis, if the agency makes decisions based on stakeholder positions, negotiations, or other considerations before conducting its own analysis. A public meeting might also lead to less thorough documentation of the analysis, if the agency views the meeting as a partial substitute for written communication with the public in the RIA and NPRM. Because these potential effects place opposing pressures on our dependent variable, we expect *Public Meeting* will likely have a positive sign, but we are less confident of this prediction than of some others.

Future Public Meeting. This dummy variable indicates whether the NPRM explicitly committed the agency to a public discussion forum in the future to receive feedback on the proposed rule. This dummy variable is coded as "1" if the NPRM mentions that a future public meeting will take place on a specific date. The variable is coded as "0" if no future meeting is mentioned, or if a future meeting is mentioned only tentatively—that is, the NPRM mentions that

a public meeting will be held upon request or mentions the possibility of a future meeting but does not mention a date for the meeting.

Of course, the information that an agency receives at a future public meeting cannot affect the quality and use of analysis for an NPRM that is published before the meeting. Nevertheless, we expect that a future public meeting could affect the Report Card score for several reasons. First, it may indicate that the agency is less settled on its approach, and so it may have conducted its RIA more carefully and paid closer attention to the results. Second, a future public meeting may augment the agency's incentive to conduct careful analysis and use it in decisions, because the agency will have to defend its proposed rule from challenges in a public forum. On the other hand, if an agency anticipates receiving relevant information and feedback during a future public meeting, it may delay some of its analysis until afterward, thus leading to a lower-quality RIA at the NPRM stage. Thus, the prevailing impact a future public meeting will have on the dependent variable is unclear.

Revised Rule. This variable indicates whether the proposed rule is an amendment to, or a revision of, a previous rule. Regulations that are amendments to or revisions of previous regulations are coded as "1," while NPRMs for new regulations are coded as "0." The predicted sign of this variable is ambiguous. On one hand, if the agency is revising a previous rule, then it can draw on a stock of existing expertise to conduct the RIA, which suggests the analysis should be of higher quality. On the other hand, agencies are often reluctant to invent new approaches when an existing approach has already been upheld in court (Williams 2008). This suggests the agency may be less interested in conducting a high-quality analysis that incorporates new ways of solving old problems; in other words, there is path dependence stemming from the initial regulatory action.

Review Required. This dummy variable is designed to capture whether the NPRM results from a legislative requirement to review a prior rule. (It does not indicate whether the agency is committing to review the rulemaking in the future.) If the NPRM was the result of a legislative requirement to review a previous rule, it is coded as "1."

The legislative requirement need not be a requirement for genuine retrospective analysis of an existing rule's benefits and costs; this kind of analysis is relatively rare (Lutter 2012). Rather, we check to see whether some type of legislative requirement motivated revision of the regulation. For example, the NPRMs for all the EPA's national ambient air quality standards are coded as "1," because the Clean Air Act requires the EPA to periodically review these standards. Similarly, most of the Department of Energy's energy efficiency standards are coded as "1," because many of them are revised standards required by law.

Only rules with a "1" entered for *Revised Rule* can have a "1" for *Review Required*. Thus, the two variables help us distinguish whether a revision of a rule undertaken on the agency's own initiative has a different effect than a legislatively required revision.

Acting OIRA Administrator. This variable equals "1" if OIRA concluded its review of the regulation during the interregnum period at the beginning of the Obama administration when the OIRA administrator was an acting career civil servant rather than a Senate-confirmed presidential appointee. Ellig, McLaughlin, and Morrall (2013) hypothesize that this variable may be associated with lower scores, because OIRA has less influence over agencies when a presidential appointee is not the administrator. They find that it had a marginally significant, negative effect on use of analysis but no effect on the quality of analysis.

OIRA Review Time. To measure the extent of OIRA effort expended on each NPRM, we use the number of days OIRA spent reviewing the NPRM before its publication. Executive Order 12866 normally gives OIRA a 90-day period to conduct its review of an NPRM and notify the agency whether it can proceed with the regulation. Formally, the review period can be extended once by 30 days. In practice, some regulations have review times exceeding 120 days. These are most likely cases where OIRA has reviewed the regulation within the required time period and asked the agency for additional data or analysis (DeMuth and Ginsburg 1986, 1088). Long review periods may also reflect cases where OIRA and the agency have significant disagreements about the content of the regulation or the accompanying analysis. Additional time is required for the two parties to work out their disagreements. (US GAO 2003, 46)

Reginfo.gov, a federal regulatory portal, records the dates when OIRA review begins and concludes. For each regulation, we calculated the review time based on these dates. Review time can vary for reasons unrelated to the quality of the analysis—such as OIRA's total workload, shifting priorities, a deliberate decision to speed up or slow down the adoption of new regulations generally, or informal OIRA review before the regulation is officially submitted (US GAO 2003, 46; McLaughlin and Ellig 2011, 194–95). To adjust for some of these factors that may vary from year to year, our *OIRA Review Time* variable is calculated as the regulation's review time minus the mean review time for regulations reviewed in the same year. This is why the mean value for *OIRA Review Time* in table 3 is zero. Review time centered on the year's mean is probably still a noisy measure of OIRA effort, but less noisy than raw review time.

We would normally expect OIRA review time to have a positive effect on the quality and use of RIAs (McLaughlin 2011; Shapiro and Morrall forthcoming). However, like many kinds of effort, review time may be subject to diminishing marginal returns. A very lengthy review might

even be associated with worse analysis or use of analysis. If review time is extended when OIRA and the agency have trouble agreeing, that could mean either that the analysis has significant quality problems or that political considerations are trumping the results of the analysis. The former implies a lower score for quality of analysis; the latter implies a lower score for use of analysis. We therefore include a second variable, *OIRA Review Time*^{2}, to test for diminishing marginal returns and the possibility that very long review times may be associated with lower-quality analysis.[10]

C. Control Variables

Ellig, McLaughlin, and Morrall (2013) provide the most extensive published analysis of factors correlated with Report Card scores. To ensure that our results do not stem from the omission of important variables identified in prior research, our control variables include all their explanatory variables, plus some additional ones.

Obama Administration. This variable equals "1" if the regulation was reviewed by OIRA during the Obama administration, and "0" if it was reviewed during the Bush administration. It is intended to indicate whether there is any systematic difference in the quality and use of regulatory analysis in different presidential administrations. Posner's (2001) positive theory, as well as actual experience under different administrations (DeMuth and Ginsburg 1986; Kagan 2001; Hahn and Sunstein 2002; Hahn and Dudley 2007), suggests that administrations are likely to have similar levels of interest in regulatory analysis regardless of their policy preferences. This variable is not statistically significant in Ellig, McLaughlin, and Morrall (2013).

[10] Because *OIRA Review Time* is centered on the year's mean, the squares of review times below the year's mean are entered as negative numbers.

Midnight Regulation. This variable equals "1" for Bush administration regulations that were proposed between Election Day 2008 and Inauguration Day 2009, and whose OIRA review concluded after June 1, 2008. The Bush administration set the June 1 deadline in an explicit attempt to limit these regulations. These regulations might be expected to have lower scores for three reasons: they were put together in a hurry, political considerations may have led the administration to place a lower priority on conducting high-quality analysis, and the surge of midnight regulations may overwhelm OIRA's review capacity (Brito and de Rugy 2009; McLaughlin 2011). Ellig, McLaughlin, and Morrall (2013) find that this variable is correlated with lower scores for quality and use of analysis for prescriptive regulations.

Midnight Leftover. This variable equals "1" for Bush administration regulations whose OIRA review concluded after June 1, 2008, but were left for the Obama administration to propose. These regulations might have lower quality or use of analysis because they were supposed to be midnight regulations but didn't quite get done in time, or because they were lower-priority regulations passed on to the next administration. Ellig, McLaughlin, and Morrall (2013) find that these regulations had lower scores for use of analysis.

Regulation type variables. Different types of regulations, such as economic, civil rights, security, environment, and safety regulations, may have different quality or use of analysis due to the existing "state of the art" of regulatory analysis in different fields, or because political considerations make high-quality analysis more or less likely to be conducted and used depending on the topic. We classify each regulation into one of these four categories. Ellig,

McLaughlin, and Morrall (2013) find that the type of regulation sometimes, but not always, had a statistically significant correlation with the quality or use of analysis.

A more granular control for type of regulation would employ dummy variables for each agency issuing the regulation. In one specification, we use agency dummies in place of regulation type dummies.

Agency policy preferences. Posner's model (2001, 1184–85) predicts that the greater the ideological distance between the president and the agency, the more likely the president is to require an agency to conduct regulatory impact analysis. He notes anecdotal accounts that OIRA enforces RIA requirements more vigorously based on the agency's ideology, suggesting that "a more systematic test would be feasible if ideological positions of agencies or agency heads could be measured." Clinton and Lewis (2008) use expert elicitation to develop numerical scores measuring agency policy preferences on a "conservative–liberal" spectrum. Ellig, McLaughlin, and Morrall (2013) interact these scores with a dummy variable for each presidential administration. Ellig et al. find results consistent with Posner's hypothesis: regulations from agencies with more "conservative" policy preferences tended to have lower Report Card scores during the Bush administration, and regulations from agencies with more "liberal" policy preferences tended to have lower scores during the Obama administration. We include these variables to control for this effect.

Public Comments. Regulations.gov tracks the number of public comments submitted on each proposed regulation. Shapiro and Morrall (2012) employ the number of comments as an indicator of a regulation's political salience; the more comments, the more likely it is that a

regulation is politically salient. They find that the more public comments there are on a regulation, the lower are its net benefits, suggesting that the federal government is less likely to try to maximize net benefits when significant political considerations get in the way. If this is true, we might also expect that regulations with more public comments would have lower scores for quality and use of regulatory analysis.

On the other hand, McCubbins, Noll, and Weingast (1987) posit that the requirements of the Administrative Procedure Act help ensure that the most politically controversial regulations generate the most complete information on the public record. It is conceivable that agencies would seek to conduct, and OIRA would require, more careful analysis for regulations that are more controversial, because these are precisely the regulations for which policymakers would most want to understand the likely effects.

IV. Econometric Methods and Results

Because the Report Card scores are qualitative evaluations, we estimate an ordered logit regression model to assess whether the scores are correlated with any of the regulatory process variables. Appendix 1 explains the underlying econometric theory and mathematical exposition of our models. Below, we discuss the results.

A. Total Score Regressions

Table 4 (page 50) shows our initial regression results, using the total score as the dependent variable. Specification 1 includes only the regulatory process variables, without controlling for any other factors. The results suggest that five of the variables—*Prior NPRM*, *Request for Information*, *State Consultation*, *Future Public Meeting*, and *Review Required*—are positively

correlated with the quality and use of regulatory analysis. *Acting OIRA Administrator* is negative and statistically significant. None of the other process variables are significant in specification 1.

As we include additional variables in subsequent specifications, these results remain robust, and some additional regulatory process variables become significant. Specification 2 controls for additional factors discussed in Ellig, McLaughlin, and Morrall (2013). It also adds the number of public comments filed in the proceeding. When we add these variables, the coefficients on *Prior NPRM*, *Request for Information*, *State Consultation*, and *Future Public Meeting* become larger and more statistically significant than in specification 1.

OIRA Review Time also becomes positive and statistically significant, and *OIRA Review Time*^{2} becomes negative and statistically significant; both results are consistent with our theory. Their coefficients indicate that any effect of OIRA review time would remain positive until 80 days beyond the mean review time for the year; only one regulation had a review time longer than this.[11]

Specifications 3 and 4 show that the results for both the regulatory process variables and the control variables are robust when we include other potential control variables. Specification 3 adds dummy variables for the agency issuing the regulation, instead of controlling for the type of regulation.[12] The variables that were statistically significant previously remain so in specification 3, except for *Midnight Leftover* and *Obama Agency*

[11] To check the robustness of the results with respect to *OIRA Review Time*, we also estimated specification 2 omitting regulations with review times exceeding OIRA's 90-day deadline or the 90-day deadline plus a 30-day extension. We also omitted *OIRA Review Time*^{2}, since this variable was included to test for differential effects of long reviews. The coefficient on *OIRA Review Time* was positive and significant at the 1 percent level. All other regulatory process variables retained the same signs and roughly the same statistical significance as specification 2 in table 4, except that *Review Required* became insignificant when regulations with review times longer than 90 days were omitted. Regression results are omitted for brevity but are available from the authors.

[12] Regulation type is dropped because regulation type and agency are highly, but not perfectly, collinear. For example, in 2009 the Coast Guard, part of the Department of Homeland Security, proposed a regulation affecting ballast water discharges from ships in coastal waters; this was an environmental regulation, not a security regulation.

Preference, which become insignificant. *Bush Agency Preference* remains negative and highly significant, which suggests that different administrations may treat the analysis of different agencies' regulations differently based on their policy priorities. *Public Meeting* becomes negative and significant at the 5 percent level.

Specification 4 considers the possibility that activity by the agency may be a substitute or complement to OIRA review time. The regulatory process variables that are statistically significant in prior specifications remain significant in specification 4. The interaction terms suggest that OIRA review might be a substitute for three of the regulatory process variables: *Prior NPRM*, *Future Public Meeting*, and *Review Required*. Since *OIRA Review Time* is measured as the deviation from each year's mean review time, the positive coefficients on *Prior NPRM*, *Future Public Meeting*, and *Review Required* indicate that these variables are positively correlated with the total score when *OIRA Review Time* is set at its mean value of zero. The coefficient on the interaction of *OIRA Review Time* × *Advisory Committee* is also negative, but *Advisory Committee* by itself is statistically insignificant. Although use of an advisory committee does not improve the quality and use of analysis on its own, an advisory committee appears to cut the positive effect of OIRA review time by more than half. One possible explanation is that the agency's use of an advisory committee makes it harder for OIRA to challenge (and improve) the agency's analysis, because the agency can cite the advisory committee as authority to back up its approach.

In our regressions, most of the control variables from Ellig, McLaughlin, and Morrall (2013) have the same signs as they did for those authors, with greater statistical significance. Thus, our results largely augment and confirm theirs. Adding the newly created regulatory process variables, however, challenges two of their results. In their paper, the quality of

regulatory analysis does not change with the presidential administration or the presence of the acting OIRA administrator when review of the regulation was completed. In our estimations, the acting OIRA administrator variable is always associated with lower Report Card scores (usually significant at the 5 percent level), and the Obama administration is sometimes associated with lower Report Card scores (significant at the 5 percent level in two specifications).

These results do not necessarily indicate that the Obama administration made lower-quality or less use of regulatory analysis. In many cases, the Obama administration made more frequent use of the regulatory process measures that are statistically significant in our specifications. As the mean figures in table 5 (page 51) indicate, the Obama administration's regulations were more likely to have a prior NPRM, consult states, commit to a future public meeting, or stem from a review that was required by law. Regulations reviewed under the acting OIRA administrator are more likely to consult states, commit to a future public meeting, or stem from a review that is required by law. Ellig, McLaughlin, and Morrall (2013) do not control for these factors, so they find no difference in scores attributable to different administrations. Our results, combined with theirs, indicate that regulations proposed during the Obama administration or while OIRA had an acting administrator would have had lower scores, were it not for these differences in the regulatory process in the two administrations. Since agencies' choices about pre-proposal processes and post-proposal hearings can reflect administration policies, it may be appropriate to consider not just the *Obama Administration* and *Acting OIRA Administrator* variables, but also the other regulatory process variables, to assess the complete effect of a change in administrations.

B. Quantitative Impact

Many of the regulatory process variables have a statistically significant correlation with total scores for the quality and use of regulatory analysis and also with many scores for individual questions. But is this effect large or small? To answer this question, we calculate quantitative results using the coefficients in specification 2. As appendix 2 explains, specification 2 is less likely to suffer from bias due to multicollinearity than specifications 3 and 4, and so we use specification 2 for all subsequent analysis in this paper.

Interpretation of ordered logit coefficients is not as straightforward as interpretation of ordinary least squares coefficients. The score variable is ordinal rather than cardinal. The dependent variable in an ordered logit regression equation is the log of the ratio of the odds that the score will or will not have a designated value (Theil 1971, 634). The coefficients estimate how each explanatory variable affects this odds ratio.

We estimate how each regulatory process variable affects the probability that the total score exceeds the mean value of 32.5 and the 75th percentile value of 36. For each regulatory process variable, we use Stata's "prvalue" command to calculate the probability of the score variable taking each possible value. All other explanatory variables are set equal to their mean values. The difference in the predicted probabilities when the regulatory process variable of interest equals 0 or 1 tells us how the regulatory process variable affects the probability of the score taking each value. We sum the probabilities of each score exceeding the mean value (32.5) and the 75th percentile value (36) to produce the results reported in table 6 (page 52). We assess the effect of *OIRA Review Time* in a similar way. Since *OIRA Review Time* is expressed in days rather than as a dummy variable, we calculate the probability of each score when *OIRA Review Time* equals its mean of 0 days and its standard deviation of 42 days.

An example helps clarify how to interpret table 6. The results for *Prior NPRM* indicate that a regulation with a prior NPRM had a 92 percent chance of scoring above the mean value of 32.5. A regulation without a prior NPRM had a 46 percent chance of scoring above the mean. Therefore, the prior NPRM increased the odds of scoring above the mean by 46 percentage points—exactly doubling the odds that the regulation would score above the mean. A prior NPRM increased the odds of a regulation scoring above 36 (in the 75th percentile) from 13 percent to 67 percent.

In general, the table shows that whenever the regulatory process variables are statistically significant, they have a noticeable effect on the odds of a regulation's score exceeding the mean or ranking in the top 25 percent. Five different variables are associated with a more than 75 percent chance of the score exceeding the mean: *Prior NPRM*, *Request for Information*, *State Consultation*, *Future Public Meeting*, and *Review Required*. A one standard deviation (42-day) increase in OIRA review time is associated with a 77 percent chance of scoring above the mean. Even where the predicted odds are lower, the effects of some process variables are dramatic. For example, the score has a 3 percent chance of ranking in the top 25 percent when OIRA is headed by an acting administrator, but a 22 percent chance when the administrator is a political appointee. Similarly, *Prior NPRM*, *Request for Information*, *State Consultation*, *Future Public Meeting*, and *Review Required* more than triple the odds that a regulation will score in the top 25 percent. Thus, the effects of many of the regulatory process variables are not just statistically significant, but also large.

C. Causality

The large and statistically significant correlations we find are consistent with our theory, but they do not prove causation. There are other possible explanations for the observed correlations—

especially the correlation between *OIRA Review Time* and Report Card scores. A better analysis may simply take OIRA longer to review because it is more complex; thus, causation may run in the opposite direction. Or other factors might simultaneously cause higher-quality analysis and longer review times. More politically controversial regulations might get better analysis and more careful review. Regulations more (or less) central to an administration's policy priorities might receive both better analysis and more careful review. Statutory or judicial deadlines for issuing regulations could produce lower-quality analysis and cut review time short. These factors could also affect agency decisions about many of the other regulatory process variables, such as whether to use ANPRMs or multiple NPRMs.

A two-stage or simultaneous equations analysis might help sort out the causality issues, but these options are not available with ordered logit in Stata. Instead, we offer some insight by testing some alternative theories of causality. We identify explanatory variables that should be statistically significant if the alternative theories of causality are true, then check to see whether these variables are correlated with both the regulatory process variables and Report Card scores. If they are not correlated with both, then the alternative theories of causality are less likely to be correct, and our theory is more likely to be correct.

Table 7 (page 53) lists some alternative hypotheses explaining why Report Card scores might be correlated with OIRA review time or the regulatory process variables we have explored. It also identifies one or more independent variables that can be used to test each hypothesis in regressions predicting the length of OIRA review time or the agency regulatory process activities of interest. We use the number of public comments to see whether political salience of the regulation might affect agency activity or the length of OIRA review. Two variables measure the complexity of the regulation's topic: the total number of words in the

NPRM and RIA, and whether the RIA includes a Regulatory Flexibility Act analysis.[13] A Regulatory Flexibility Act analysis, required by law under certain circumstances, assesses whether the regulation disproportionately burdens small businesses and, if so, whether there are regulatory alternatives that might lessen this impact. We check to see whether review time or agency activities vary based on the regulation's relationship to each administration's policy priorities by including the agency policy preference variables interacted with administration dummy variables. We test for the effect of deadlines with dummy variables indicating whether the regulation was subject to a statutory or judicial deadline.

Finally, we test to see whether two shifts in administration policies are correlated with review time or agency activity. The first dummy variable indicates whether the regulation was a midnight regulation in the Bush administration. These may have been rushed through the review process, with less extensive analysis by agencies and a shorter OIRA review. The second indicates whether OIRA review of the regulation concluded after the Obama administration issued its Regulatory Impact Analysis Checklist in November 2010, which clarified that the new administration expected RIAs to address the same topics and follow the same principles laid out in prior administrations' executive orders on regulatory analysis.

Table 8 (page 54) shows regression results, using ordinary least squares to estimate the *OIRA Review Time* equation and using logit to estimate the equations for the other regulatory process variables. In the first regression, four of the variables are correlated with *OIRA Review Time*. The agency policy preference variables indicate that regulations from agencies with more conservative policy preferences received shorter review times during the Obama administration

[13] We could not use word counts for the NPRM and RIA separately because agencies sometimes produce the RIA as a separate document, sometimes publish the RIA as a separate section of the NPRM, and sometimes intersperse RIA content at various places in the NPRM as part of the agency's justification for the regulation.

and longer review times during the Bush administration. Yet the regression results in table 4 suggest that agencies with more conservative policy preferences had higher Report Card scores during the Obama administration and lower scores during the Bush administration. This is precisely the opposite of the result we would expect to see if regulations closer to (or further from) an administration's policy priorities simultaneously receive better analysis by agencies and lengthier OIRA reviews.

Midnight regulations appear to receive longer review times—a finding inconsistent with the hypothesis that Bush administration policy toward midnight regulations explains the positive correlation of *OIRA Review Time* with Report Card scores, since *Midnight Regulation* is negatively correlated with the Report Card score in table 4's regressions. The results for *Judicial Deadline* indicate that judicial deadlines are associated with shorter review times, and the results for *Post-RIA Checklist* indicate that regulations reviewed after the checklist had longer review times. These last two results are the only ones that may be consistent with a theory that some factor not taken into account in our earlier regressions explains both the length of OIRA reviews and the Report Card score.

The logit regressions reveal that few explanatory variables are correlated with the regulatory process variables. *Public Comments* is never statistically significant. *Word Count* is positive and significant at the 10 percent level in two regressions and at the 5 percent level in one. The other variable indicating a more complex analysis, *Regulatory Flexibility Analysis*, is never significant. The agency policy preference variables are significant at the 5 percent level in one regression and at the 10 percent level in another, but in both cases they have the same sign. They suggest that agencies with more conservative policy preferences were more likely to have ANPRMs and less likely to issue a request for information during both administrations—another

set of findings inconsistent with the theory that the correlation between Report Card scores and visible agency actions can be traced to administration policy priorities that simultaneously affect both. *Statutory Deadline* is marginally significant in just two regressions, but the coefficient is positive, which indicates that statutory deadlines are associated with more extensive agency activity, not less. *Judicial Deadline* and *Post-RIA Checklist* are not significant in any of the regressions. *Midnight Regulation* is positive and marginally significant in just one.

Thus, there is some weak evidence that *Word Count*, *Judicial Deadline*, and *Post-RIA Checklist* might affect the length of OIRA review or some of the regulatory process variables in ways that are consistent with the alternative hypotheses in table 7. When we add these variables to specification 2 in table 4, however, none of them are significantly correlated with the Report Card score.[14] This result occurs regardless of whether we include or omit *OIRA Review Time* and the regulatory process variables that are correlated with these additional variables. Therefore, we ultimately find no statistical evidence supporting any of the alternative hypotheses.

D. Scores on Separate Categories of Criteria

The complete Report Card dataset consists of numerical scores on 30 different questions for each regulation, grouped into three categories of criteria. Aggregating these into a total score may mask important relationships. Some variables of interest may have positive correlations with some components of the total score and negative correlations with others, thus appearing to have little or no correlation with the total score. Others may be correlated only with some criteria, but not strongly enough to show up as a correlation with the total score. To see whether the regulatory process variables affect all aspects of the analysis uniformly, we run separate

[14] These regression results are omitted for brevity, but are available from the authors.

regressions using scores on the three categories of criteria as the dependent variable: Openness, Analysis, and Use. Because one of the proposed regulatory reforms would require agencies to formulate plans for retrospective analysis of regulations at the time they are issued, we also run a regression using the sum of the scores on the two Use questions that assess how well agencies currently make provisions for retrospective analysis. Table 9 (page 55) shows the results.

The first three regressions reveal that there are indeed some differences in results for different categories of criteria. *Request for Information* is the only regulatory process variable that is significant and positively correlated with Openness, Analysis, and Use. *Prior NPRM*, *Review Required*, and *OIRA Review Time* are significant and positively correlated with Analysis and Use, but not with Openness. *Future Public Meeting* is significant and positively correlated with Openness and Use, but not Analysis. *State Consultation* is significant and positively correlated only with Analysis. *ANPRM* becomes marginally significant and positively correlated with Use. *Acting OIRA Administrator* is significant and negatively correlated only with Use. *Public Meeting* is significant and negatively correlated with Openness, suggesting that analysis is less well documented or less readable when the agency has held a public meeting before the proposal.

These results qualify some of the conclusions a reader might draw from the Total Score regressions in table 4. Readers concerned mainly with the quality of analysis and accompanying documentation would want to focus on the regressions for Openness and Analysis, ignoring Use. Most of the regulatory process variables that are positively correlated with Total Score are also statistically significant and positively correlated with Openness, Analysis, or both. However, *Future Public Meeting* is only marginally significant for Openness, not significant for Analysis, and highly significant for Use. Similarly, *Acting OIRA Administrator* is not significantly correlated with Openness or Analysis, but highly significant for Use. Finally, *ANPRM* also

becomes marginally significant for Use. Thus, a commitment to a future meeting, a political appointee heading OIRA, and an ANPRM do not improve the quality of analysis, but they may encourage agencies to do a better job explaining how they used the analysis.

The final regression uses only the sum of the scores on the two retrospective analysis criteria as the dependent variable. These criteria assess the extent to which the agency laid the groundwork for retrospective analysis of the regulation by articulating goals and measures and identifying data it could use to assess the regulation's results. Only two of the regulatory process variables have a highly significant correlation with the retrospective analysis score: *State Consultation* and *Review Required*. The finding that agencies make greater provision for retrospective analysis when legislation requires review of the regulation may seem obvious. Restating this conversely provides greater insight: agencies appear less likely to make provision for retrospective analysis when the law does not require them to review their regulations.

E. Scores on Individual Criteria

To guard against the possibility that the results reported above are artifacts of the Report Card's averaging and weighting scheme, we also run regressions using the score on each of the 30 individual questions as the dependent variable. Running 30 regressions is likely to produce some statistically significant correlations merely by chance, so we interpret these results with caution. To conserve space, table 10 (page 56) summarizes all correlations for regulatory process variables that were significant at the 10 percent level or greater.

Three findings of interest emerge from table 10. First, there are very few anomalous correlations that contradict prior results in tables 4 and 9. Second, the variables significantly correlated with the total score are correlated with numerous individual criteria, lending more

confidence to the results reported above. Third, several variables that lack significant correlation with the total score, or with the scores of the three categories of criteria, are correlated with the scores of some individual criteria. These include *ANPRM* (positive) and *Advisory Committee* (negative). Several other variables that lack correlation with the scores of categories of criteria in table 9 are nevertheless correlated with the scores of some individual criteria within those categories in table 10; these include *Public Meeting*, *Future Public Meeting*, and *Acting OIRA Administrator*. Thus, these regulatory process variables may have somewhat more correlation with some aspects of regulatory analysis than tables 4 and 9 indicate.

V. Implications for Regulatory Reform

Our results suggest that four types of regulatory process reforms may substantially improve the quality and use of RIAs: (1) expanded use of ANPRMs for major regulations, (2) public hearings for "high impact" regulations after they are proposed, (3) preparation of retrospective analysis plans at the time a regulation is issued, and (4) expansion of OIRA's influence and resources.

A. Expanded Use of ANPRMs for Major Regulations

Expanded use of ANPRMs is expected to improve the quality and use of regulatory analysis for three different reasons. First, public comment on a preliminary analysis provides the agency with more information; it allows the agency to benefit from critiques, feedback, and other public input (President's Jobs Council 2011, 43). Second, requiring an agency to produce a preliminary analysis of the problem and alternative solutions before it writes a proposed regulation helps counter the well-documented tendency of agencies to make regulatory decisions first and then task economists or other analysts with writing an analysis that supports decisions that have

already been made (Williams 2008; House Judiciary Committee 2011, 32–33). Third, public disclosure of a preliminary analysis alters incentives by "crowdsourcing" regulatory review, instead of leaving the review function solely to OIRA (Belzer 2009).

Although we present evidence that OIRA improves the quality and use of regulatory analysis, Report Card scores indicate that most RIAs fall short of the ideals enunciated in Executive Order 12866 (Ellig and McLaughlin 2012; Ellig et al. 2013). OIRA and the rule-writing agencies are both in the executive branch, and analysis is often secondary to politics (Arbuckle 2011). Involving parties outside the executive branch at an earlier stage could help reveal politically motivated flaws in the analysis or its use.

None of our pre-proposal process variables precisely mimic the preliminary analysis of the problem and alternative solutions recommended by the President's Jobs Council and required in the Regulatory Accountability Act. Several, however, are analogous. The current practice that probably most resembles the type of ANPRM proposed by regulatory reformers is *Prior NPRM*. *Prior NPRM* has one of the largest and most statistically significant correlations with the quality and use of regulatory impact analysis. A few additional regulatory process variables are less directly analogous to the proposed mandatory ANPRM but nevertheless indicate some of the tradeoffs associated with agency efforts to gather more information via pre-proposal processes. We note that formal requests for information and consultation with states usually improve scores when they have a statistically significant effect. These are not the same as ANPRMs, but they are similar in one respect: they are formal procedures that allow the agency to collect more information before proposing a regulation.

Perhaps ironically, *ANPRM* is not statistically significant (except at the 10 percent level in the Use regression). There are two possible explanations—one substantive, one statistical. The

substantive explanation is that perhaps the ANPRMs for the regulations in our sample were not sufficiently thorough to measurably improve the quality of the regulatory analysis. A prior NPRM, on the other hand, would have included a more complete draft RIA; *Prior NPRM* is associated with higher-quality analysis. The statistical explanation is that *ANPRM* is to some extent correlated with several of the other process variables. Using *Total Score* as the dependent variable, *ANPRM* becomes significant at the 5 percent level if we omit *Future Public Meeting* or *Review Required*, and it is significant at the 10 percent level if we remove *Request for Information*, *Advisory Committee*, *Revised Rule*, or *OIRA Review Time*. (The statistical significance of these variables remains unchanged if we omit *ANPRM*.)[15]

Two other information-gathering processes are not associated with improved quality or use of analysis: public meetings and advisory committees. We suspect this occurs because public meetings can become a forum for deal-making among large stakeholders before any analysis is conducted. In addition, the negative interaction of *Advisory Committee* with *OIRA Review Time* suggests that advisory committees sometimes insulate analysis from improvement via the OIRA review process. Thus, not all pre-proposal information-gathering unambiguously improves RIAs.

B. Public Hearings for "High Impact" Regulations after They Are Proposed

None of the regulations in our sample were adopted through formal rulemaking, so none of them involved the kind of hearings specified in the Administrative Procedure Act. Twenty-one of the regulations, however, included an agency commitment to some kind of hearing or other public meeting to discuss the regulation after the NPRM. This commitment to a public meeting

[15] These regression results are omitted for brevity, but are available from the authors.

in the future has a positive and statistically significant correlation with the total score and with the Openness score (with a 10 percent significance level) and the Use score (with a 1 percent significance level). Simply the possibility of having to defend the regulation and the accompanying analysis in public appears to motivate agencies to better explain how they used their analysis.

We emphasize, though, that not all public meetings improve the quality of analysis. Public meetings before the NPRM are associated with a lower Openness score. *Public Meeting*'s negative coefficient in the Openness regression is larger than the coefficient on *Future Public Meeting*, which suggests that the positive effects of a future meeting are not large enough to counteract the negative effects of a pre-proposal public meeting.

C. Prepare Retrospective Analysis Plans for Regulations at the Time They Are Issued

Despite repeated presidential exhortations in executive orders, agencies rarely engage in rigorous retrospective analysis to determine whether regulations accomplished their intended outcomes (Lutter 2012; US GAO 2007). Report Card data indicate that agencies rarely make provision for retrospective analysis when they issue regulations (Ellig et al. 2013, table 3). The regression in the last column of table 7 suggests that *Review Required* is correlated with higher scores on the retrospective analysis criteria. *Review Required* is also associated with higher-quality analysis. The legislative requirements for review we encountered were not requirements for full retrospective analysis. The fact that even the relatively weak requirements in some existing laws are correlated with better analysis of prospective regulations and better preparation for retrospective analysis gives us hope that an explicit requirement would have a stronger effect.

D. Expand OIRA's Resources and Influence

Our regression results offer two pieces of evidence that more extensive OIRA review could improve the quality and use of regulatory impact analysis. First, OIRA review time is positively correlated with the quality and use of regulatory analysis—consistent with Shapiro and Morrall's (forthcoming) finding that RIAs undergoing longer OIRA review contain more information. Second, scores on the Use criteria are lower when OIRA is headed by an acting administrator rather than a presidential appointee—which means scores are higher when an administrator appointed by the president gives the office more clout in its negotiations with agencies.

Given these results, we think that giving OIRA more resources to undertake regulatory review would likely lead to better regulatory analysis and greater use of the analysis in decisions. This conclusion is warranted as long as one accepts that OIRA review time is a reasonable proxy for the extensiveness of OIRA review. Increasing OIRA's regulatory review staff would surely increase the number of "person-days" OIRA could devote to review, which would permit more thorough review even if review times fall due to the increase in staff. Indeed, Shapiro and Morrall (forthcoming) conclude that increasing OIRA's staff would improve RIAs at lower social cost than merely extending OIRA review time.

We suspect that extending OIRA review to independent agencies' regulations would also improve the quality and use of analysis for those regulations. This inference might seem unwarranted, since the sample does not include any regulations from independent agencies. If our source for the score data had included independent agency regulations, we could offer a more definitive test of whether independent agencies with no OIRA review produce better or worse analysis than executive branch agencies. Our results suggest, however, that OIRA review of executive branch agencies' regulations is associated with greater quality and use of analysis.

Unless independent agencies already conduct excellent economic analysis of their regulations, or their regulations are of such different character that OIRA could offer no useful insights, there is little reason to think OIRA review would not be helpful.

We are aware of no evidence that independent agencies customarily conduct excellent economic analysis. Even the independent agency that arguably has the strongest legislative requirements for benefit-cost analysis of regulations—the Securities and Exchange Commission—has lost multiple court cases due to inadequate economic analysis.[16] Scholars at Resources for the Future have found that other independent agencies rarely present information about the benefits and costs of their regulations (Fraas and Lutter 2011b).

There is also little evidence that independent agency regulations are so different in substance from executive branch regulations that OIRA's insights could not be helpful. Independent agencies such as the Federal Communications Commission, the Securities and Exchange Commission, the Consumer Financial Protection Bureau, and the Consumer Product Safety Commission deal with economic, financial, and safety issues amenable to the same type of economic analysis employed in RIAs for executive branch regulations in our sample. The balance of evidence currently available, therefore, suggests that OIRA's expertise—and OIRA's ability to return regulations with inadequate analysis to agencies—would likely help independent agencies produce better economic analysis of their regulations. Directly comparing the quality of analysis for regulations from independent and executive branch agencies would offer a more definitive test; that is a topic ripe for further research.

[16] Business Roundtable and Chamber of Commerce v. SEC, 647 F.3d 1144 (D.C. Cir. 2011); American Equity Inv. Life Ins. Co. v. SEC, 572 F.3d 923 (D.C. Cir. 2009); Chamber of Commerce v. SEC, 443 F.3d 890 (D.C. Cir. 2006); Chamber of Commerce v. SEC, 412 F.3d 133 (D.C. Cir. 2005).

VI. Conclusion

Pre-proposal activity by OIRA and by agencies is often positively correlated with the quality and use of regulatory impact analysis. Other aspects of the regulatory process, such as a legislative requirement that the agency revisit the regulation, or the agency's commitment to hold a future public meeting on the proposed regulation, also seem to have a positive effect. Our results give cause for optimism about the likely effects of several regulatory process reforms currently under discussion at the federal level in the United States.

Nevertheless, this paper does not purport to be a complete benefit-cost analysis of any of these regulatory reform proposals. A complete benefit-cost analysis would need to consider two additional questions. First, would improving the quality or use of analysis lead to regulations with greater net benefits? Second, would the increase in net benefits outweigh any costs associated with delays introduced by new procedural requirements? These questions are beyond the scope of this paper, but we have taken the crucial first step toward such a benefit-cost analysis by identifying features of the regulatory process that are associated with greater quality and use of regulatory impact analysis.

Our findings have implications beyond the contemporary regulatory reform debate. For readers curious about the effects of the current regulatory process, our analysis suggests that the agencies' and OIRA's current hard work is not futile. Many types of activity are positively correlated with the quality and use of regulatory impact analysis. Moreover, the signs and significance of our control variables are largely consistent with what theory and the findings of previously published research suggest. Indeed, our addition of the pre-proposal process variables often increases the size and statistical significance of the variables employed in prior research.

Most broadly, this paper demonstrates how data from qualitative evaluations of RIAs can be used to generate substantial information about the effects of administrative processes. Although we certainly do not believe we have exhausted the possible applications of the Report Card dataset, we advance the creators' vision of using the data to assess whether "the quality of analysis varies systematically with institutional factors" (Ellig and McLaughlin 2012, 869).

Table 1. Report Card Questions

Openness

1. Accessibility: How easily were the RIA, the proposed rule, and any supplementary materials found online?
2. Data Documentation: How verifiable are the data used in the analysis?
3. Theory Documentation: How verifiable are the models and assumptions used in the analysis?
4. Readability: Was the Regulatory Impact Analysis comprehensible to an informed layperson?

Analysis

5. Outcomes
   a. How well does the RIA identify ultimate outcomes that affect citizens' quality of life?
   b. How well does the RIA identify how these outcomes are to be measured?
   c. Does the RIA provide a coherent and testable theory showing how the regulation will produce the desired outcomes?
   d. Does the analysis present credible empirical support for the theory?
   e. Does the analysis adequately assess uncertainty about the outcomes?
6. Systemic Problem
   a. Does the analysis identify a market failure or other systemic problem?
   b. Does the analysis outline a coherent and testable theory that explains why the problem (associated with the outcome above) is systemic rather than anecdotal?
   c. Does the analysis present credible empirical support for the theory?
   d. Does the analysis adequately assess uncertainty about the existence and size of the problem?
7. Alternatives
   a. Does the analysis enumerate other alternatives to address the problem?
   b. Is the range of alternatives considered narrow or broad?
   c. Does the analysis evaluate how alternative approaches would affect the amount of the outcome achieved?
   d. Does the analysis adequately address the baseline—what the state of the world is likely to be in the absence of further federal action?
8. Costs and Benefits
   a. Does the analysis identify and quantify incremental costs of all alternatives considered?
   b. Does the analysis identify all expenditures likely to arise as a result of the regulation?
   c. Does the analysis identify how the regulation would likely affect the prices of goods and services?
   d. Does the analysis examine costs that stem from changes in human behavior as consumers and producers respond to the regulation?
   e. Does the analysis adequately address uncertainty about costs?
   f. Does the analysis identify the approach that maximizes net benefits?
   g. Does the analysis identify the cost-effectiveness of each alternative considered?
   h. Does the analysis identify all parties who would bear costs and assess the incidence of costs?
   i. Does the analysis identify all parties who would receive benefits and assess the incidence of benefits?

Use

9. Any Use Claimed: Does the proposed rule or the RIA present evidence that the agency used the Regulatory Impact Analysis?
10. Net Benefits: Did the agency maximize net benefits or explain why it chose another option?
11. Goals & Measures: Does the proposed rule establish measures and goals that can be used to track the regulation's results in the future?
12. Retrospective Data: Did the agency indicate what data it will use to assess the regulation's performance in the future and establish provisions for doing so?

Source: Jerry Ellig and Patrick A. McLaughlin. "The Quality and Use of Regulatory Analysis in 2008." *Risk Analysis* 32 (2012): 869–71.

Table 2. Summary Statistics, Dependent Variables

	N	Mean	SD	Min	Max
Total	71	32.5	6.5	14	48
Openness	71	12.9	2.5	6	18
Analysis	71	11.3	3.1	2	18
Use	71	8.3	3.2	2	15
Use (retrospective)*	71	3.1	1.8	0	10

*Sum of scores on questions 11 and 12.

Table 3. Summary Statistics, Regulatory Process Variables

	N	Mean	SD	Min	Max	Frequency
ANPRM	71	0.25	0.44	0	1	18
Prior NPRM	71	0.13	0.34	0	1	9
Request for Information	71	0.15	0.36	0	1	11
Advisory Committee	71	0.46	0.50	0	1	33
State Consultation	71	0.15	0.36	0	1	11
Public Meeting	71	0.32	0.47	0	1	23
Future Public Meeting	71	0.30	0.46	0	1	21
Revised Rule	71	0.85	0.36	0	1	60
Review Required	71	0.35	0.48	0	1	25
Acting OIRA Administrator	71	0.14	0.35	0	1	10
OIRA Review Time*	71	0.00*	42.30	−71	126	NA

**OIRA Review Time* is measured as deviation from mean review time in each year.

Table 4. Total Score Regressions (N = 71)

	(1)	(2)	(3)	(4)
ANPRM	0.84 (1.34)	0.71 (1.03)	0.52 (0.60)	0.44 (0.53)
Prior NPRM	1.70 (1.93)*	2.58 (2.73)***	3.41 (3.35)***	3.01 (2.88)***
Request for Information	1.71 (2.46)**	2.63 (3.03)***	4.33 (3.64)***	4.26 (4.03)***
Advisory Committee	0.23 (0.43)	−0.33 (0.51)	−0.22 (0.29)	−0.62 (0.86)
State Consultation	1.42 (2.22)**	1.73 (2.19)**	1.90 (2.16)**	1.90 (2.20)**
Public Meeting	−0.78 (1.46)	−0.65 (1.12)	−1.93 (2.44)**	−0.09 (0.13)
Future Public Meeting	1.26 (1.98)**	1.86 (2.44)**	1.90 (2.16)**	3.00 (3.14)***
Revised Rule	−1.01 (1.31)	−1.45 (1.79)*	−0.87 (0.96)	−1.75 (1.89)*
Review Required	1.77 (2.80)***	1.55 (2.07)**	1.70 (2.14)**	1.84 (2.21)**
Acting OIRA Administrator	−1.97 (2.51)**	−2.08 (2.12)**	−1.75 (1.78)*	−2.64 (2.56)**
OIRA Review Time	0.004 (0.29)	0.04 (2.53)**	0.04 (1.90)*	0.10 (2.60)***
OIRA Review Time^2	−0.0001 (0.70)	−0.0005 (2.30)**	−0.0005 (2.08)**	−0.0008 (1.91)*
Obama Administration		−1.93 (2.22)**	−1.58 (1.48)	−2.10 (2.23)**
Midnight Regulation		−4.26 (3.66)***	−3.30 (2.01)**	−6.69 (4.86)***
Midnight Leftover		−3.20 (3.22)***	−2.07 (1.48)	−2.74 (2.58)***
Civil Rights		−2.16 (1.61)		−0.65 (0.35)
Security		1.61 (1.05)		3.67 (2.16)**
Environment		2.16 (2.33)**		3.63 (3.28)***
Safety		0.05 (0.06)		0.32 (0.35)
Obama Administration × Agency Preference		1.58 (3.51)***	1.31 (1.02)	2.29 (4.37)***
Bush Administration × Agency Preference		−1.97 (3.77)***	−4.48 (4.00)***	−2.57 (4.12)***
Public Comments		0.0001 (2.28)**	0.0001 (2.28)**	0.0002 (2.94)***
Department of Transportation			1.09 (0.80)	
Environmental Protection Agency			−0.84 (0.36)	
Department of Labor			−5.06 (1.93)*	
Department of Homeland Security			5.28 (2.64)***	
Department of Justice			0.82 (0.34)	
Department of the Interior			2.37 (1.43)	
Department of Energy			5.24 (2.59)***	
Department of Health & Human Services			−2.42 (0.85)	
Department of Agriculture			2.90 (1.55)	
General Services Administration			1.65 (0.76)	
Joint EPA-DOT			8.46 (3.09)***	
OIRA Review Time × ANPRM				−0.002 (0.09)
OIRA Review Time × Prior NPRM				−0.002 (4.11)***
OIRA Review Time × Request for Information				0.006 (0.24)
OIRA Review Time × Advisory Committee				−0.07 (3.50)***
OIRA Review Time × State Consultation				−0.002 (0.10)
OIRA Review Time × Public Meeting				0.03 (1.57)
OIRA Review Time × Future Public Meeting				−0.05 (2.41)**
OIRA Review Time × Revised Rule				0.03 (1.37)
OIRA Review Time × Review Required				−0.44 (1.84)*
Pseudo-R^2	.04	.16	.21	.23

Notes: Absolute values of Z-statistics in parentheses. Statistical significance: *10 percent, **5 percent, ***1 percent.

Table 5. Regulatory Process Variables by Administration

Bush	N	Mean	SD	Min	Max	Obama	N	Mean	SD	Min	Max	Acting OIRA (Obama)	N	Mean	SD	Min	Max
ANPRM	29	0.28	0.45	0	1	ANPRM	42	0.24	0.43	0	1	ANPRM	10	0.40	0.5	0	1
Prior NPRM	29	0.10	0.31	0	1	Prior NPRM	42	0.14	0.35	0	1	Prior NPRM	10	0.00	0.0	0	0
Request for Info.	29	0.24	0.44	0	1	Request for Info.	42	0.10	0.30	0	1	Request for Info.	10	0.10	0.3	0	1
Advisory Comm.	29	0.55	0.51	0	1	Advisory Comm.	42	0.40	0.50	0	1	Advisory Comm.	10	0.60	0.5	0	1
State Consultation	29	0.10	0.31	0	1	State Consultation	42	0.19	0.40	0	1	State Consultation	10	0.30	0.5	0	1
Public Meeting	29	0.38	0.49	0	1	Public Meeting	42	0.29	0.46	0	1	Public Meeting	10	0.10	0.3	0	1
Future Public Mtg.	29	0.10	0.31	0	1	Future Public Mtg.	42	0.43	0.50	0	1	Future Public Mtg.	10	0.70	0.5	0	1
Revised Rule	29	0.93	0.26	0	1	Revised Rule	42	0.79	0.42	0	1	Revised Rule	10	0.80	0.4	0	1
Review Required	29	0.31	0.47	0	1	Review Required	42	0.38	0.49	0	1	Review Required	10	0.60	0.5	0	1
OIRA Review Time	29	0.00	45	−69	82	OIRA Review Time	42	0.00	41	−71	126	OIRA Review Time	10	9	34	−37	52

Table 6. Potential Effect of Regulatory Process Variables on Probability of Score Exceeding Mean or 75th Percentile

ANPRM	1	0	Difference
Pr (Score > 32.5)	0.68	0.51	0.17
Pr (Score > 36)	0.27	0.15	0.12
Prior NPRM	1	0	Difference
Pr (Score > 32.5)	0.92	0.48	0.45***
Pr (Score > 36)	0.67	0.13	0.54***
Request for Information	1	0	Difference
Pr (Score > 32.5)	0.92	0.46	0.46***
Pr (Score > 36)	0.67	0.13	0.54***
Advisory Committee	1	0	Difference
Pr (Score > 32.5)	0.51	0.60	−0.08
Pr (Score > 36)	0.15	0.20	−0.05
State Consultation	1	0	Difference
Pr (Score > 32.5)	0.84	0.49	0.35**
Pr (Score > 36)	0.48	0.14	0.34**
Public Meeting	1	0	Difference
Pr (Score > 32.5)	0.45	0.61	−0.16
Pr (Score > 36)	0.12	0.21	−0.09
Future Public Meeting	1	0	Difference
Pr (Score > 32.5)	0.82	0.42	0.40**
Pr (Score > 36)	0.44	0.11	0.33**
Revised Rule	1	0	Difference
Pr (Score > 32.5)	0.50	0.81	−0.31*
Pr (Score > 36)	0.15	0.42	−0.28*
Review Required	1	0	Difference
Pr (Score > 32.5)	0.78	0.42	0.35**
Pr (Score > 36)	0.37	0.11	0.26**
Acting OIRA Administrator	1	0	Difference
Pr (Score > 32.5)	0.17	0.63	−0.45**
Pr (Score > 36)	0.03	0.22	−0.19**
OIRA Review Time	42+	0	Difference
Pr (Score > 32.5)	0.77	0.57	0.20**
Pr (Score > 36)	0.36	0.19	0.18**

Note: Calculated with all other variables set at mean values. Mean score is 32.5; 75th percentile score is 36. Statistical significance of regression coefficient: *10 percent, **5 percent, ***1 percent. +One standard deviation = 42 days.

Table 7. Alternative Hypotheses Explaining Correlation of Regulatory Report Card Scores with OIRA Review Time or Agency Activities

Factors that may simultaneously lead to better analysis and lengthier OIRA review or more extensive agency activity	**Regression variable(s)**
Political salience of the regulation	*Public Comments*
Complexity of the regulation's topic	Combined word count for NPRM and RIA RIA includes Regulatory Flexibility Act analysis
Relationship of the regulation to the administration's policy priorities	*Obama Administration × Agency Preference* *Bush Administration × Agency Preference*
Deadlines	*Statutory Deadline* *Judicial Deadline*
Shifts in administration policy	*Midnight Regulation* Regulation reviewed after Obama administration RIA checklist

Table 8. Predictors of OIRA Review Time and Other Regulatory Process Variables

	OIRA Review Time	ANPRM	Prior NPRM	Request for Information	Public Meeting
Public Comments	0.001 (0.97)	−0.00004(0.47)	−0.00001 (0.68)	<−0.00001 (0.02)	0.00003 (0.32)
Word Count (NPRM + RIA)	0.00003 (0.67)	<0.00001(1.66)*	<0.00001 (0.29)	<−0.00001 (0.60)	<0.0001 (2.25)**
Regulatory Flexibility Analysis	11.70 (1.13)	0.74 (0.97)	0.56 (0.58)	0.14 (0.15)	1.00 (1.35)
Obama Administration × Agency Preference	−15.6 (2.24)**	1.16 (2.08)**	−0.65 (1.03)	−1.10 (1.82)*	0.35 (0.68)
Bush Administration × Agency Preference	21.2(2.49)**	1.27 (1.96)*	2.31 (1.69)*	−1.19 (1.86)*	0.64 (1.17)
Statutory Deadline	−15.9 (1.22)	0.01 (0.01)	−1.13 (0.85)	−1.30 (1.07)	1.42 (1.68)*
Judicial Deadline	−34.4 (2.89)***	1.01 (1.15)	−1.33 (1.12)		−0.38 (0.44)
Midnight Regulation	38.6 (2.31)**	1.02 (0.92)		−0.05 (0.04)	0.15 (0.13)
Post-RIA Checklist	−14.2 (1.40)	−2.47 (2.39)	1.96 (1.13)		
Adj. or pseudo-R^2	.22	.18	.17	.16	.22
N	71	71	64	53	68
	Future Public Mtg.	Advisory Comm.	State Consult.	Revised Rule	Review Required
Public Comments	−0.00003 (0.42)	0.0001 (1.03)	<0.00001 (0.01)	0.00001 (0.10)	0.00007 (0.98)
Word Count (NPRM + RIA)	<0.00001 (1.72)*	<−.00001(0.04)	<0.00001 (0.96)	<−0.00001(1.17)	<0.00001 (0.35)
Regulatory Flexibility Analysis	1.11 (1.43)	−0.85 (1.44)	−1.00 (1.34)	−0.05 (0.06)	−0.63 (1.05)
Obama Administration × Agency Preference	−0.56 (1.19)	0.21 (0.54)	0.007 (0.01)	0.21 (0.35)	0.51 (1.19)
Bush Administration × Agency Preference	0.16 (0.28)	−0.98 (1.79)*	−0.24 (0.34)	−1.27 (1.21)	0.41 (0.74)
Statutory Deadline	−0.10 (0.12)	−0.08 (0.10)	−0.94 (0.72)	−1.54 (1.51)	1.54 (1.91)*
Judicial Deadline	1.08 (1.55)	0.12 (0.18)	0.49 (0.57)	−1.35 (1.39)	0.97 (1.36)
Midnight Regulation	1.69 (1.66)*	−1.46 (1.34)		−0.84 (0.60)	−1.15 (0.64)
Post-RIA Checklist	0.69 (0.47)	−1.11 (0.87)			−1.15 (1.05)
Adj. or pseudo-R^2	.15	.09	.07	.16	.11
N	71	71	61	68	71

Notes: Some logit regressions have fewer than 71 observations because Stata dropped certain dummy variables and observations if the dependent variable always equaled zero when the dummy variables equaled 1. Absolute values of T- or Z-statistics in parentheses. Statistical significance: *10 percent, **5 percent, ***1 percent.

Table 9. Regressions Using Categories of Criteria (N = 71)

	Dependent Variable			
	Openness	Analysis	Use	Use (retrospective)+
ANPRM	0.24 (0.33)	0.37 (0.51)	1.22 (1.64)*	0.47 (0.60)
Prior NPRM	1.13 (1.31)	2.02 (2.15)**	2.32 (2.34)**	1.46 (1.54)
Request for Information	1.84 (2.01)**	1.37 (1.61)*	2.32 (2.65)***	0.38 (0.43)
Advisory Committee	−0.49 (0.78)	−0.37 (0.54)	0.94 (1.34)	0.76 (1.12)
State Consultation	0.18 (0.23)	2.15 (2.60)***	1.19 (1.48)	2.59 (3.11)***
Public Meeting	−2.17 (3.48)***	−0.32 (0.51)	0.44 (0.73)	0.66 (1.05)
Future Public Meeting	1.26 (1.74)*	0.46 (0.61)	2.51 (3.29)***	1.25 (1.75)*
Revised Rule	0.12 (0.15)	−1.52 (1.88)*	−2.39 (2.69)***	−1.37 (1.57)
Review Required	−1.31 (1.81)*	1.96 (2.60)***	3.16 (3.85)***	2.67 (3.30)***
Acting OIRA Admin.	−1.06 (1.33)	−1.28 (1.30)	−2.88 (3.13)***	−0.22 (0.25)
OIRA Review Time	0.01 (0.71)	0.04 (2.26)**	0.04 (2.41)**	0.03 (1.90)*
OIRA Review Time^2	<−0.0001 (0.03)	−0.0005 (2.17)**	−0.0006 (2.59)***	−0.0006 (2.30)**
Obama Administration	−1.44 (1.76)*	−1.25 (1.47)	−1.32 (1.37)	−1.89 (2.12)**
Midnight Regulation	−4.28 (3.56)***	−2.24 (2.07)**	−1.19 (1.03)	−1.13 (1.08)
Midnight Leftover	−2.95 (2.99)***	−1.54 (1.68)*	−0.55 (0.53)	−1.05 (1.00)
Civil Rights	3.09 (2.54)***	−3.10 (2.19)**	−3.98 (2.74)***	−4.03 (2.79)***
Security	1.45 (0.81)	1.38 (0.89)	1.58 (0.71)	0.22 (0.06)
Environment	4.01 (3.92)***	1.61 (1.78)*	−0.57 (0.58)	−1.51 (1.46)
Safety	1.32 (1.60)	−0.08 (0.10)	−0.13 (0.16)	−0.58 (0.68)
Obama Admin. × Agency Pref.	0.26 (0.60)	0.47 (1.15)	1.86 (4.15)***	0.64 (1.53)
Bush Admin. × Agency Pref.	−2.28 (4.03)***	−1.44 (2.77)***	−0.72 (0.15)	−0.44 (0.87)
Public Comments	0.00005 (0.88)	.00007 (1.28)	0.0002 (2.95)**	0.0001 (2.04)**
Pseudo-R^2	.19	.13	.24	.19

Notes: Absolute values of Z-statistics in parentheses. Statistical significance: *10 percent, **5 percent, ***1 percent. +Uses sum of scores for questions 11 and 12.

Table 10. Statistically Significant Correlations for Individual Criteria

Criterion	ANPRM	Prior NPRM	Request for Info.	Public Mtg.	Future Public Mtg.	Advisory Comm.	State Consultation	Revised Rule	Review Required	Acting OIRA	Review Time	Review Time^2
1			++								−−	++
2												
3			+++			−−−		−			+	−−
4	++			−−−				++	−−			
5a			−		++					−		
5b		+	+		++		+		+++	−−		
5c			++	−−−	−−		+		++			−
5d				−				−			+	−
5e			+++		+++				++			
6a												
6b												
6c	−		+						++			
6d											++	−
7a							+			−−		
7b	++						+					
7c		++	+		−−		+++	−−−	+++			
7d		++		−−−			+++	−−	++			
8a						−−						
8b									−−			
8c					+						+	
8d												
8e										−		
8f		++	+++	−				−−	+	−		
8g		++				−−−	+++	−−−	+++	−−−		
8h	+	++										
8i							+		++			
9	+				+					−−−		
10		++	++		+			−−	++	−−		
11							++		+			
12		++			+++	+	+++		+++		++	−−

Note: Statistical significance: +++ or −−− stands for 1 percent, ++ or −− stands for 5 percent, + or – stands for 10 percent.

Appendix 1. Empirical Model

The goal of this empirical exercise is to determine which regulatory actions are associated with a higher-quality regulatory analysis and better use of that analysis in the proposed rule. Maddala (1983) and Greene (2003) develop the econometric theory we use in this study, the ordered logit model. In an ideal situation, we would estimate the following latent model:

$$y_i^* = \beta_0 + \beta_1 x_{i,1} + \beta_2 x_{i,2} + \cdots + \beta_{28} x_{i,28} + \varepsilon_i. \qquad \text{(EQ 1)}$$

The variable y_i^* is the perfect measure for capturing the true quality and use of regulatory analysis. The subscript, i, denotes a particular observation in our sample of 71 regulations. The numerical subscript indexes the 28 different independent variables utilized in this study and their corresponding coefficients. In reality, y_i^* is unobservable, but we are able to observe a proxy for this value: expert subjective assessments of the quality and use of regulatory analysis for each individual rule.

The expert assessment does not provide y_i^*, but rather a censoring of y_i^* into different categories based on subjective thresholds. The observed value, y_i, depends on whether the quality and use of regulatory analysis crosses above these subjective threshold marks. These threshold points correspond with the various possible scores a regulation can receive on the Regulatory Report Card. Using the Report Card data, we estimate the following model:

$$y_i = \beta_0 + \beta_1 x_{i,1} + \beta_2 x_{i,2} + \cdots + \beta_{28} x_{i,28} + \varepsilon_i. \qquad \text{(EQ 2)}$$

These scores are ordinal. Theoretically, there are 61 possible values for the dependent variable. The possible values for y_i range from no or very poor regulatory analysis quality and use (0) to very thorough regulatory analysis quality and use (60). Thus,

$$\begin{array}{cc} y_i = 0 & \text{if } y_i^* \leq 0, \\ y_i = 1 & \text{if } 0 < y_i^* \leq \mu_1, \\ y_i = 2 & \text{if } \mu_1 < y_i^* \leq \mu_2, \\ \vdots & \vdots \\ y_i = 60 & \text{if } \mu_{59} \leq y_i^*. \end{array}$$

In the actual dataset, the Report Card scores for 2008–10 range from 14 to 48.

The various μs are unknown parameters estimated by the corresponding β_i. Essentially, the μs are the subjective threshold the expert evaluators have in mind when determining the regulation's Report Card score. That is, if the expert assesses a particular regulation and determines that the true value of y_i^* falls between thresholds μ_{40} and μ_{41}, that regulation would receive a score of 41. The specific score a regulation receives depends on measurable factors, our independent variables denoted by the $x_{j,i}$.

While the Report Card score is likely to be highly correlated with the underlying, unobservable measure of the true quality and use of regulatory analysis, our proxy stems from subjective evaluation, which may introduce additional measurement error.[17]

One of the major assumptions of the ordered logit model is that the cumulative distribution function for this error term, ε_i, is a logistic function. That is,

[17] Another assumption we make is that the expert assessment is made in a similar way across all regulations; that is, the error component is similar for all regulations. Ellig and McLaughlin (2012) and Ellig, McLaughlin, and Morrall (2012) report the results of inter-rater reliability analysis that demonstrates that the rating system produces consistent results across evaluators.

$$f(\varepsilon_i) = \frac{\exp(\varepsilon_i)}{[1 + \exp(\varepsilon_i)]^2}.$$

Thus, the probabilities associated with the observed outcomes can be written as

$$Prob[y_i = j|\boldsymbol{x_i}] = Prob\left[\varepsilon_i \leq \mu_j - \boldsymbol{x_i}'\boldsymbol{\beta}\right] - Prob\left[\mu_{j-1} - \boldsymbol{x_i}'\boldsymbol{\beta}\right],\ j = \frac{0}{60}, \frac{1}{60}, \ldots, \frac{60}{60}. \text{ (EQ 3)}$$

The alternative assumption that the error term follows a standard normal distribution function would lead us to estimate ordered probit. The results of these two estimations are typically similar, but ordered logit coefficients can be given a straightforward quantitative interpretation. The dependent variable in an ordered logit regression equation is the log of the ratio of the odds that the score will or will not have a designated value. The coefficients estimate how each explanatory variable affects this odds ratio.

This paper contains several different variants of the ordered logit model, only differing with respect to which subset of the possible $\boldsymbol{x_i}$ terms are included. Equation 4, below, depicts the individual components of vector $\boldsymbol{x_i}$, which are described in depth in the data section.

$$x_{i,j} = \left\{ \begin{array}{c} x_{i,1} = ANPRM \\ x_{i,2} = Prior\ NPRM \\ x_{i,3} = Request\ for\ Information \\ x_{i,4} = Advisory\ Committee \\ x_{i,5} = State\ Consultation \\ x_{i,6} = Public\ Meeting \\ x_{i,7} = Future\ Public\ Meeting \\ x_{i,8} = Revised\ Rule \\ x_{i,9} = Review\ Required \\ x_{i,10} = Acting\ OIRA\ Administrator \\ x_{i,11} = OIRA\ Review\ Time \\ x_{i,12} = OIRA\ Review\ Time^2 \\ x_{i,13} = Obama\ Administration \\ x_{i,14} = Midnight\ Regulation \\ x_{i,15} = Midnight\ Leftover \\ x_{i,16} = Civil\ Rights \\ x_{i,17} = Security \\ x_{i,18} = Environment \\ x_{i,19} = Safety \\ x_{i,20} = Obama\ Administration \times Agency\ Preferences \\ x_{i,21} = Bush\ Administration \times Agency\ Preferences \\ x_{i,22} = Public\ Comments \\ x_{i,23} = DOT \\ x_{i,24} = EPA \\ x_{i,25} = DOL \\ x_{i,26} = DHS \\ x_{i,27} = DOJ \\ x_{i,28} = DOI \\ x_{i,29} = DOE \\ x_{i,30} = HHS \\ x_{i,31} = USDA \\ x_{i,32} = GSA \\ x_{i,33} = EPADOT \\ x_{i,34} = OIRA\ Review\ Time \times ANPRM \\ x_{i,35} = OIRA\ Review\ Time \times Prior\ ANPRM \\ x_{i,36} = OIRA\ Review\ Time \times Request\ for\ Information \\ x_{i,37} = OIRA\ Review\ Time \times Advisory\ Committee \\ x_{i,38} = OIRA\ Review\ Time \times State\ Consultation \\ x_{i,39} = OIRA\ Review\ Time \times Public\ Meeting \\ x_{i,40} = OIRA\ Review\ Time \times\ Future\ Public\ Meeting \\ x_{i,41} = OIRA\ Review\ Time \times Revised\ Rule \\ x_{i,42} = OIRA\ Review\ Time \times Review\ Required \end{array} \right\} \forall\ i = 1, \ldots, 71. \text{ (EQ 4)}$$

Equation 2 (EQ 2) depicts the model we estimate in all regressions in this study. We estimate four specifications of our model for which the dependent variable, y_i, is the composite Report Card score. Specification 1, our most basic estimation, includes only the pre-proposal process variables without controlling for any other factors. The independent variables included are $x_{i,1}, \dots, x_{i,12}$. Specification 2 builds on specification 1 by adding several control variables—whether the NPRM committed the agency to holding a hearing or other public meeting in the future to receive comments on the regulation, whether the proposed regulation is a revision of an existing rule, whether the revision was required by law, and the number of comments filed in the proceeding (found in Ellig et al. 2012), as well as dummy variables for the type of regulation. The set of independent variables included in this estimation is $x_{i,1}, \dots, x_{i,22}$.

Our third specification is nearly identical to specification 2, but we substitute the dummy variables for regulation type for dummy variables controlling for the agency issuing the NPRM (including a dummy variable for the one NPRM jointly issued by the EPA and DOT). The set of independent variables included in this estimation is $x_{i,1}, \dots, x_{i,15};\ x_{i,20}, \dots, x_{i,33}$.

Finally, specification 4 builds directly on specification 2 by including our set of interaction terms. This is done to determine whether and to what extent specific agency pre-proposal procedures are complements or substitutes for OIRA review efforts. The set of independent variables, $x_{i,1}, \dots, x_{i,22};\ x_{i,34}, \dots, x_{i,42}$ is included in this final specification.

As a robustness check, we re-estimate the same regression model (depicted in equation 2) utilizing the individual components of the composite Report Card score as each of our dependent variables, y_i. This is done in order to see whether the regulatory process variables affect all aspects of the analysis uniformly. Specifically, we re-estimate the regressions for specification 3

and specification 4 using the three categories of criteria (Openness, Analysis, and Use) and scores for each of the 30 evaluation questions as the dependent variable.

Appendix 2. Multicollinearity Considerations

Some of the regulatory process variables we consider might not be independent of each other. For example, for especially important or controversial regulations, agencies might take several of the pre-proposal process steps we consider, and OIRA's review time might be especially long. Since we plan to derive quantitative estimates of each process variable's effect and use the results of our analysis to assess policy proposals, it is especially important to ensure that multicollinearity does not bias the results.

Table A-1 shows the results of several different methods to assess multicollinearity in our independent variables for each specification. The simplest method is to examine correlation coefficients between the variables; a popular rule of thumb suggests that multicollinearity may be significant if a correlation coefficient exceeds 0.8 or 0.9 (Farrar and Glauber 1967). None of the correlation coefficients exceeds 0.58, except the correlation coefficient between *OIRA Review Time* and *OIRA Review Time*^{2} (which is of course obvious and unavoidable). Most are well below 0.3.

Another statistic indicating multicollinearity is the variance inflation factor (VIF). A "high" VIF indicates significant multicollinearity, but there is little agreement on what level counts as high (Belsley et al. 1980, 93). Table 6 shows that the mean VIF is below 3 for specifications 1 and 2. VIFs for most variables range between 1 and 3 in these specifications. However, the mean VIF approximately doubles as we move from specification 2 to specifications 3 and 4. In specification 3, this occurs mainly due to correlation between several of the agency dummy variables and the variable that interacts agency policy preferences with the *Obama Administration* dummy variable. (The variable that interacts agency policy preferences with a *Bush Administration* dummy variable also has a relatively high VIF of 7.88.) In

specification 4, multicollinearity increases largely (and predictably) due to the introduction of the variables that interact *OIRA Review Time* with the other regulatory process variables.

Another statistic indicating multicollinearity is the condition index. Belsley, Kuh, and Welsch (1980, 153) suggest that a condition number exceeding 15 or 30 could indicate significant multicollinearity. As Table A-1 shows, the condition number increases substantially as we move from specification 2 to specifications 3 and 4.

Taken together, the evidence suggests that multicollinearity is unlikely to be a significant problem in specification 2, but may be a problem in specifications 3 and 4.

Table A-1. Multicollinearity Statistics

	Specification			
	(1)	(2)	(3)	(4)
Maximum correlation coefficient (excluding review time variables)	0.34	0.45	0.58	0.52
Mean VIF	2.79	2.94	5.73	6.20
VIFs exceeding 10	None	2	5	3
OIRA Review Time		10.52	13.04	46.19
OIRA Review Time^2		11.10	13.43	32.16
Obama Adm. × Agency Preference			15.26	
EPA			22.49	
DOL			20.64	
OIRA Review Time × Revised Rule				17.76
Condition Number	10.42	15.53	25.86	23.76

References

Arbuckle, Donald R. 2011. "The Role of Analysis on the 17 Most Political Acres on the Face of the Earth." *Risk Analysis* 31, no. 6: 884–92.

Bagley, Nicholas, and Richard L. Revesz. 2006. "Centralized Oversight of the Regulatory State." *Columbia Law Review* 106, no. 6: 1260–329.

Belsley, David A., Edwin Kuh, and Roy E. Welsch. 1980. *Regression Diagnostics: Identifying Influential Data and Sources of Collinearity*. New York: John Wiley & Sons.

Belzer, Richard B. 2009. "Principles for an Effective Regulatory Impact Analysis Challenge Function." *PRI Horizons* 10, no. 3 (May). http://www.rbbelzer.com/uploads/7/1/7/4/7174353/belzer_2009_principles_for_an_effective_ria_challenge_function.pdf.

Brito, Jerry, and Veronique de Rugy. 2009. "Midnight Regulations and Regulatory Review." *Administrative Law Review* 61.

Carter, Jimmy. 1978. Executive Order 12044. Improving Government Regulations. *Federal Register* 43 (March 24): 12661–63.

Cecot, Caroline, et al. 2008. "An Evaluation of the Quality of Impact Assessment in the European Union with Lessons for the US and the EU." *Regulation & Governance* 2: 405–24.

Clinton, Joshua D., and David E. Lewis. 2008. "Expert Opinion, Agency Characteristics, and Agency Preferences." *Political Analysis* 16: 3–20.

Clinton, William. J. 1993. Executive Order 12866. *Federal Register* 58, no. 190 (Oct. 4): 51735–44.

Conover, Christopher J., and Jerry Ellig. 2012. "Beware the Rush to Presumption, Part C: A Public Choice Analysis of the Affordable Care Act's Interim Final Rules." Working Paper No. 12-03, Mercatus Center at George Mason University, Arlington, VA, January. http://mercatus.org/sites/default/files/publication/Beware_the_Rush_to_Presumption_PartC_ConoverEllig_1.pdf.

DeMuth, Christopher C., and Douglas H. Ginsburg. 1986. "White House Review of Agency Rulemaking." *Harvard Law Review* 99, no. 5 (March): 1075–88.

Dudley, Susan E. 2011. "Observations on OIRA's Thirtieth Anniversary." *Administrative Law Review* 63: 113–30.

Dunlop, Claire A., et al. 2012. "The Many Uses of Regulatory Impact Assessment: A Meta-Analysis of EU and UK Cases." *Regulation & Governance* 6, no. 1 (March): 23–45.

Ellig, Jerry, and Patrick A. McLaughlin. 2012. "The Quality and Use of Regulatory Analysis in 2008." *Risk Analysis* 32: 855–80.

Ellig, Jerry, Patrick A. McLaughlin, and John F. Morrall III. 2013. "Continuity, Change, and Priorities: The Quality and Use of Regulatory Analysis across U.S. Administrations." *Regulation & Governance* 7: 153–73.

European Commission. 2009. *Impact Assessment Guidelines*. http://ec.europa.eu/governance/impact/commission_guidelines/docs/iag_2009_en.pdf.

Farrar, Donald E. and Robert R. Glauber. 1967. "Multicollinearity in Regression Analysis: The Problem Revisited." *Review of Economics and Statistics* 49, no. 1 (Feb.): 92–107.

Farrow, Scott. 2006. "Evaluating Central Regulatory Institutions with an Application to the US Office of Information and Regulatory Affairs." Paper presented at University of Pennsylvania Law School conference "White House Review of Regulation: Looking Back, Looking Forward" (Dec. 26). https://www.law.upenn.edu/institutes/regulation/conferences/whitehouse.html.

Fraas, Art. 1991. "The Role of Economic Analysis in Shaping Regulatory Policy." *Law and Contemporary Problems* 54, no. 4: 113–25.

Fraas, Art, and Randall Lutter. 2011a. "The Challenges of Improving the Economic Analysis of Pending Regulations: The Experience of OMB Circular A-4." *Annual Review of Resource Economics* 3, no. 1: 71–85.

———. 2011b. "The Challenges of Improving the Economic Analysis of Pending Regulations: The Experience of OMB Circular A-4." *Annual Review of Resource Economics* 3, no. 1: 71–85.

Graham, John D. 2008. "Saving Lives through Administrative Law and Economics." *University of Pennsylvania Law Review* 157: 395–540.

Greene, William H. 2003. *Econometric Analysis*. 5th edition. Upper Saddle River, NJ: Pearson Education Inc.

Hahn, Robert W. 2000. *Reviving Regulatory Reform*. Washington, DC: American Enterprise Institute Press.

Hahn, Robert W., and Patrick Dudley. 2007. "How Well Does the Government Do Cost-Benefit Analysis?" *Review of Environmental Economics and Policy* 1, no. 2: 192–211.

Hahn, Robert W. and Robert Litan. 2005. "Counting Regulatory Benefits and Costs: Lessons for the U.S. and Europe." *Journal of International Economic Law* 8, no. 2: 473–508.

Hahn, Robert W., and Cass Sunstein. 2002. "A New Executive Order for Improving Federal Regulation Deeper and Wider Cost-Benefit Analysis." *University of Pennsylvania Law Review* 150, no. 5: 1489–552.

Hahn, Robert W., et al. 2000. "Assessing Regulatory Impact Analyses: The Failure of Agencies to Comply with Executive Order 12,866." *Harvard Journal of Law and Public Policy* 23, no. 3: 859–71.

Harrington, Winston, Lisa Heinzerling, and Richard Morgenstern. 2009. *Reforming Regulatory Impact Analysis*. Washington, DC: Resources for the Future Press.

Horn, Murray J., and Kenneth A. Shepsle. 1989. "Administrative Process and Organizational Form as Legislative Responses to Agency Costs." *Virginia Law Review* 75, no. 2 (March): 499–508.

House Judiciary Committee. 2011. *Regulatory Accountability Act of 2011, Report 112-294*. 112th Congress, 1st Session (Nov. 22).

Kagan, Elena. 2001. "Presidential Administration." *Harvard Law Review* 114: 2245–385.

Katzen, Sally. 2011. "OIRA at Thirty: Reflections and Recommendations." *Administrative Law Review* 63: 103–12.

Keohane, Nathaniel O. 2009. "The Technocratic and Democratic Functions of the CAIR Regulatory Analysis." In Harrington et al., *Reforming Regulatory Impcat Analysis*. Washington, DC: Resources for the Future Press, 33–55.

Lutter, Randall. 2012. "The Role of Retrospective Analysis and Review in Regulatory Policy." Working Paper No. 12-14, Mercatus Center at George Mason University, April. http://mercatus.org/sites/default/files/Lutter_Retrospective_v1-2.pdf.

Maddala, G. S. 1983. *Limited-Dependent and Qualitative Variables in Econometrics*. Cambridge, UK: Cambridge University Press.

McGarity, Thomas O. 1991. *Reinventing Rationality.* Cambridge, UK: Cambridge University Press.

McLaughlin, Patrick A. 2011. "The Consequences of Midnight Regulations and Other Surges in Regulatory Activity." *Public Choice* 147, no. 3: 395–412.

McLaughlin, Patrick A., and Jerry Ellig. 2011. "Does OIRA Review Improve the Quality of Regulatory Impact Analysis? Evidence from the Final Year of the Bush II Administration." *Administrative Law Review* 63: 179–202.

McCubbins, Mathew D., Roger G. Noll, and Barry R. Weingast. 1987. "Administrative Procedures as Instruments of Political Control." *Journal of Law, Economics, & Organization* 3, no. 2 (Autumn): 243–77.

Morgenstern, Richard D. 1997. *Economic Analysis at EPA: Assessing Regulatory Impact*. Washington, DC: Resources for the Future Press.

Obama, Barak. 2011. Executive Order 13563. *Federal Register* 76 (Jaunary 21): 3821–23.

Office of Management and Budget (OMB). 2010. "Agency Checklist: Regulatory Impact Analysis." Nov. 3. http://www.whitehouse.gov/sites/default/files/omb/inforeg/regpol/RIA_Checklist.pdf.

———. 2003. Circular A-4. September 17. Available at http://www.whitehouse.gov/omb/circulars_a004_a-4.

Posner, Eric. 2001. "Controlling Agencies with Cost-Benefit Analysis: A Positive Political Theory Perspective." *University of Chicago Law Review* 68, no. 4 (Autumn): 1137–99.

———. 2003. "Transfer Regulations and Cost-Effectiveness Analysis." *Duke Law Journal* 53, no. 3: 1067–110.

President's Jobs Council. 2011. *Road Map to Renewal: 2011 Year-End Report*.

Renda, Andrea. 2006. *Impact Assessment in the EU: The State of the Art and the Art of the State*. Brussels: Centre for European Policy Studies.

Shapiro, Stuart, and John F. Morrall III. 2012. "The Triumph of Regulatory Politics: Benefit-Cost Analysis and Political Salience." *Regulation and Governance* 6: 189–206.

———. Forthcoming. "Does Haste Make Waste? How Long Does It Take to Do a Good Regulatory Impact Analysis." *Administration and Society*.

Theil, Henri. 1971. *Principles of Econometrics*. New York: John Wiley & Sons.

Tozzi, Jim. 2011. "OIRA's Formative Years: The Historical Record of Centralized Regulatory Review Preceding OIRA's Founding." *Administrative Law Review* 63: 37–70.

US Department of the Interior. 2009. "Migratory Bird Hunting: Proposed Frameworks for Migratory Bird Hunting Regulations; Proposed Rule." *Federal Register* 74, no. 155 (Aug. 13): 41008–31.

US Department of the Treasury et al. 2008. "Risk-Based Capital Guidelines; Capital Adequacy Guidelines; Standardized Framework; Proposed Rule." *Federal Register* 73, no. 146 (July 29): 43982–4060.

US Department of Transportation. 2008. "Pipeline Safety: Standards for Increasing the Maximum Allowable Pressure for Gas Transmission Pipelines; Notice of Proposed Rulemaking." *Federal Register* 73, no. 49 (March 12): 13167–85.

US Environmental Protection Agency (EPA). 2009a. "Control of Emissions from New Marine Compression-Ignition Engines at or above 30 Liters per Cylinder; Proposed Rule." *Federal Register* 74, no. 166 (Aug. 28): 44442–595.

———. 2009b. "Mandatory Reporting of Greenhouse Gases; Proposed Rule." *Federal Register* 74, no. 68 (April 10): 16448–731.

———. 2010. “Hazardous and Solid Waste Management System; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals from Electric Utilities; Proposed Rule.” *Federal Register* 75, no. 118 (June 21): 35128–264.

US Government Accountability Office (GAO). 2007. *Re-examining Regulations: Opportunities Exist to Improve Effectiveness and Transparency of Retrospective Reviews*. GAO-07-791.

———. 2003. *Rulemaking: OMB’s Role in Reviews of Agencies’ Draft Rules and the Transparency of Those Reviews*. GAO-03-929.

Wagner, Wendy E. 2009. “The CAIR RIA: Advocacy Dressed Up as Policy Analysis.” In Winston Harrington et al., *Reforming Regulatory Impact Analysis*. Washington, DC: Resources for the Future.

Williams, Richard. 2008. “The Influence of Regulatory Economists in Federal Health and Safety Agencies.” Working Paper No. 08-15, Mercatus Center at George Mason University, Arlington, VA, July. http://mercatus.org/sites/default/files/publication/WP0815_Regulatory%20Economists.pdf.