



HARVARD Kennedy School

MOSSAVAR-RAHMANI CENTER
for Business and Government

**Learning from Experience:
An Assessment of the Retrospective Reviews of Agency Rules
and the Evidence for Improving the
Design and Implementation of Regulatory Policy**

Joseph E. Aldy

2014

RPP-2014-28

Regulatory Policy Program

Mossavar-Rahmani Center for Business and Government

Harvard Kennedy School

79 John F. Kennedy Street, Weil Hall

Cambridge, MA 02138

CITATION

This paper may be cited as: Aldy, Joseph E. 2014. "Learning from Experience: An Assessment of the Retrospective Reviews of Agency Rules and the Evidence for Improving the Design and Implementation of Regulatory Policy." Regulatory Policy Program Working Paper RPP-2014-28. Cambridge, MA: Mossavar-Rahmani Center for Business and Government, Harvard Kennedy School, Harvard University. Comments may be directed to the author.

REGULATORY POLICY PROGRAM

The Regulatory Policy Program at the Mossavar-Rahmani Center for Business and Government serves as a catalyst and clearinghouse for the study of regulation across Harvard University. The program's objectives are to cross-pollinate research, spark new lines of inquiry, and increase the connection between theory and practice. Through seminars and symposia, working papers, and new media, RPP explores themes that cut across regulation in its various domains: market failures and the public policy case for government regulation; the efficacy and efficiency of various regulatory instruments; and the most effective ways to foster transparent and participatory regulatory processes.

The views expressed in this paper are those of the author and do not imply endorsement by the Regulatory Policy Program, the Mossavar-Rahmani Center for Business and Government, Harvard Kennedy School, or Harvard University.

FOR FURTHER INFORMATION

Further information on the Regulatory Policy Program can be obtained from the Program's executive director, Jennifer Nash, Mossavar-Rahmani Center for Business and Government, Weil Hall, Harvard Kennedy School, 79 JFK Street, Cambridge, MA 02138, telephone (617) 495-9379, telefax (617) 496-0063, email jennifer_nash@harvard.edu.

The homepage for the Regulatory Policy Program can be found at: <http://www.hks.harvard.edu/centers/mrcbg/programs/rpp>

Learning from Experience: An Assessment of the Retrospective Reviews of Agency Rules and the Evidence for Improving the Design and Implementation of Regulatory Policy

Joseph E. Aldy

Harvard Kennedy School

Resources for the Future

National Bureau of Economic Research

November 17, 2014

Contact Information, Disclosure, and Acknowledgments

Joseph E. Aldy is an Assistant Professor of Public Policy, John F. Kennedy School of Government, Harvard University; a Visiting Fellow, Resources for the Future; and a Faculty Research Fellow, National Bureau of Economic Research. His contact information is: e: joseph_aldy@hks.harvard.edu; i: <http://www.hks.harvard.edu/fs/jaldy/>; v: 617-496-7213; m: Mailbox 57, John F. Kennedy School of Government, 79 JFK Street, Cambridge, MA 02138.

This report was prepared for the consideration of the Administrative Conference of the United States. The views expressed are those of the author and do not necessarily reflect those of the members of the Conference or its committees.

In undertaking this research, I benefitted from the insights from many individuals with expertise in U.S. regulatory policy, including: Chandana Achanta, Don Arbuckle, Tim Bober, Emily Bremer, Carol Browner, Cary Coglianese, Dan Cohen, Bridget Dooling, Susan Dudley, Neil Eisner, Don Elliott, Art Fraas, Russ Frisby, Lisa Heinzerling, Randy Lutter, Michael Fitzpatrick, Gary Gensler, Michael Greenstone, Charles Griffiths, Gretchen Jacobs, Elaine Kamarck, Sally Katzen, Demetrios Kouzoukas, Jim Laity, Jeff Lubbers, Dom Mancini, Charlie Marcesa, Al McGartland, Shawne McGibbon, Dick Morgenstern, John Morrall, Alan Morrison, Jennifer Nash, Nicole Owens, Bill Pine, Connor Raso, Michael Ravnitzky, Lisa Robinson, Jason Schwartz, Jasmeet Seehra, Howard Shelanski, Peter Strauss, Rich Theroux, Jim Tozzi, Paul Verkuil, Kip Viscusi, Jonathan Wiener, Matt Wiener, and participants at the August 2014 Council of Independent Regulatory Agencies meeting hosted by ACUS, participants at multiple meetings of the ACUS Regulation Committee, and participants at the Harvard Kennedy School Regulatory Policy Seminar. I did not provide a common set of questions in my conversations with these individuals. Reeve Bull provided very thoughtful comments and edits on several drafts that significantly improved this report. Lizzie Burns provided excellent research assistance. All omissions and commissions are the sole responsibility of the author.

Contents

Executive Summary.....	4
Introduction	8
Academic Evidence on Retrospective Review	17
Retrospective Analysis: Statistical Methods for Causal Inference.....	17
Lessons from Ex Post Validation	22
The Role of Academic Research Centers in Retrospective Review.....	25
Retrospective Reviews under Previous Administrations	27
Past Retrospective Reviews	27
Lessons from Past Retrospective Reviews	34
Proposals for Reform of Retrospective Review	37
Regulatory PAYGO.....	37
Regulatory Review Commissions	39
Creation of Independent Regulatory Review Authorities.....	40
Obama Administration Retrospective Review.....	42
President Obama’s Executive Orders.....	42
Lessons Learned from Obama Administration Retrospective Review.....	45
Recommendations	64
Retrospective Review Guidelines.....	64
Integrating Retrospective Review into New Regulations	66
Independent Review	67
Regulatory Coordination.....	67
Cumulative Regulatory Burden.....	69
Public Participation	70
Resources.....	71
References	72
Tables.....	89
Appendix Tables.....	106

Executive Summary

A well-functioning Federal regulatory program makes the American people better off by promoting innovation; encouraging competition; protecting the air we breathe, water we drink, and food we eat; and improving the safety of our workplaces and the goods we buy. Determining if we are getting the most out of our regulatory program requires rigorous analysis. Such analysis can address fundamental questions about regulatory policy: Do government regulations deliver on societal objectives (such as those established by Congress)? Do regulations maximize net social benefits? Are regulations enabling society to achieve our goals at the lowest possible cost?

Despite a long track record of prospective analysis of proposed regulations that can address these questions, the Federal government has a mixed track record on retrospective review of existing rules. Every administration dating back to the Carter Administration in 1978 has implemented some form of regulatory look-back. In addition, agencies undertake retrospective review under their own statutory authorities and the Regulatory Flexibility Act. The ad hoc nature of the Presidential-mandated reviews, the apparent need for every administration to implement such a retrospective review, and the heterogeneity in approaches to retrospective review by agencies suggest that efforts to enhance and institutionalize retrospective review are merited.

The Administrative Conference of the United States has requested this assessment of retrospective review of existing regulations. In particular, this assessment evaluates the practice of the Obama Administration's retrospective review, and places it in the context of the academic literature and past administrations' efforts at retrospective review. In addition, this assessment identifies best practices among the agencies, describes key lessons learned from the ongoing and past retrospective review efforts, and makes recommendations for way to improve retrospective review. There are two general types of objectives for regulatory policy, one type advanced by Congress and the other

advanced by the White House. Through legislation, Congress establishes goals for specific regulatory agencies. Through executive orders, Presidents (since President Reagan) have established a net social benefits goal for Federal regulatory policy. As a result, I have framed my assessment and my recommendations in terms of those actions that could improve the efficacy – i.e., attaining Congressionally-established goals – and enable an increase in the net social benefits of Federal regulatory policy. Of course, there are statutory policy objectives that may not be consistent with maximizing net social benefits, so I also address cost-effectiveness, i.e., minimizing the burden of attaining goals.

In implementing President Obama’s executive orders on retrospective review of regulations, agencies identified tens of billions of dollars of cost savings and tens of millions of hours of reduced paperwork and reporting requirements through modifications of existing regulations. Within two years of issuing their final plans for retrospective review, executive branch agencies had completed more than one-third of the 650+ planned reviews, with more than 90 percent of them resulting in amendments to the Code of Federal Regulations. A few examples illustrate the potential for retrospective review to deliver substantial benefits to society. The Department of Labor modified its chemical hazard labeling requirements so that they would conform to the international standard, thereby reducing costs to U.S. manufacturers – especially those looking to export to foreign markets – by about \$2.5 billion over five years. The Department of Health and Human Services streamlined reporting requirements and burdensome regulatory obligations on hospitals that will deliver \$5 billion in cost savings over five years. The Environmental Protection Agency, recognizing regulatory overlap with the Department of Agriculture, removed requirements on the dairy industry that will deliver about \$650 million in cost savings over five years.

The Obama Administration retrospective review effort focused on the importance of developing a culture of retrospective review. The plan development process, regular and continuing engagement

with the public, and semi-annual reporting of the status of implementing retrospective review plans serve to promote this culture. Nonetheless, a review of recent economically significant rules show that no more than about 10 percent are the result of retrospective review of existing rules, and none include plans for conducting a future retrospective analysis.¹ In evaluating retrospective review efforts, a key challenge is that the counterfactual – what would have happened in the absence of the Obama Administration executive orders – is unknown and unknowable. Nonetheless, I draw lessons learned based on what constitutes best practices for analysis, evaluation and review from agency practices.

Based on my evaluation of the retrospective review programs under the Obama Administration and previous administrations, I recommend the following for improving and institutionalizing retrospective review:

- *Retrospective Review Guidelines:* The Office of Management and Budget should work with regulatory agencies to develop guidelines for retrospective review. This guidance should inform agency efforts in: (a) designing a process for identifying and prioritizing rules for review; (b) developing plans for retrospective analysis in the design of new regulations; and (c) conducting ex post analysis; undertaking retrospective analysis.
- *Integrating Retrospective Review into New Regulations:* Well-designed regulations should enable retrospective analysis to identify the impacts caused by the implementation of the regulation. For a given select, economically significant rule, agencies should present in the rule’s preamble a framework for reassessing the regulation at a later date. Agencies should describe the methods that they intend to employ to evaluate the efficacy of and impacts caused by the regulation, using data-driven experimental or quasi-experimental designs where appropriate.

Research design teams – drawing from experts in statistical, program, and policy evaluation

¹ “Economically significant” rules are defined under Executive Order 12866, and typically have an annual effect on the economy of \$100 million or more. “Major rules,” under the Congressional Review Act, have a very similar definition, including this \$100 million economic effect threshold.

offices across the government – should work with regulatory agencies to develop rigorous research designs in the development and implementation of new rules.

- *Independent Review:* Agencies should consider assigning the primary responsibility for conducting retrospective review to a set of officials other than those responsible for producing or enforcing the regulation.
- *Regulatory Coordination:* The Office of Management and Budget and regulatory agencies should promote efforts to facilitate better regulatory coordination, to reduce overlap among existing regulatory programs, and facilitate coordination with international trading partners' regulatory programs.
- *Cumulative Regulatory Burden:* The Office of Management and Budget and the Council of Economic Advisers should coordinate an interagency process to develop options for estimating the cumulative burden of the Federal regulatory program. These options should then be subject to public comment and tasked to a National Research Council committee for review and evaluation.
- *Public Participation:* Agencies should continue to actively engage the public on retrospective review and explore all avenues for soliciting data and analysis by stakeholders and by providing data to stakeholders to encourage their independent replication of retrospective analysis.
- *Resources:* Enhancing and institutionalizing retrospective review will require additional resources, and the Administration and Congress should explore ways to provide resources for doing so.

Introduction

If markets work, then government regulation is unnecessary. Indeed, government intervention in well-functioning markets will likely make society worse off by imposing costs that exceed their benefits. If markets do not work well, as a result of market power, asymmetric information, public goods, or externalities, then government regulation has the potential to remedy the market failure and make people in society better off. This is not guaranteed. A poorly designed regulation, even if motivated by a market failure, could result in costs in excess of the benefits and would exacerbate the welfare losses. A well-designed regulation, however, can improve the welfare of affected people and attempt to deliver what the market would if it were not suffering from the market failure.

How does the government identify the need for regulation and discern among various regulatory options to determine how best to improve the welfare of the American people? For more than three decades, the Federal government has employed a process of assessing the regulatory impacts of proposed regulations. Such analyses produce estimates of expected benefits and costs that can address a fundamental question of regulatory policy: does the regulation increase societal welfare? Such analyses also provide the basis for determining the extent to which the regulatory action advances the statutorily-established objective. The use of ex ante analysis has shed light on lower cost ways of achieving a societal goal. This analysis has also driven research agendas so that agencies can better understand the impacts – costs on regulated firms and benefits to various populations – of their regulatory actions. It has motivated efforts to reach out to regulated industries to help identify lower cost ways of correcting market failures. It has helped various stakeholders identify and advocate for priorities in agencies' regulatory programs.

This is not to say that all regulations maximize net social benefits. Agencies promulgate regulations subject to their statutory authority, which, in many cases places constraints on how an

agency can design its regulation. A statute may prohibit an explicit consideration of benefits and costs in the design of regulations. Alternatively, a statute may prescribe the regulatory intervention and provide little discretion to the regulator. Some regulatory agencies, which are not governed by executive orders on regulatory policy, may employ non-economic decision criteria in their rulemakings. As a result, some regulations may fail to deliver societal benefits cost-effectively, but nonetheless result in net social benefits. There may also be cases in which the societal costs exceed societal benefits. In this case, analysis of these impacts may not provide the legal basis for an agency to defy the mandate from Congress in the pertinent authorizing legislation, but it does serve to highlight opportunities for future legislative reform of that authority.

This process of assessing the regulatory impacts of proposed regulations, with heightened scrutiny for those that would have significant economic impact, has established a culture of prospective analysis. There is, however, less activity, a mixed track record, and fewer resources directed to ex post assessment of Federal regulations. Every administration since the Carter Administration has implemented some kind of retrospective review of regulations, yet there is little doubt that most agencies dedicated less attention to retrospective review than prospective review. Most economically significant regulations, while subject to rigorous ex ante analysis, are not designed to produce the data and enable causal inference of the impacts of the regulation in practice. Some agencies employ fairly systematic approaches to reviewing existing rules, either as a result of the need to periodically update regulations under their statutory authority or under the Regulatory Flexibility Act. Other agencies employ less formal approaches that may reflect stakeholder demand – i.e., public comments and complaints – as opposed to analysis.

President Obama has issued several executive orders that require retrospective review and attempt to institutionalize such reviews in agencies' regulatory programs. Given the value that such analysis can have in improving the Federal regulatory program, the Administrative Conference of the

United States has requested this assessment of President Obama’s regulatory look-back initiatives. In particular, the Administrative Conference of the United States has charged this project to:

- examine the various agency approaches to retrospective reviews and to identify potential best practices for review planning, including how to identify priorities and determine which regulatory programs are good candidates for retrospective review;
- identify characteristics of successful reviews, including guidance on effective analytical processes, the use of public input, and the development of retrospective plans in the development of new rules; and,
- suggest recommendations for improving retrospective review.

This is not the first time that the Administrative Conference of the United States has explored the issue of retrospective review. Shapiro (1995) conducted an assessment of retrospective review, drawing in part from an American Bar Association survey of regulators (see Eisner et al. 1996 for details of this survey and the conclusions they draw from it). The Administrative Conference of the United States adopted recommendation 95-3 based on this report, which called for the following:

- Retrospective review should inform potential changes to existing rules: “All agencies should develop processes for systematic review of existing regulations to determine whether such regulations should be retained, modified, or revoked.”
- One size does not fit all: “Systemic review processes should be tailored to meet the need of each agency.”
- Priority setting: “Agencies should establish priorities for which regulations are reviewed.... In setting such priorities, the following should be considered:
 - whether the purpose, impact, and effectiveness of the regulations have been impaired by changes in conditions;

- whether the public or regulated community views modification or revocation of the regulations as important;
- whether the regulatory function could be accomplished by the private sector or another level of government more effectively and at a lower cost; and
- whether the regulations overlap or are inconsistent with regulations of the same or another agency.”
- Public input: “Agencies should provide adequate opportunity for public involvement in both the priority-setting and review processes.”
- Implementation: “Agencies should provide adequate resources;” “where appropriate, should engage in risk assessment and cost-benefit analysis of specific regulations”; and consider frequency of review and categories of regulations to be reviewed.

As the discussion below of the various retrospective reviews since 1978 and the current practice by some agencies under the Obama Executive Orders illustrates, a number of these recommendations have been and continue to be followed today. Nonetheless, the lessons that can be drawn from the experiences with retrospective review and the improvement in data collection and analytic methods suggest that additional steps can be taken to improve the information in retrospective review and build a culture of retrospective review such that it can generally enhance the quality of Federal regulatory policy.

In undertaking this project, I have evaluated the retrospective review plans and progress reports of the following agencies: Departments of Agriculture, Energy, Health and Human Services, Homeland Security, Justice, Labor, and Transportation, the Environmental Protection Agency, the Consumer Financial Protection Bureau, the Commodity Futures Trading Commission, the Federal Reserve System, the Nuclear Regulatory Commission, and the Securities and Exchange Commission. These agencies represent the universe of Federal regulatory authorities that each promulgated more than one

economically significant rulemaking over the FY2003-FY2012 period according to the Office of Management and Budget (2013a, Table 1-1 and Table C-2). This sample includes a mixture of both executive branch and independent regulatory agencies.

I have also reviewed two strands of important academic literature: one on the statistical methods for rigorous estimation of ex post impacts of regulations and one on the insights drawn from meta-analyses of studies that undertake ex post validation of ex ante benefits and costs estimates. I synthesize key insights from the academic literatures on ex post regulatory review and rule-specific ex post empirical analyses. For example, Harrington et al. (2000), Office of Management and Budget (2005), Harrington (2006), Harrington et al. (2009), and Council of Economic Advisers (2012) provide examples of ex post validation of ex ante benefit and cost estimates of Federal regulations. In addition, several studies have evaluated the cost-effectiveness of Federal regulations intended to reduce mortality risk across an array of agencies (e.g., Morrall 1986; Tengs et al. 1995; Hahn et al. 2000) and illustrated the variation in key benefits assumptions across agencies (e.g., Viscusi and Aldy 2003). Aldy and Viscusi (2014) describe how uncertainty can affect the efficiency and efficacy of regulatory interventions that further demonstrates the value of ex post examination.

I also review past practice with retrospective review, including under specific agencies' statutory authorities and the Regulatory Flexibility Act, as well as Presidential mandates in the Carter, Reagan, Bush I, Clinton, and Bush II administrations. I explore the commonalities and the differences in these approaches and attempt to ascertain why retrospective review is still often described as "ad hoc" despite this multitude of processes.

In this evaluation of retrospective review, my analysis is predicated on this question: how can the process of retrospective review be improved to yield a regulatory program that delivers on statutorily-established societal goals and maximizes net social benefits of government interventions in the economy? This clearly reflects the bipartisan objective in the Reagan and Clinton visions of

regulatory policy (the latter of which still governs today through Executive Order 12866). This also reflects statutory authorities that explicitly direct agencies to consider the benefits and costs of their regulations. For example, the Department of Energy shall “determine whether the benefits of the standard exceeds its burdens” in establishing minimum energy efficiency standards (42 USC 6295). In regulating chemicals under the Toxic Substances Control Act, the Environmental Protection Agency “shall consider... the effects of such substance on health... [and] on the environment, ... the benefits of such substance... for various uses, and the reasonably ascertainable economic consequences of the rule” (15 USC 2605). The 1936 Commodity Exchange Act specifies that costs and benefits of proposed regulations by the Commodity Futures Trade Commission shall be evaluated (7 USC 19). As a result, I look for ways to identify the rules that could most benefit from evaluation and potential reform.

Given that Congress occasionally establishes regulatory objectives that preclude consideration of benefits and costs in rulemakings and sometimes prescribes constraints on regulators through its statutory authorities, it is important to consider how improvements in the process of retrospective review promote the attainment of goals identified in authorizing legislation? Can we improve the efficacy of the Federal regulatory program? If so, can we also do so in a cost-effective manner? Some agencies operate under mandates that do not necessarily square well with a “maximize net social benefits” standard. For example, several agencies operate under statutory authorities focused on protecting public and safety, including the Occupational Safety and Health Administration (29 USC 655), the Environmental Protection Agency under the Clean Air Act (42 USC 7409), and the Nuclear Regulatory Commission (42 USC 2113, 2167, 2210e, etc.). Nonetheless it is important to understand how regulatory performance stacks up against the specified objectives established by Congress. It is also important to explore potentially novel ways to achieve such goals, especially given the insights gained in practice through performance-based regulation, market-based approaches to regulation, and behavioral economics.

To be clear, a focus on maximizing net social benefits is not the deregulatory bias that is evident in some rhetoric around retrospective review (which I discuss below in the history of President-initiated retrospective reviews). There are clearly rules that, as a result of new information and analysis, are insufficiently stringent given their costs and benefits. For example, the sulfur dioxide cap-and-trade program established under Title IV of the 1990 Clean Air Act Amendments was motivated by concern about acid rain, which could result in acidification of streams and lakes and forest die-off. In the years after the implementation of this program, epidemiological research presented important evidence on how reducing sulfur dioxide emissions, and their associated fine particulates, delivers quite substantial human health benefits. As a result, the ecological benefits, which drove the initial rule, may be less than the compliance costs, but the human health benefits – which were not considered by Congress or the Environmental Protection Agency in the design of the program – are about 100 times the compliance costs (Schmalensee and Stavins 2013). A retrospective review of this rule would suggest that the Environmental Protection Agency should make the case to Congress for flexibility in setting the emissions cap in this program so that it can deliver more human health benefits that significantly exceed the costs.²

To preview some of the lessons drawn from the assessment of the regulatory experience and the relevant scholarship, a well-designed system of retrospective review should strive for the following. Given scarce resources, reviews should be implemented in order to produce the greatest net social benefits. This can require a consideration of those rules that operate in environments in which pertinent circumstances have changed – such as an evolution in technology or a change in the statutory authority. This can reflect an understanding of new estimates of benefits and costs. It could also exploit the opportunity that some retrospective evaluations can provide insights that could benefit the review as

² Indeed, there were a number of legislative proposals in the 2000s to revise and update Title IV of the Clean Air Act. For example, the Bush Administration introduced a “Clear Skies Proposal” in 2002 and Senator Carper introduced several so-called “3P” bills that would modify regulation of power plant emissions of sulfur dioxide, nitrogen oxides, and mercury.

well as the future design of various other regulations (a kind of knowledge spillover). It may also identify the gaps in the regulatory program, i.e., opportunities for new regulation to address an emerging market failure.

Maximizing net social benefits will necessitate a rigorous evaluation of the ex post impacts of the regulation. Successfully doing so will often involve planning for such an evaluation in the development and implementation of the rule. It will also likely benefit from tapping resources throughout the Federal government, including experts in statistical agencies and policy and program evaluation shops in various departments.

The operation of a retrospective review process can benefit from active public engagement to assist in identifying rules as well as data and analysis to facilitate their evaluation. It is important to recognize however, that public engagement should not serve as a substitute for rigorous evaluation. Sometimes the regulated community may have loud complaints about a given rule, but that simply reflects their take on the costs side of the ledger. Other times the regulated community may be silent about a given rule, because they have already incurred the investment costs for compliance and the rule now represents a barrier to entry that mitigates the competition they face in markets. Thus, public comment could always benefit from being supplemented by analysis. Agencies may also consider ways to lower the cost of public engagement, including various uses of social media, online dissemination of data analysis, communication through plain language, and other forms of outreach that can enable participation by more than just the best-funded stakeholders.

Finally, retrospective review can enhance social welfare by taking a bigger picture perspective than is typically the case in the development of new regulations. Given concern about potential regulatory duplication as well as the cumulative impact of regulations on firms, efforts should be undertaken to promote coordination among agencies and comprehensive assessment of cumulative impacts of regulatory programs.

The next section of this report presents the assessment of the scholarship on retrospective review and ex post analysis of regulatory impacts. The third section describes and evaluates past administrations' retrospective review efforts as well as various statutory requirements for retrospective reviews. The fourth section briefly reviews ideas for legislative reforms for retrospective review. The fifth section provides an examination of the Obama Administration executive orders on retrospective review and the agency practices in implementing these executive orders and draws lessons to inform future retrospective review efforts. The final section presents recommendations for improving retrospective review of regulations.

Academic Evidence on Retrospective Review

A very rich literature has evolved over the past several decades focused on evaluating ex post the impacts of various regulatory interventions. These empirical analyses have produced estimates of the realized benefits, costs, efficacy, cost-effectiveness, and, in some cases, unintended consequences of Federal regulations. Researchers have employed an array of statistical techniques that provide for a more robust understanding of the phenomena associated with these rules that can complement the tools used by regulatory agencies in their ex ante analyses and can inform subsequent rounds of regulatory actions. This section reviews the methods employed in retrospective analysis, then draws some lessons from ex post validation exercises, and closes with a discussion of the role played by academic research centers in retrospective review of regulatory policy.

Retrospective Analysis: Statistical Methods for Causal Inference

The most straightforward way to investigate the impact of a given regulation or other government intervention would be through a randomized control trial. Under such an approach, some firms would be randomly assigned “regulated” and other firms would be randomly assigned “not regulated,” and the analyst could compare the differences in outcomes and attribute this difference to the impact of the rule. The objective is to attempt to identify a “treatment” group and a “control” group, like a laboratory experiment, and to use the control group to serve as an effective counterfactual.

Such a randomized control trial approach is feasible for testing information disclosure instruments. For example, Lacko and Pappalardo (2010) investigate how well homebuyers understand residential mortgage terms through status quo information disclosure – the Department of Housing and Urban Development’s Good Faith Estimate of Settlement Costs form (GFE) and the Federal Reserve

Board’s Truth in Lending Statement (TILA) – and an alternative prototype. The researchers developed the prototype in an effort to improve borrower understanding of residential mortgages. The researchers identified a population of recent mortgage borrowers and randomly assigned each individual this population a disclosure form – either the GFE/TILA or the prototype – that detailed a 30-year fixed rate loan for a hypothetical residential property. In effect, those individuals receiving the prototype disclosure are the control group for comparison with the treatment group, those who received the status quo GFE/TILE disclosure.³ After reviewing the disclosure forms, study participants completed a comprehension questionnaire. Lacko and Pappalardo found dramatically higher rates of comprehension with the prototype, suggesting that improving the design of mandatory disclosure forms could benefit consumers.⁴

It may be quite challenging to implement randomized control trials in practice in other regulatory contexts, given political, legal, and, in some cases, ethical reasons. Nonetheless, statutory authorities may result in regulatory implementation that could facilitate the identification of a “treatment” group and a “control” group that would serve as the basis for rigorous statistical analysis. For example, a statute may call for regulatory implementation in phases and thus those covered by a later phase of implementation could serve as the control to those covered by the initial phase of implementation (the treatment). A statute may permit pilot programs and a well-designed pilot could result in treatment and control groups. Some statutes authorized regulators to provide guidance to the states, which are responsible for implementation. It is possible that the heterogeneity in state efforts under these regulations could provide a means for statistically evaluating alternative implementation strategies. Some rules may establish objectively measured standards, above which may trigger

³ Given the nature of this experiment, one could also frame it as the GFE/TILA recipients are the control group and the prototype disclosure recipients are the treatment group. The results are the same regardless of the initial framing.

⁴ Sunstein (2011) notes the importance of such testing of alternative presentations of information before promulgating rules on mandatory disclosure.

regulation (treatment) and below which does not (control). The key issue is that regulators do not necessarily pick who is to be regulated and who is not to be regulated in order to permit ex post statistical analysis. Instead, it is the nature of the statutory authority that often will do so.

As a result, analysts employ a variety of so-called quasi-experimental approaches, such as difference-in-differences, propensity-score matching, instrumental variables, and regression discontinuity statistical techniques (explained in further detail below).⁵ Just as with a randomized control trial, the objective in all of these techniques is to attempt to identify a “treatment” group and a “control” group. Statistically, this can be quite challenging since firms, or individuals, or regions may not be randomly assigned to one group or another, and in fact they can often change their behavior to select into one group or another. For example, if a clean air regulation only applies to power plants larger than a specified generating capacity, then a utility may build a power plant just below this threshold to avoid the regulation. Likewise, if a labor regulation only applies to firms with employees in excess of a minimum threshold, then firms may manage payrolls to stay below this minimum. Moreover, those subject to treatment may just be fundamentally different than those identified as control, which is not necessarily unexpected since those are the ones targeted for regulation.

Consider a few examples of these research design techniques in the existing regulatory contexts. Given its name, difference-in-differences approaches focus on two differences: the difference before and after the timing of a regulatory intervention and the difference between the treatment (regulated) and the control (unregulated) groups. The first difference attempts to control for possible time trends that could contaminate the estimation of the effect of regulation (e.g., technological innovation may, without the impact of government intervention, result in cleaner-burning fuels in vehicles) and would be common across treatment and controls. After accounting for this first difference, the second difference

⁵ Greenstone (2009), Coglianese (2013d, 2012b), and Coglianese and Benneer (2005) address the need for rigorous research design in the development of regulations in further detail. See DiNardo and Lee (2011) for a more technical review of statistical policy evaluation tools.

then attempts to isolate the impact of the regulation on outcomes in the treatment. A number of studies have employed versions of this approach in investigating the impacts of the national ambient air quality standards, in which the designation of a county as non-attainment represents the treatment, and those left in the attainment category are viewed as control. These papers have shown the impacts of non-attainment designations on costs, employment, and emissions under the Clean Air Act (Henderson 1996; Becker and Henderson 2000; Greenstone 2002).

Using such methods, Greenstone et al. (2006) found that increasing information disclosure of equities improved returns to shareholders and firm performance under the implementation of the 1964 Securities Acts Amendments. In their study, they took advantage of the fact that prior to these amendments, only exchange-traded firms were required to disclose financial performance information. Under the amendments, these information disclosure requirements were extended to some, but not all, over-the-counter traded public firms. These over-the-counter firms, whose disclosure requirements changed, were the treatment group in the analysis, and the researchers employed two distinct control groups – the exchange-traded firms that had the information disclosure requirements before and after the amendments (and whose regulatory status did not change) and the small over-the-counter firms who were not required to disclose financial information through the amendments (and whose regulatory status also did not change).

Propensity-score matching employs a similar approach to difference-in-differences, but uses statistical methods to identify control observations that appear, with the exception of treatment status, to be similar to treatment observations. This approach effectively down weights observations on firms or regions that are just fundamentally different – as evident in pre-regulation characteristics – than those impacted by a government regulation. The researcher conducts statistical analysis to identify “best matches” for each treatment observation among the pool of potential control observations based on pre-regulation data. Abadie et al. (2010) demonstrate a new variation on this approach in an

investigation of tobacco regulations in California. Their synthetic control approach effectively creates a control group that is a composite of all potential control population members. The composite is constructed such that it best matches the treatment group pre-treatment – i.e., showing tobacco consumption in California equal to tobacco consumption in the constructed synthetic control region before the implementation of the state’s tobacco control program. This constructed synthetic control region is based on the weighted average of other state’s tobacco consumption that best fits the pre-treatment California data. Then the impact of the state tobacco control program in California is estimated based on the differences between California tobacco consumption and the synthetic control group post-regulation.

Regression discontinuity approaches take advantage of assignment of a discrete threshold that determines whether a firm or a region is assigned to regulatory treatment or control. Comparing observations of outcomes for those firms (or regions) just above and just below the threshold, the analyst can generate an estimate of the so-called average treatment effect of the regulation. For example, Benner and Olmstead (2008) employed this approach to investigate the impact of information disclosure on drinking water quality. Under the 1996 Safe Drinking Water Act Amendments, drinking water suppliers serving a population above a specified threshold were required to produce information summaries on drinking water violations and send this information out to all customers, while those below the threshold only had to post such information in a public space (e.g., a town hall or library). They found that drinking water violations fell for those subject to the greater level of transparency after the implementation of the information disclosure requirement. Likewise, Berry and Lee (2007) employ regression discontinuity methods to investigate the impacts of the Community Reinvestment Act. They took advantage of the fact that Community Reinvestment Act rules apply to neighborhoods with incomes below 80 percent of metropolitan statistical area median income, and compared lending

activity in neighborhoods just above and just below this threshold. They found no impact of the act's regulations on loan rejection rates near this threshold.

Common to all of these techniques is the motivation of structuring the statistical model to enable causal inference, not simply correlation or association. Indeed, failing to do so could yield quite misleading results. For example, if an agency implemented a regulation in 2009, and then a number of regulated firms had closed by the end of 2010, one might claim that this reflected the burden of the regulation. Yet, one could not reject the counterclaim that the fall in demand in the Great Recession may have resulted in these firm closures. Only through a careful research design can an analyst discern causation from association. It is important to note a caveat in much of the empirical scholarship to date. Any given research paper may not map one-to-one to a specific regulation. Instead, the researchers may be using a measure of total regulatory compliance costs, or total air quality regulatory obligations, given their data availability. Researchers may not be able to parse out the impacts of air quality regulation A from air quality regulation B from air quality regulation C on a given industry or sector. This highlights the need for careful research design *ex ante* – i.e., when rules are proposed – to ensure that the data and the implementation of the regulation can permit causal inference in a future, *ex post* analysis.

Lessons from Ex Post Validation

Harrington et al. (2000) conducted an *ex post* validation exercise by comparing approximately twenty *ex post* assessments of the benefits and costs of regulations with their *ex ante* estimates. They found evidence of overestimates of benefits and costs, but these biases disappeared on a per unit basis. The higher *ex ante* benefit and cost estimates reflected assumptions of 100 percent compliance. With less than full regulatory compliance in practice, realized benefits and costs were lower. The authors found that the *ex post* per unit impacts validated the *ex ante* estimates. This suggests that accounting

for compliance behavior may be important in assessing the ex post validity of ex ante estimates. This study spurred subsequent work focused on a larger set of regulations. The Office of Management and Budget (2005) conducted a validation exercise of the benefits and costs of 47 regulations issued over 1975-1996 as a part of its annual report to Congress on the benefits and costs of Federal regulations. The exercise compared the ex ante estimated benefits and costs published in the regulatory impact analyses for these rules and ex post estimates published by academics and government agencies. In this assessment, the Office of Management and Budget contrasted the ex ante and ex post estimates of the physical quantities of the primary benefits category (e.g., tons of emission reduction) and the monetized measure of costs. The Office of Management and Budget (2005) notes that the purpose of this exercise was “to summarize the findings from this validation literature, identify possible explanations for inaccuracies that are identified, and discuss possible ways that the validity of ex ante estimates of benefits and costs can be improved” (p. 42). Thus, in contrast to past presidents tasking agencies to undertake retrospective review and select rules to be revised or eliminated, this effort had a more modest goal of providing insights on ways to improve the conduct of regulatory impact analysis.

The Office of Management and Budget concluded that both ex ante benefits and costs are overestimated by regulatory agencies, although with more overestimation of benefits and a bias toward overestimating benefit-cost ratios. Harrington (2006) evaluated this scoring by the Office of Management and Budget and made a number of modifications of the Office of Management and Budget sample. In his review of 60 case study regulations, Harrington found that agencies were more likely to underestimate benefit-cost ratios than overestimate them. A common conclusion drawn in these analyses is that there are too few ex post studies for such validation exercises to inform regulatory review.

The Harrington et al. (2000) study also found that for rules that employed market-based implementation strategies, there was clearer evidence that the prospective regulatory impact analyses

overestimated the costs. This may reflect the failure of imagination intrinsic to such a prospective task. One of the primary motivations for market-based approaches is to provide the flexibility and discretion to regulated entities to be creative and come up with the lowest cost way of realizing the societal goal in the regulation. With this freedom, regulated entities have the profit-incentive to seek out and exploit the lowest-cost compliance strategies, some of which may have been beyond the scope of consideration by the regulator. Ex post analysis provides the regulator with this understanding that can inform the choice and design of regulatory instrument in future regulations.

A number of papers have also shown empirically how the use of market-based approaches to regulation, such as emissions cap-and-trade, can result in lower compliance costs than conventional command-and-control regulatory approaches. For example, Kerr and Newell (2003) estimated substantial cost-savings associated with allowing refineries to trade lead credits during the phase-out of leaded gasoline. Carlson et al. (2000) estimated that the sulfur dioxide cap-and-trade program likely resulted in about half of the compliance costs of an alternative performance-based approach to sulfur pollution. Likewise Ellerman et al. (2000) undertook an extensive variety of empirical analyses of the sulfur dioxide cap-and-trade program and found important cost-savings. The key result of this scholarship, and others in the cap-and-trade literature, is that market-based approaches can deliver lower-cost compliance than traditional regulatory approaches.

Ex post analyses may also highlight the unexpected or unintended in regulatory implementation. For example, very few ex ante analyses in the environmental, health, and safety context consider the potential for pre-existing market failures – such as market power – to impact the societal costs associated with regulatory compliance. Ryan (2011) develops a structural industrial organization model and shows how accounting for the dynamics of firm entry and the investment costs associated with air quality regulations in the Portland cement industry, the estimated costs of compliance are substantially greater in an industry characterized by imperfect competition. In an early empirical assessment of

automobile safety regulations, Peltzman (1975) found that mandating various types of safety equipment, such as seat belts, resulted in a behavioral response among drivers (moral hazard). While the safety equipment reduced premature mortality among drivers, their riskier driving behavior resulted in an increase in pedestrian mortalities. Gruenspecht (1982) found that imposing costly air quality controls on vehicles increased their sales price, which slowed the turnover of automobile ownership thereby leaving more, high-polluting old cars on the road and increased air pollution in the first few years of the regulation.

In some cases, ex post analysis can resolve uncertainties in the underlying risk assessments that motivate regulatory interventions. Kolp and Viscusi (1986) and Viscusi (1985) point out analytic errors as well as substantial uncertainties in health risks – exposure and magnitude of impacts – in their retrospective review of the 1978 Occupational Safety and Health Administration cotton dust standard. Thompson et al. (2002) point out that the ex post benefits estimates of air bag regulations differed from ex ante estimates due to ex ante overestimation of air bag effectiveness, overestimation of baseline fatality and injury rates, and underestimation of the rate of seatbelt usage.

The Role of Academic Research Centers in Retrospective Review

Academics can play and indeed have played a very active role in the design and implementation of retrospective review. For example, the George Washington University Regulatory Studies Center,⁶ the Mercatus Center at George Mason University,⁷ the New York University School of Law Institute for Policy Integrity,⁸ and the Penn Program on Regulation at the University of Pennsylvania Law School⁹ have all participated regularly through scholarship and public comments on retrospective review. The Institute

⁶ <http://regulatorystudies.columbian.gwu.edu/>.

⁷ <http://mercatus.org/>.

⁸ <http://policyintegrity.org/>.

⁹ <https://www.law.upenn.edu/institutes/regulation/>.

for Policy Integrity (2011a-f) submitted comments on draft and final retrospective review plans. The Penn Program on Regulation hosts a blog with a number of commentaries on the practice of retrospective review (Coglianese 2011, 2012a, 2012c, 2013a, 2013c). The Regulatory Studies Center has an ongoing process of submitting comments on proposed rules focused on how the design and implementation of those rules will facilitate ex post analysis. The Mercatus Center hosts papers and testimonies by a number of scholars on the topic of retrospective review. Developing a cadre of independent experts – and in training the next generation of regulatory policy experts – at these academic research centers can provide thoughtful takes on the performance of the Federal regulatory program. In any case, they provide a rich set of resources outside of government on the operation of the regulatory program generally and the implementation of retrospective review.

Retrospective Reviews under Previous Administrations

Past Retrospective Reviews

The systematic review of existing regulations across the executive branch dates back, in one form or another, to the Carter Administration. In 1978, President Carter issued Executive Order 12044, “Improving Government Regulations,” which created a “cost-effectiveness” standard for regulatory policy, required regulatory analysis for significant regulations, and established the White House as responsible for working with regulatory agencies in insuring implementation of the executive order (Viscusi 1994). This order also required regulatory agencies to undertake periodic review of their existing regulations and provided the following criteria for identifying rules for retrospective review:

- “the continued need for the regulation;
- the type and number of complaints or suggestions received;
- the burdens imposed on those directly or indirectly affected by the regulations;
- the need to simplify or clarify language;
- the need to eliminate overlapping and duplicative regulations; and
- the length of time since the regulation has been evaluated or the degree to which technology, economic conditions or other factors have changed in the area affected by the regulation” (section 4).

The Carter Executive Order provided agencies with 60 days to develop a draft report detailing their process for developing and evaluating regulations as well as their criteria for choosing rules for retrospective review. The agencies published their draft reports in the Federal Register and solicited public comment on their content.

The Carter executive order created a new regulatory framework at a time of dramatic change in Federal regulatory policy. A wide array of economic regulatory policies – from the setting of interstate natural gas prices, to the regulation of railroad freight rates and routes, to the regulation of fares and routes in civil aviation, among others – had come under scrutiny for imposing substantial burdens on consumers, stifling innovation, and contributing to the bankruptcy of some firms (Joskow and Noll 1994; Moore 2002; Winston 2007; Davis and Killian 2011). While much of the reform of economic regulation occurred through various pieces of legislation, as opposed to administrative changes under existing authorities, the wave of economic deregulation reflected a series of ex post assessments that the status quo regulatory schemes did not work as intended. This occurred at a time, however, of substantial growth in environmental, health, and safety regulation at the federal level. Creating a formal process of regulatory review and of ex post review of existing regulations provides a rigorous basis for assessing individual rules on their merits, as opposed to making regulatory decisions on ideological deregulatory or proregulatory grounds.

The Carter executive order did not establish a benefit-cost standard for evaluating regulations. Thus, the principles for retrospective review, such as the assessment of the burdens, lack potentially important context. A rule that imposes \$100 million of burdens, but \$10 billion of monetized benefits, may appear to any regulator as a fantastic success story, while a rule that imposes \$10 million of burdens to deliver \$1 million of monetized benefits may be ripe for revision or rescission. The other prime challenge in implementing review of existing regulations under this executive order was the absence of standards for conducting ex ante analyses and requiring data collection to inform ex post analysis. This simply reflects the fact that this executive order was the first to create a systematic requirement for agencies to identify significant rules (without a specified standard in the executive order) and undertake regulatory analysis.

The Carter Executive Order established an important precedent that was employed in the 1980 Regulatory Flexibility Act. Section 610 of this law requires periodic review of rules to determine if existing regulation should be amended or rescinded to “minimize any significant economic impact of the rules upon a substantial number of small entities.” The act employed virtually identical criteria as the executive order for reviewing rules. The law also requires regulatory agencies to issue a plan for periodic review that ensures that all economically significant rules are reviewed within ten years of their promulgation.

The impact of retrospective review under the Regulatory Flexibility Act is, at best, mixed. Regulatory agencies have employed various interpretations of the Act’s requirements (Copeland 2004). For example, the Small Business Administration (2008) notes that the Environmental Protection Agency and the Occupational Safety and Health Administration only review rules that were estimated, ex ante, to have an economically significant impact on small entities. These agencies exclude rules that could have a significant economic impact, which could only be ascertained by a review. As a result, the effective review rate is low, which undermines the potential effectiveness of this requirement (See 2005). In 2008, the Small Business Administration (2008) published a “best practices” for Federal agencies to promote more and higher quality Regulatory Flexibility Act retrospective reviews.

In 1981, President Reagan issued Executive Order 12291, “Federal Regulation,” which is generally considered as the foundation for the current system of regulatory review and coordination.¹⁰ This executive order imposed five requirements on regulatory agencies in their development of new regulations and review of existing regulations:

- “administrative decisions shall be based on adequate information concerning the need for and consequences of proposed government action;

¹⁰ President Clinton’s Executive Order 12866, discussed below, makes a number of important departures from Executive Order 12291, but maintains a focus on regulatory impact analysis of rules with an annual effect on the economy of at least \$100 million, continues the role of the Office of Management and Budget in coordinating review, and imposes a softer version of the benefit-cost standard.

- regulatory action shall not be undertaken unless the potential benefits to society for the regulation outweigh the potential costs to society;
- regulatory objectives shall be chosen to maximize net benefits to society;
- among alternative approaches to any given regulatory objective, the alternative involving the least net cost to society shall be chosen; and
- agencies shall set regulatory priorities with the aim of maximizing the aggregate net benefits to society, taking into account the condition of the particular industries affected by regulations, the condition of the national economy, and other regulatory actions contemplated for the future” (section 2).

New regulatory actions that are expected to impose an annual impact of at least \$100 million on the U.S. economy triggered heightened levels of regulatory impact analysis and interagency regulatory review. The executive order required agencies to publish twice annually a regulatory agenda that includes a list of existing rules undergoing review by the regulatory agency. The order also calls on the Office of Management and Budget and the Presidential Task Force on Regulatory Relief (led by Vice President Bush) to identify existing rules that duplicate or conflict with other rules as well as those existing rules that are “inconsistent... with the purposes of [the] order” (section 6) and to work through the interagency process to eliminate the duplication or conflict.

Executive Order 12291 also tasked the Office of Management and Budget and the Presidential Task Force on Regulatory Relief with developing procedures for estimating benefits and costs with the intent of constructing a regulatory budget. As Viscusi (1994) notes, the idea of a regulatory budget had some currency in the 1970s and 1980s, though it also had its critics (Viscusi 1983 provides a critique of this approach to regulatory policy).¹¹ Despite this provision in the executive order, the Reagan Administration did not implement a regulatory budget, and this likely reflects both the technical and

¹¹ This idea still draws interest today, as discussed below in the context of Senator Warner’s support for “regulatory PAYGO.”

coordination challenges within an agency as well as the political pushback the White House already faced with the strict benefit-cost standard (Viscusi 1994).¹²

In 1985, President Reagan issued Executive Order 12498, “Regulatory Planning Process.” This order built on Executive Order 12291 by requiring agencies to submit annual draft regulatory programs, which the Office of Management and Budget compiled into an Administration-wide annual regulatory program. The executive order called on each agency to identify the specific, significant regulatory actions that would either rescind or revise existing regulations.

The George H.W. Bush Administration employed the two Reagan executive orders as its framework for regulatory policy development and evaluation. In 1992, President Bush transmitted the Memorandum on Reducing the Burden of Government Regulation to various heads of regulatory agencies, which opens with “[a]s you know, excessive regulation and red tape have imposed an enormous burden on our economy.” The Memorandum established a 90-day moratorium on new regulations and required regulatory agencies to assess existing regulations and eliminate those that impose “any unnecessary regulatory burden.” The Memorandum provided the following standards to guide the agencies’ review of their existing regulations:

- “The expected benefits to society of any regulation should clearly outweigh the expected costs it imposes on society.
- Regulations should be fashioned to maximize net benefits to society.
- To the maximum extent possible, regulatory agencies should set performance standards instead of prescriptive command-and-control requirements, thereby allowing the regulated community to achieve regulatory goals at the lowest possible cost.

¹² The “strict” benefit-cost standard in Executive Order 12291 had an exception that it only applied to the extent permitted by law. As many scholars have noted over the years, some of the most economically significant regulations, such as the National Ambient Air Quality Standards promulgated by the Environmental Protection Agency, are authorized under statutory provisions that preclude a consideration of benefits and costs in their design (Arrow et al. 2000).

- Regulations should incorporate market mechanisms to the maximum extent possible.
- Regulations should provide clarity and certainty to the regulated community and should be designed to avoid needless litigation” (Section 1).

This Memorandum represented a substantial change in the approach to retrospective review. First, by coupling the review of existing regulations with a moratorium on new regulations, the Memorandum effectively freed up staff resources to focus on retrospective review. In their survey of sixteen regulatory agencies that reviewed existing rules under this Memorandum, Eisner et al. (1996) note that “agencies almost universally state that time and resources are too limited to allow for regular, systematic reviews” (p. 148). While removing the potential tension between working on proposed rules and evaluating existing rules, some agencies also noted in this survey that 90 days was insufficient for a thorough review of significant rules. Second, this Memorandum provided more explicit guidance on how to revise existing regulations, with an emphasis on performance-based and market-based regulatory mechanisms. The Memorandum maintained the focus on maximizing net social benefits from Executive Order 12291 and stressed the need for cost-effective implementation. In some cases, however, statutory authority precluded both consideration of benefits and costs and implementation through more novel, market-based approaches. President Bush tasked the Council on Competitiveness to coordinate the 90-day review. The regulatory moratorium was later extended through the end of the George H.W. Bush Administration, although a variety of rule-makings unrelated to the look-back proceeded under exceptions for emergency situations, military and foreign affairs, and judicial deadlines (Furlong 1995; Copeland 2004; Watts 2012).

In their review of the Bush Administration’s regulatory moratorium and retrospective review, Eisner et al. (1996) note ten policy rationales for retrospective review of a regulation: change in Administration policy; change in cost/benefit numbers; changes in technology state-of-the-art, economic situation, or other factors; implementation/enforcement/litigation problems; complaints,

suggestions, and petitions; requests for interpretation; exemption requests; overlapping and duplicative rules; conflicts and inconsistencies; unnecessary or obsolete rules. As evident below in the discussion of the Obama Administration retrospective reviews, these rationales are employed by many agencies. They also note some of the challenges to reviews. For example, regulators may have a vested interest in existing rules and thus may not have strong incentives for revising them. Moreover, some regulators may be concerned that revising existing rules may represent an admission of error when originally promulgating the rule (Bull 2014).

In 1993, President Clinton abolished the Council on Competitiveness, rescinded Executive Orders 12291 and 12498, and issued Executive Order 12866, "Regulatory Planning and Review." The regulatory framework under Executive Order 12866 was similar to that under Executive Order 12291, although the Clinton Administration employed a less stringent standard that benefits should justify costs, not necessarily exceed them, and recognized the potential role for non-quantified and/or non-monetized benefits (Hahn et al. 2003). This executive order called on agencies to prepare an annual regulatory plan. In addition, regulatory agencies had 90 days to submit to the Office of Management and Budget a plan for periodic review of existing significant regulations. This review would "determine whether any such regulations should be modified or eliminated so as to make the agency's regulatory program more effective in achieving the regulatory objectives, less burdensome, or in greater alignment with the President's priorities and the principles set forth in this Executive order" (section 5). The Vice President also had the authority under this executive order to identify for review existing regulations or sets of regulations (perhaps issued by multiple agencies) that may affect specific groups, industries, or sectors of the economy.

In 1995, the National Performance Review led a substantial review of the Federal regulatory program. As a part of the "reinvention" of government, the National Performance Review worked with regulatory agencies to identify outdated, obsolete, and inefficient regulations that could be modified or

rescinded. Through this effort, agencies proposed to eliminate 16,000 pages of regulations that would reduce regulatory burdens by about \$28 billion per year (National Performance Review n.d., 1993; Copeland 2004). A key characteristic of the operation of the National Performance Review was the creation of various reinvention teams, composed of representatives of various agencies, who worked outside the normal bureaucratic channels to develop ideas and make recommendations for reform.

During the George W. Bush Administration, the Office of Management and Budget issued “prompt” letters that suggested ideas for agencies to pursue new regulations. In some cases, these replaced existing rules. Moreover, the Office of Management and Budget solicited nominations from the public to identify existing rules that merited reform. In response to the 2001 request for nominations, the Office of Management and Budget received 71 suggestions for review. After a second call for nominations in 2002, the Office of Management and Budget received more than 300 suggestions (Copeland 2004). The regulatory agencies initiated efforts to revise approximately 100 rules under this public-nomination process (Graham et al. 2005; Office of Management and Budget 2004).

Lessons from Past Retrospective Reviews

One of the common themes across these various Presidential-mandated retrospective reviews is the focus on reducing burdens. This reflected the widely held view of the regulated communities that they bore unnecessarily high costs. There was much less emphasis on maximizing net social benefits. As a result, the approach focused on identifying rules to eliminate or streamline.

Each one of these reviews yielded reforms to the regulatory state. Regulations were rescinded and burdens were reduced during each period of retrospective review. Outdated rules were modernized. While regulators indicated that heightened attention by political leaders resulted in their paying more attention to retrospective review (e.g., see survey in Eisner et al. 1996), it is not clear the

extent to which the retrospective review mandated by the White House, as opposed to regular agency operations under existing statutory authority and the Regulatory Flexibility Act, resulted in the rules' changes. In all of these cases, it is difficult to construct a counterfactual scenario against which to compare and assess the experience under each review.

The frequency of reviews mandated by the White House may suggest that the regular agency practice under existing authorities and the Regulatory Flexibility Act are not sufficient to identify rules that could be revised or eliminated to reduce regulatory burdens (or increase social welfare). In addition, the frequency of these reviews may reflect political expedience in response to opponents of government regulations. The Reagan and Bush II reviews occurred at the start of their administrations and represented a response to the view that the preceding Democratic administrations had been too aggressive as regulators. The Bush I review, occurring at the start of an election year, and the Clinton review, occurring in the first year of the Republican-controlled Congress, illustrate the potential political need to show effort and success in reducing the costs of regulatory policy on the economy (Furlong 1995; Watts 2012).

These efforts employed a wide array of implementation models. In several cases, the retrospective review called on agencies to develop procedures and undertake their review (subject to some White House coordination). In the case of the Clinton Administration, the National Performance Review model served as an example of an outside team (if not fully independent) working with regulators to identify rule changes. And in the Bush II administration, the process was a fairly narrow, Office of Management and Budget initiated review of rules. Independence in the retrospective review has some important merits, especially in terms of credibility and legitimacy (Lutter 1999; Greenstone 2009). Providing an explicit role for the Office of Management and Budget, which takes a broader perspective and can more easily identify regulatory overlap, regulatory gaps, and regulatory accumulation, clearly has merit as well. Given the significant heterogeneity in size, mission, and culture

of regulatory agencies, there is value in providing discretion to agencies in shaping, at least to some extent, their retrospective review programs.

Proposals for Reform of Retrospective Review

While the vast majority of retrospective review efforts dating to the Carter Administration have originated and operated within the executive branch, proposals in recent years would call for legislative action and provide Congress with opportunities to require the elimination of specific, existing regulations. This section briefly describes and evaluates several of these proposals before turning to an examination of the Obama Administration's retrospective review efforts in the followings section.

Regulatory PAYGO

As noted above, President Reagan's Executive Order 12291 called for the collection of data necessary to develop a regulatory budget, but this was not meaningfully implemented before President Clinton rescinded this executive order in 1993. The basic concept is similar to pay-as-you-go budget procedures on the fiscal side of government activities. Regulatory pay-as-you-go would establish a "cost" budget for any given agency's regulatory program, typically based on an estimate of the costs of its current suite of regulations. In the process of proposing a new regulation, the regulator would have to identify an existing regulation with same or greater costs imposed on regulated entities for elimination. Thus, the development of new regulations imposes a discipline of reviewing and striking existing regulations to ensure that the net cost burden of that agency's regulatory program does not change.

Senator Warner (2010) has expressed support for such an approach. Likewise, recent legislative proposals have included some version of regulatory PAYGO. The "Searching for and Cutting Regulations that are Unnecessarily Burdensome Act of 2014" (H.R. 4874, 113th Congress; the "SCRUB Act") includes a so-called "CUT-GO" provision. In this bill, an appointed commission would identify existing Federal

regulations for elimination, with the objective of reducing the aggregate costs of Federal regulation by at least 15%. This commission would report this recommended list of rules for elimination to Congress, and each chamber of Congress would have the opportunity to approve of the recommendations through a joint resolution process. If these recommendations are approved through a joint resolution, then agencies shall initiate the regulatory process for striking the listed rules. Absent a joint resolution, the recommended list of rules still imposes a meaningful constraint on regulators. If an agency decides to promulgate a new rule, it must offset the cost of the new rule by striking rules with equal or greater costs from the recommended list.

Regulatory PAYGO suffers a daunting technical challenge. As noted above in Harrington (2006) and Office of Management and Budget (2005), one of the challenges with understanding the economic impact of the current Federal regulatory program is the dearth of ex post estimates of benefits and costs. Generating an aggregate estimate of the costs of a given agency's suite of regulations – especially given the variations in the timing of costs (some rules impose large capital investments, which are one-shot investments, while others impose periodic operational costs), potential interactive impacts of multiple regulations (which could either increase or decrease aggregate costs relative to assessment of the individual regulations), and even potential interactive impacts of regulations with other agencies – is very difficult. Moreover, whatever estimate an independent commission would produce would be subject to quite significant uncertainty, which could be problematic given the precision within which the estimates would be used in determining whether a new regulation could go forward.

More important, regulatory PAYGO is inconsistent with fundamental principles of regulatory policy. The government is in the business of regulation to attempt to correct failures in the operation of markets. A government intervention mitigates the market failure, at least to some extent, if its benefits exceed its costs, and the intervention should aim to deliver what the markets would produce if they were not characterized by the market failure. In other words, regulatory interventions should maximize

net social benefits. Regulatory PAYGO completely ignores the benefits side of the ledger. Implementing regulatory PAYGO could make society worse off. Consider an example of two regulations, one existing and one proposed. Suppose that each regulation has social benefits that exceed social costs. Under the status quo approach to regulation, the government should implement both the existing and the proposed regulation. Under regulatory PAYGO, the government would have to eliminate the existing regulation, with positive net social benefits, if it aims to implement the proposed regulation. This is contrary to the weak and strong efficiency standards that have guided regulatory review since 1981.¹³

Regulatory Review Commissions

The idea of an independent commission to evaluate regulations, if guided by a net social benefits standard instead of the strict cost standard of regulatory PAYGO, has some potential merit. In addition to the commission envisioned in the SCRUB ACT, the “Regulatory Improvement Act of 2014” (H.R. 4646, 113th Congress) would establish a commission that would make recommendations for striking regulations based on their economic costs. These recommendations would be considered in their entirety by Congress and if approved by each chamber and signed into law by the President, they would trigger agency regulatory processes for eliminating the listed rules. The process would effectively mirror the base realignment and closure process for military facilities after the end of the Cold War.

A fresh set of eyes to evaluate regulations, especially by those who do not have a vested interest in the outcome like regulators may have during their assessment of their own regulatory programs, could bring substantial value to retrospective review. Nonetheless, attempting to evaluate the entirety of agencies’ regulatory programs is a task that would clearly require more time than allocated to the commissions envisioned in the “Searching for and Cutting Regulations that are Unnecessarily

¹³ Refer to Viscusi (1983) and Shapiro et al. (2012) for further critiques of regulatory PAYGO.

Burdensome Act of 2014” and the “Regulatory Improvement Act of 2014.” Indeed, there are real questions whether this would be the most effective way forward under the current retrospective review undertaken by the agencies. If legislation aimed to launch such a commission, it may be better to orient the commission to (a) identifying a few of the most egregious regulations that fail a benefit-cost test and/or provide opportunities for reform that would maintain a significant level of benefits with dramatically lower costs; and (b) identifying procedures for agencies to employ in the planning for and undertaking of retrospective review.

Creation of Independent Regulatory Review Authorities

The “Strengthening Congressional Oversight of Regulatory actions for Efficiency Act” (S. 1462, 113th Congress) would create a regulatory analysis division within the Congressional Budget Office to conduct independent prospective analysis of proposed economically significant regulations and analysis of the costs and benefits of existing economically significant rules that have been in effect for five years. Greenstone (2014) noted that such independent assessments of existing regulations would improve the credibility of regulatory evaluations. Likewise, Lutter (1999) notes a proposal by Heather Ross of Resources for the Future in the late 1990s calling for the creation of a Congressional office to undertake independent replications of regulatory impact analyses. Such an office could conduct ex ante analyses to inform the consideration of proposed regulations, as well as ex post analyses to inform retrospective review.

Greenstone (2009) called for an independent regulatory review board to evaluate existing rules because “history is not kind to organizations that only engage in self-evaluation” (p. 119). This independent regulatory review board would be staffed by “well-respected professionals and academics who have the technical ability to review evaluations critically and do not have a stake in whether a

regulation remains on the books” (p. 120). In his proposal, this board of technocrats would have the authority to repeal ineffective regulations, subject to Presidential and Congressional overrule.

Independent evaluation, as noted above, can deliver significant benefits to the Federal regulatory program. It creates strong incentives for regulatory agencies to undertake serious, unbiased work. It provides an alternative perspective that may promote creativity in identifying data and/or methods for evaluation, as well as in cost-reducing or benefit-enhancing reforms to existing rules. The challenge, of course, is in identifying the political will in creating new institutions and allocating the necessary resources. It seems quite unlikely that regulatory agencies or their authorizing committees in Congress would welcome an independent regulatory review board that would have the authority to strike regulations issued by those agencies.

Obama Administration Retrospective Review

President Obama's Executive Orders

In January 2011, President Obama issued Executive Order 13563, "Improving Regulation and Regulatory Review." This executive order called for, inter alia, retrospective analyses of existing regulations. The President called on regulatory agencies to "consider how best to promote retrospective analysis of rules that have become outmoded, ineffective, insufficient, or excessively burdensome, and to modify, streamline, expand, or repeal them in accordance with what has been learned" (section 6). Under the executive order, each regulatory agency shall submit a plan for periodic review of existing significant regulations to the Office of Management and Budget within 120 days. The executive order also recommends releasing retrospective analyses and supporting data online when possible. In July 2011, President Obama issued Executive Order 13579, "Regulation and Independent Regulatory Agencies," which extended the call for plans on retrospective analyses of existing rules to independent regulatory agencies (with an important modification by using the verb "should" in lieu of "shall" in this order).

President Obama's Executive Order 13610, "Identifying and Reducing Regulatory Burdens," noted that "agencies shall give priority, consistent with law, to those initiatives that will produce significant quantifiable monetary savings or significant quantifiable reductions in paperwork burdens while protecting public health, welfare, safety, and our environment" (section 3). The executive order also emphasized consideration of cumulative burdens of regulatory programs in retrospective reviews. Agencies' shall submit their retrospective review reports to the Office of Management and Budget every January and July. Finally, Executive Order 13609, "Promoting International Regulatory Cooperation," requires agencies to consider reforms of existing regulations that would "address unnecessary

differences in regulatory requirements between the United States and its major trading partners” (section 3).

Soon after President Obama issued Executive Order 13563, the Office of Management and Budget (2011a) disseminated guidance to the agencies on implementing the executive order. The guidance made clear that agencies “should set its own priorities” with an expectation that the agency retrospective review plans would address how agencies: (1) prioritize the selection and review of rules; (2) use retrospective benefit-cost analysis; (3) solicit public participation; (4) structure the internal review; and (5) coordinate with other retrospective review processes (e.g., under existing authorities and the Regulatory Flexibility Act). The guidance requested draft agency retrospective review plans within 100 days to permit Office of Management and Budget review prior to the publication of the draft plans. The guidance also noted that agencies should provide an initial list of candidate rules for review in its initial retrospective review plans. In response to the President issuing Executive Order 13579 in July 2011, the Office of Management and Budget (2011d) provided guidance to independent regulatory agencies on the development of their retrospective review plans generally consistent with the guidance provided to executive branch agencies.

By the spring of 2011, agencies began to make available for public comment their draft plans for retrospective review. Table 2 lists the draft plans, preliminary plans, and associated progress reports for the agencies focused on in this report.¹⁴ The Office of Management and Budget (2011b) provided guidance and a suggested timeline for how agencies should solicit input on its draft plans and revise them with the objective of finalizing plans within 80 days of issuing their draft plans. Table 3 describes the use of social media and the number of comments received by the executive branch agencies. In an era in which high-profile rules receive millions of public comments, it is notable that the agency plans in aggregate received only a few thousand comments.

¹⁴ The electronic version of this report includes hyperlinks for each entry in Table 2.

Most agencies published their revised plans by the end of the summer and began to evaluate the initial set of rules. It is important to note that many agencies maintained an open docket, a webpage, and/or an email address to provide a continuing opportunity for the public to comment on rules that would benefit from retrospective review. For example, the Department of Energy (2012a, 2012b, 2012c, 2013b) issued a number of requests for information on ways to reduce regulatory burden through the Federal Register.

The Office of Management and Budget (2011e) focused on the following objectives for implementing retrospective review:

“When implementing their retrospective review plans, agencies should give high priority to those reforms that will promote economic growth, innovation, competitiveness, and/or job creation. These high-priority reforms should include those with the greatest potential to produce significant quantifiable cost savings and significant quantifiable reductions in paperwork burdens. Agencies should give special consideration to reforms that would reduce, simplify, or harmonize regulatory or reporting requirements imposed on small businesses.”

In addition, this guidance emphasized the importance of the regular reporting on the status of agencies retrospective review efforts. Office of Management and Budget (2011e) provided a suggested template for agency retrospective review plan reports. The template identifies the agency, regulatory information number, title of initiative, brief description, actual/target completion date, anticipated savings in costs and/or information collection burdens, progress updates and anticipated accomplishments, and additional notes. Most agencies employed the suggested template in tabular format in their regular submissions to the White House and postings online. Agencies have submitted regular progress reports every January and July in 2012, 2013, and 2014.

Lessons Learned from Obama Administration Retrospective Review

Many of the actions taken by regulatory agencies under the Obama Executive Orders are consistent with the basic elements of an effective program of retrospective review elaborated by Eisner et al. (1996), including: requirement for periodic reviews; senior-level involvement; process for identifying problems; public participation in identifying problems; base for measuring success; sources for data on effectiveness; and sources for data on changes in technology, etc. Likewise they reflect the insights and recommendations made in Government Accountability Office (2007). This section draws lessons from the Obama Administration retrospective review efforts.

Reducing the Costs of Federal Regulatory Policy

In implementing Executive Orders 13563 and 13579, agencies identified tens of billions of dollars of cost savings and tens of millions of hours of reduced paperwork and reporting requirements (Council of Economic Advisers 2012; Sunstein 2013). The Government Accountability Office (2014) issued a comprehensive assessment of agencies' retrospective review actions under the Executive Orders issued by President Obama. It found that 22 executive branch agencies had completed nearly 250 regulatory actions by August 2013, representing more than one-third of the planned retrospective reviews identified in the agencies' plans. More than 90 percent of these final actions resulted in amendments to the Code of Federal Regulations. Recognizing that some rule modifications could deliver multiple outcomes, the Government Accountability Office reports that more than 100 regulatory actions improved the effectiveness of regulations, nearly 100 actions reduced the burden of regulations, about 90 actions improved the clarity of regulations, and more than 40 actions responded to statutory changes. In addition to these efforts by executive branch agencies, some independent agencies have also pursued efforts to streamline their regulatory programs under retrospective review. For example,

the Federal Communications Commission repealed about 190 regulations in the year since President Obama issued Executive Order 13579 (Council of Economic Advisers 2012).

Regulatory agencies have implemented a number of revisions to existing rules that have reduced burdens and enhanced the efficacy of the regulatory regime. For example, the Department of Labor promulgated a final rule in 2012 that would modify the Hazard Communication Standard so that it would conform to the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (77 FR 17574; also see Table 4). This effort will align chemical hazard labeling requirements in the United States with requirements in other countries. Effectively coordinating with international trade partners can facilitate the export of U.S. manufactured chemicals and lower the costs of compliance with labeling requirements in the United States. The Department of Labor estimates that this regulation will deliver cost-savings on the order of \$2.5 billion over five years (also see Council of Economic Advisers 2012).

The 2011 “spilled milk” rule by the Environmental Protection Agency (technically the Spill Prevention, Control, and Countermeasure Rule, 76 FR 21652) removed requirements on the dairy industry related to milk containers and piping. This rule, highlighted by President Obama in the 2012 State of the Union Address, is a prime example of how an agency reviewed an existing regulation, identified regulatory overlap with another regulatory agency (U.S. Department of Agriculture), and revised the rule to reduce regulatory burden. In this case, the reduced burden on regulated entities amounted to about \$150 million of annual cost-savings to the regulated industry (Environmental Protection Agency 2011).¹⁵

In 2013, the Department of Transportation proposed a rule to streamline the reporting obligations of truck drivers. At the proposal stage, the agency estimated about \$1.7 billion in annual

¹⁵ Coglianese (2012c) expressed significant skepticism over the magnitude of the cost-savings associated with this rule.

time and paperwork burden reductions. The Government Accountability Office (2014) notes that this rule is expected to be finalized in late 2014.

The Department of Health and Human Services promulgated rules in 2012 that would streamline reporting requirements and remove excessively burdensome regulatory obligations for hospitals and health care providers (77 FR 29002 and 77 FR 290034; Government Accountability Office 2014). The Department estimates that these modifications to existing rules will deliver more than \$5 billion in cost savings over five years. In addition, Table 4 presents further examples of agency efforts to deliver cost-savings through retrospective review exercises.

Culture of Retrospective Review

Sunstein (2012, 2013, 2014) and many agencies in their plans for retrospective review discussed the need to develop a “culture” of retrospective review (e.g., United States Department of Agriculture 2011; Department of Energy 2011; Department of Labor 2011; Department of Justice 2011; Department of Transportation 2011). Likewise, academics have raised the need to create such a culture as a way to change the pattern of periodic, ad hoc retrospective reviews (e.g., Coglianesse 2013a). The institutionalization of retrospective review, especially with the twice annual reporting under Executive Order 13610, may help promote that culture. Regular reporting, however, risks becoming a paperwork exercise and does not create a strong culture for review if there is not additional support for the practice of review. This support includes guidance on the conduct of such reviews as well as resources to make it happen.

Retrospective review risks becoming another item on the regulatory analysis checklist without adding much value to the design and implementation of regulatory policy (see Shapiro [2011] for a critique of non-benefit-cost analysis regulatory analysis requirements). Put another way, developing a “culture of regulatory review” may do less to serve regulatory policy than if retrospective review

becomes integrated in the existing culture of regulatory development. This may be a challenge, given the view held by some stakeholders and some regulators that the array of procedures a regulator must undertake in proposing and finalizing a rule reflect an anti-regulatory bias (Shapiro 2007). Thus, agencies may not embrace a new regulatory procedure and allow it to become a part of its regulatory culture.

To provide a sense of the extent to which retrospective review has become integrated into the culture of rule-writing and rule-development, I reviewed a small sample of rules identified by the agencies as candidates for retrospective review. In particular, I evaluated the first five rules listed in the initial 2012 progress reports published by the Department of Agriculture, Department of Energy, Department of Health and Human Services, Department of Homeland Security, Department of Justice, Department of Labor, Department of Transportation, and Environmental Protection Agency (see Table 5). Since the Department of Justice identified only two rules in its initial progress report, this yields a sample of 37 regulatory actions identified for retrospective review. As of September 30, 2014, these agencies had issued final rules on 25 of the 37 identified regulatory actions.¹⁶ The Office of Management and Budget classified 40 percent of these final rules as “major” under the Congressional Review Act. While these 25 rules applied to actions identified in agency reports on their progress implementing retrospective review, only 14 of the 25 explicitly referenced retrospective review in the rule-making. This suggests that some of the rules promulgated under the retrospective review process may have been already in progress, perhaps under existing statutory review authorities. It also suggests a potential disconnect between agency staff responsible for coordinating retrospective review and those responsible for writing new rules.

Economically significant regulations may be especially good candidates for retrospective review, since finding ways to improve the efficacy or reduce the burden of large rules may deliver quite

¹⁶ Appendix Table 1 lists each of these 25 rules, including promulgating agencies, RINs, regulation title, proposed and final rule dates, and whether a given rule is classified as major under the Congressional Review Act and whether it references retrospective review under Executive Order 13563.

substantial societal benefits. To assess the impacts that the retrospective review program has had on these economically important rules, I evaluated all major rules listed in the 2013 and 2014 annual reports to Congress on the benefits and costs of Federal regulations (Office of Management and Budget 2013a, 2014). Tables 6 and 7 present the summaries of the results for executive branch agencies' non-transfer rules for 2014 and 2013, respectively.¹⁷ In 2014, executive branch agencies issued 24 major rules, only two of which were identified as the products of retrospective review under Executive Order 13563. Less than one-third of the rules were issued with monetized benefits and costs, and not one regulation included a plan for retrospective review of the rule in the future. Given the dearth of estimates of benefits – 15 of the rules were issued without monetized benefits – integrating future retrospective review in the implementation of the rule could address the apparent information deficit about the societal benefits of these government interventions. The results for 2013 reveal a similar story: only three of 25 major rules were the result of retrospective review; 15 of the 25 rules included monetized benefits and costs; and not one regulation included a plan for future retrospective review of the rule.

Tables 8 and 9 present a similar analysis for the transfer regulations promulgated by executive branch agencies in 2014 and 2013, respectively.¹⁸ In these two years, the Federal government promulgated 46 major transfer rules and estimated the monetized transfers in all but two rules. Only three of these 46 rules were identified as the result of retrospective review under Executive Order 13563, and none of the rules include a plan for future retrospective review of the rule.

Table 10 and 11 present a similar analysis for regulations promulgated by independent regulatory agencies in 2014 and 2013, respectively.¹⁹ In these two years, the independent regulatory agencies issued 39 major rules, none of which monetized the benefits and only eight monetized the

¹⁷ Appendix Tables 2 and 3 present the details on each rule underlying Tables 6 and 7.

¹⁸ Appendix Tables 4 and 5 present the details on each rule underlying Tables 8 and 9.

¹⁹ Appendix Tables 6 and 7 present the details on each rule underlying Tables 10 and 11.

costs of the regulatory action. None of the rules were identified as the result of retrospective review under Executive Order 13579 and none of the rules included a plan for future retrospective review of the rule. The absence of monetized benefits and/or costs for most major rules issued by independent regulatory agencies highlights opportunities for integrating retrospective review in the design and implementation of a rule to ensure that such information is available for potential future modifications of these rules.

The initial phase of retrospective review may have had a modest impact on major rules because these larger, more complicated rules often have longer development timelines. Nonetheless, it appears that more can be done to build the culture of retrospective review. This could be developed through the process of writing new rules, such as by incorporating plans for future retrospective review in the design and implementation of rules (see more on this below).

The approach to improving the evidentiary basis for evaluating the performance of the Federal regulatory program could be integrated into broader efforts to improve the rigor and enhance the role of program evaluation in the Federal government (Office of Management and Budget 2009; Council of Economic Advisers 2014). A number of departments and agencies have identified the importance of evaluating performance in facilitating their attainment of their strategic objectives. For example, the Department of Homeland Security (2012) in its strategic plan notes that it will “expand program analysis and evaluation during and after program execution” (p. 24). The Department of Labor (2014) in its strategic plan emphasizes that its “research and evaluation agenda is designed to assure that the Department’s programs and initiatives achieve their intended goals, have positive impacts, and support the Secretary’s vision of promoting and protecting opportunity” (p. 88). The Environmental Protection Agency (2014b) in its strategic plan notes that “program evaluation results may affirm existing strategies or identify opportunities for improvement, or may lead to changes in policy, resource decisions, or program implementation” (p. 42). Retrospective review of regulations could be another example of this

effort to evaluate government performance in order to inform ways to improve government performance. The Government Accountability Office (2014) notes that agencies could do a better job connecting their efforts under retrospective review with their priority goals.

Time-frame for Retrospective Review

The short time-frame under the Obama Administration executive orders – less than three months to develop plans and reporting every six months – does not necessarily square well with existing retrospective review requirements. The Environmental Protection Agency (2011) reviews and updates regulations on ambient air quality for major pollutants on a five-year cycle. The Department of Transportation (2011) has a specified schedule for reviewing all rules over a ten-year period pursuant to the Regulatory Flexibility Act. The U.S. Department of Agriculture (2011) reviews regulations pursuant to the regular legislative cycle associated with farm bill reauthorizations. The Department of Energy (2011) reviews appliance efficiency standards on a six-year cycle. In contrast, the Department of Health and Human Services (2011) reviews Medicare payment rules annually consistent with the appropriations process. In some cases, the requirement for a draft plan, a revised plan, and regular reporting of an agency's retrospective review effort crowded out resources and personnel dedicated to pre-existing retrospective review efforts. Such short time-frames also create incentives to seek out the easy to fix and the already-in-the-pipeline rulemakings to highlight as winners, as opposed to the potentially more complicated but also larger economic impact rules. For example, many agencies highlighted changes in reporting requirements as a large fraction of initial reviews (Department of Health and Human Services 2012c, 2013a; United States Department of Agriculture 2013b; Environmental Protection Agency 2013a; Department of Energy 2012b; Government Accountability Office 2014). In other cases, rules in the pipeline – such as changes in appliance efficiency standards at the Department of Energy (2012a, 2012b, 2012c, 2013a, 2013b) – are identified as revised rules under the executive orders.

Lutter (2013) evaluates and compares retrospective review under the Obama Administration executive orders, and finds much higher quality retrospective reviews at the National Highway Transportation Safety Administration than at the Environmental Protection Agency. Indeed, he claims that many of what the Environmental Protection Agency identifies as retrospective reviews are, in practice, business as usual. It is important to note, however, that much of business as usual at the Environmental Protection Agency is the periodic updating of regulations under its various authorities, and by its nature such updating will involve some consideration of past experience, efficacy, and potentially economic impacts of existing rules. Moreover, the existing data collection by the National Highway Transportation Safety Administration facilitates timely ex post review of impact and ex post analysis of benefits and costs, which highlights the need to collect data that adds value to analysis in the implementation of rules.

Retrospective Triage: Review and Analysis

The vast majority of status updates on agencies' retrospective review programs do not include evidence of formal retrospective analysis, such as ex post estimates of benefits, costs, or efficacy. For many rules identified in plans and review updates, such an analysis would exceed in quality, rigor, and necessary resources what may have been undertaken at the time the rules were proposed. For example, rules that do not trigger the economically significant threshold under Executive Order 12866 typically receive much less analysis – and reasonably so since the returns to analysis are modest for economically small rules – than those that trigger this classification. Most of the analyses, such as estimated cost savings from removing regulatory burdens, in agency reviews focus on what can be achieved through reducing paperwork and reporting obligations, or transforming some of these obligations to electronic reporting. If a rule did not merit rigorous ex ante analysis – because the estimated economic impacts were modest – then it may not merit rigorous ex post analysis, unless the regulator has some

information – from the public, stakeholders, third party analysis, academic research, etc. – that shows that the economic impacts substantially exceeded what was anticipated.

Streamlining the way the government collects information on the actions of regulated firms is fundamentally different than an assessment of whether an economically important rule is delivering on societal objectives identified in authorizing legislation and doing so in a cost-effective and/or efficient manner. Thus, retrospective review should likewise discern these activities. Each is important and each results in a more efficient regulatory program. A base level of ex post assessment to determine opportunities for improving the efficiency of the implementation of existing regulations should be undertaken, and a more rigorous ex post analysis should be undertaken for those rules that deliver quite substantial economic benefits and/or costs.

It is also important to recognize that given resource constraints, agencies do not have the time or personnel to undertake detailed analysis of every rule. Indeed, requiring an examination, even a cursory one, of an agency's entire regulatory program may involve significant opportunity costs. As a result, an effective system of triage in retrospective review could orient scarce resources to where they could deliver the greatest improvement in social welfare. For example, a standard checklist based on criteria for identifying regulations for review could provide guidance to the extent and nature of the retrospective review for a given regulation. For illustrative purposes, consider the following:

- Has the agency received any petitions from the public for review?
- Was the rule considered economically significant when finalized?
- Is there any evidence that the rule imposes economically significant impacts?
- Does the rule duplicate efforts by other regulatory agencies?
- Has the legislative authority for the rule changed since it was promulgated?
- Does the rule employ any outdated monitoring, record-keeping, or reporting requirements (e.g., paper instead of electronic reporting)?

If the answers to these questions is “no,” then the rule may not require any further review. If the answer is “yes,” then further review could be undertaken. If only the last question applies, then a quick review and proposal for regulatory revision could be implemented, and then the rule would be subject to no further review. If the rule has substantial economic impacts, then it may merit detailed retrospective analysis. An agency could identify a small number (e.g., two or three) rules that exceed a specified economic threshold (economically significant, or perhaps even a larger quantitative threshold) for detailed ex post analysis of efficacy, benefits, and costs.

What Does One Size Does Not Fit All Mean? The Need for Retrospective Review Guidance

The heterogeneity across regulatory agencies – in terms of the types of market failures and social problems addressed, number of rules issued, availability of instruments for implementation, economic magnitudes of interventions, and methods of analysis used in evaluating proposals – suggests that a “one size fits all” approach to retrospective review would not work well. Indeed, this is reflected in the discretion left to the regulatory agencies under the Obama executive orders in designing their plans.

While one size may not fit all, a common guidance document issued by the Office of Management and Budget could promote best practices and better coherence in the retrospective review of regulations. If retrospective review is considered an important element in the evaluation of the Federal regulatory program, much like ex ante review of proposed regulations, then it could benefit from guidance on par with the Circular A-4 guidance for benefit-cost analysis of prospective rules. Coglianese (2013a, 2013b) has called for such guidelines on ex post retrospective analysis of rules to ensure that “anecdotal, expert-based assessments” are not used as a substitute for rigorous analysis of the causal impact of regulations.

Such guidance could address several aspects of the retrospective review process. First, the guidance could provide general criteria for identifying and prioritizing regulations for review. Some agencies developed an explicit set of criteria for identifying rules for retrospective review, while other agencies appeared to use less formal means of doing so (such as the result of internal consultations with staff and outreach to interested stakeholders). For example, the Department of Agriculture (2011) employed these criteria:

- Urgency for improving customer service by means of simplification, streamlining, or improved quality for information collection procedures;
- Comments from stakeholders;
- Resource capacity and potential approval process timelines; and
- Likelihood of statutory change.

The Department of Justice (2011) established a three-part process. First, candidate rules for review:

- Could result in greater net benefits to the public if modified; or
- Could be replaced by other, less burdensome regulatory alternative without compromising regulatory objectives.

Based on this initial screen, the Department of Justice employs criteria similar to those described above in the context of the Carter Executive Order and the Regulatory Flexibility Act. Upon selecting a set of rules, the Department then prioritizes those that impose high costs or burdens on the public or affect a large number of entities and/or disproportionately impacts small business. At other agencies, it appears that public comment and internal identification of rules served as the primary means for selecting rules for review (Department of Energy 2011; Department of Labor 2011).

The Institute for Policy Integrity (2011a-2011f) at the New York University Law School published comments on the draft agency regulatory plans. In several cases, the Institute for Policy Integrity criticized agencies for failing to provide any criteria for selecting regulations (Institute for Policy Integrity

2011b, 2011d, 2011e). In other cases, the Institute for Policy Integrity (2011a, 2011f) argued that criteria should guide the selection of rules for review for which relevant circumstances associated with the rule have changed, new data on benefits and/or costs are available, and when review could result in actions that “pose the greatest opportunity to increase net benefits” (Institute for Policy Integrity 2011f).

Second, the guidance could present best practices on the conduct of an ex post benefit-cost analysis, cost-effectiveness analysis, and efficacy analysis. Coglianesi (2012a, 2012b) notes that estimating a set of indicators – on the impact, cost-effectiveness, and net benefits of a rule – could serve as the basis for evaluating a rule ex post. Ex post reviews could look beyond these measures of the outcome of the rule to cover as well the regulatory administration and behavioral compliance with the rule (Coglianesi 2013d). For example, the guidance could address methods and presentation of analysis. In terms of presentation, the cover page for the summary of the retrospective analysis could identify specific items which must be addressed:

- Identify the objective of the regulation;
- Quantify the impact (i.e., the efficacy) of the regulation in attaining the objective;
- Present estimates of the cost-effectiveness of the implementation, and identify cost-effectiveness of feasible alternatives that could be proposed as a revision to the existing rule;
- Present estimates of the benefits and costs of the existing rule, and identify benefits and costs of feasible alternatives.

In terms of methods, the guidance could inform the design of future regulations to ensure that they produce data to permit causal inference of the impacts of the rules (more on this below). Finally, the guidance could identify the key elements of a retrospective review that could inform subsequent action by the regulator. This could include: ex post benefits and costs, a measure of cost-effectiveness, a

measure of efficacy (i.e. success in delivering on the statutory objective), rate of regulatory compliance, and identification of potential alternative ways forward under regulatory revision.

Reducing Regulatory Duplication and Promoting Multi-Agency Coordination

Reducing regulatory duplication has been an objective of retrospective reviews dating back to the 1978 Carter Executive Order and the 1980 Regulatory Flexibility Act. This is all the more important today, as agencies deal with various overlapping jurisdictions, whether in the financial regulation space (various independent financial regulators), food safety (Food and Drug Administration and Department of Agriculture), endangered species management (Environmental Protection Agency, Department of Agriculture, Department of Commerce, Department of the Interior, and others), etc. And yet, the approach to addressing such duplication has typically been to leave the issues to be resolved by the agencies themselves. In some cases, there has been prompting by the Office of Management and Budget, but there have only been ad hoc and issue-specific efforts to address potential regulatory duplication.

Cumulative Burden of Federal Regulations

In 2012, the Office of Management and Budget (2012) issued guidance focused exclusively on the issue of the cumulative effects of regulations. This guidance addressed how agencies could use public engagement to identify cumulative burdens of the Federal regulatory system. While a number of agencies identified the issue of cumulative burdens in their retrospective review plans (e.g., Department of Health and Human Services 2011, Environmental Protection Agency 2011, Nuclear Regulatory Commission 2014) and agencies solicited information from the public on cumulative burdens (e.g., Department of Energy requests for information through the Federal Register: 76 FR 6123; 76 FR 75798; 77 FR 28518; 77 FR 47328), this issue received very little attention in the regular progress reports. In a

word search of all progress reports listed in Table 2, the only reference to the “cumulative” impacts of regulation is in a response to comments in the Environmental Protection Agency’s (2014) January 2014 progress report. There are cases in which agencies addressed cumulative impacts of redundant and/or overlapping regulations without expressly using the term cumulative – such as the Environmental Protection Agency’s revision of the “spilled milk” rule in light of the Department of Agriculture’s regulatory oversight.

The related term “redundant” appears more frequently in the progress reports. For example, the Department of Homeland Security (2011, 2014) discuss public requests to “eliminate redundant regulations” by integrating data collection requirements related to immigration and customs. The Department of Transportation (2013) notes that the Federal Motor Carrier Safety Administration has proposed to eliminate redundant inspection, repair, and maintenance requirements. The Environmental Protection Agency (2012c) indicates that it would revise regulations under its transportation fuels program to address redundant reporting requirements. It’s important to note, however, that a set of rules, potentially issued by a number of regulators, could impose substantial cumulative impacts on affected entities without necessarily being redundant.

The complete absence of discussion of cumulative impacts in identified regulatory actions in the semi-annual progress reports suggests that this issue does not receive substantial consideration by agencies. This reflects, in part, the standard approach to regulatory review – whether a rule is in the development stage at the agency, in its consideration in OMB coordinated interagency review, in its prospective analyses, and in this retrospective analysis effort – to focus one rule at a time. Indeed, the template for semi-annual reporting may reinforce this rule-by-rule approach with its tabular format: a row is often associated with a regulatory information number (RIN), which is typically assigned to a specific rule-making process. Other than reducing individual rule burdens, agencies did not meaningfully address cumulative burden of the Federal regulatory program.

International Regulatory Coordination

Improving multi-agency coordination would help address these issues of duplication and also better identify the cumulative extent of regulatory burdens borne by regulated entities. This can also be important as the United States works to better coordinate regulatory policy with our major trading partners. Each country is different in how it allocates regulatory responsibility to various agencies within its government, and thus regulatory coordination and coherence on any specific set of regulatory issues will likely involve multiple regulatory agencies in each country. With an increasing number of countries undertaking some form of retrospective review of regulations (Organisation for Economic Co-operation and Development 2009), there may also be opportunities for U.S. government agencies to coordinate with overseas counterparts on retrospective review and hence potentially learn from other countries' regulatory agencies. For example, the European Commission is implementing the Regulatory Fitness and Performance Program, which "aims to cut red tape, remove regulatory burdens, simplify and improve the design and quality of legislation so that the policy objectives are achieved and the benefits of EU legislation are enjoyed at lowest cost and with a minimum of administrative burden" (European Commission 2014, p. 2). Likewise, New Zealand has recently begun implementing an extensive regulatory look back and review program (New Zealand Treasury 2013). These retrospective review efforts in other nations may provide additional insights for the implementation of retrospective review in the United States.

Informing Statutory Reform

Morrall III and Broughel (2014) note that retrospective reviews can help highlight the inefficiencies in existing statutory authorities even if they cannot, due to statutory limitations, result in the rescission of the rule. Moreover, creative retrospective reviews can focus on how alternative policy

instruments – including those beyond current statutory authority – may inform authorizers in Congress and help shape welfare-improving legislative reforms in the future.

The Role of Politics

It is difficult to look back at the various Presidential-mandated retrospective reviews and not draw the conclusion that they were politically motivated. Political attention can be quite important by providing direction, resources, and impetus for action. Indeed, a number of agencies assigned responsibility for implementation of retrospective review to senior political appointees, including several deputy secretaries (e.g., Department of Agriculture 2011) and to their general counsels. Having said that, retrospective review, like prospective review, is fairly bureaucratic in nature, and politicization risks undermining the quality of the review, especially if political leaders (perhaps reflecting the views of some of their stakeholders) hold strong prior assumptions about the outcome of the reviews. In fact, the implicit prior assumption that there are excessive regulatory burdens colors many of the past retrospective review initiatives.

As a result, clear guidelines on the conduct of retrospective reviews can mitigate some of the potential downside risks of the role of politics. Of course, one cannot divorce politics from regulatory policy, and indeed political support will be important for long-term success and institutionalization of retrospective review. Engaging political leaders within regulatory agencies can result in energy as well as the allocation of resources to deliver results.

Plan for Retrospective Analysis

In several of its guidance memoranda, the Office of Management and Budget noted the importance of promoting the culture of retrospective review through the design of future regulations “in ways that facilitate evaluation of their consequences and thus promote retrospective analyses”

(2011b, 2011c). Yet, as the review of the academic literature on the costs, benefits, and impacts of Federal regulations indicates, some rules are difficult to evaluate through rigorous statistical methods. This may reflect the absence of necessary data to undertake a feasible analysis or an implementation that does not naturally lend itself to causal identification. Planning for ex post analysis of a rule could ensure both the availability of such data and an implementation scheme that may permit causal inference on the impact of the rule. A number of agencies discussed their interest in considering ex post review in the design of their future regulations. The Department of Homeland Security indicated that it would “build in retrospective review at the earliest stages of regulatory development” (Department of Homeland Security 2011; Coglianese 2011). The Departments of Labor, the Interior, and Treasury indicated an interest in experimental designs to facilitate rigorous statistical evaluation of their regulatory actions (Department of Labor 2011; Coglianese 2011; Sunstein 2011). Such an analysis could help address key questions the public may have, such as was the rule successful (Coglianese 2013a , 2013b, 2013c). Additional empirical research – either conducted by regulatory agencies, by interested stakeholders, or academics – could promote greater regulatory coherence and efficiency (Coglianese 2002).

Recently, the National Center for Environmental Economics (2012) at the Environmental Protection Agency undertook a retrospective analysis of the costs of five economically significant regulations promulgated by various program offices in the 1990s and 2000s. The researchers took a case study approach in attempting to assess ex post costs, and they quickly found that publicly available data would be insufficient for four of the case studies. In these cases, the National Center for Environmental Economics consulted with industry compliance experts to acquire information about costs. This illustrates the value in structuring the implementation of new rules such that they produce such data for ex post analysis by the regulator.

The National Marine Fisheries Service promulgated a 2013 rule that covers the speed of vessels that could collide with North Atlantic right whales (78 FR 73726). This rule removed a sunset provision and established that the agency would periodically review the benefits and costs of the rule, and no later than five years after the publication of the final rule. While the rule did not describe in detail how the review would be undertaken, it does establish the norm for periodic review of performance and consideration of net social benefits.

Incorporating the design of ex post review into ex ante planning of regulations may also help address the tension between working on new regulations and looking back at old regulations. In one sense, retrospective review appears to be another task imposed on regulators by the White House without a commensurate increase in resources. Political leaders within a regulated agency may have an agenda focused on promulgating new regulations. Staff at agencies may be reluctant to vigorously evaluate existing regulations out of concern that it could lead to criticism of some of their past work. Integrating ex post analysis into the design of a new rule can make future ex post review more efficient (thus requiring fewer staff resources) and break down the dichotomy and tension between looking back and looking forward. In effect, it would make looking back part of improving the quality of looking forward. The Council of Economic Advisers (2014), drawing on extensive private sector experimentation and recent public sector program evaluations, notes that building evaluation into the design of a program – and thus track performance on an ongoing basis – can result in lower costs.

The Challenge of the Counterfactual

In evaluating the efficacy, benefits, and costs of any individual regulation, an analyst must make a determination about the counterfactual, i.e., what would have happened in the absence of the regulation. In ex ante analysis, this requires constructing an alternative future scenario, or baseline, from which to assess the impacts of the proposed regulation. In ex post analysis, this requires

constructing an alternative historic scenario for comparison with the implemented regulation. The choice of counterfactual can be quite challenging and subject to criticism.

This challenge holds for the evaluation of an Administration-wide program of retrospective review. Unlike a randomized experiment, there is not a set of regulatory agencies randomly assigned to undertake retrospective review (the “treatment” group) and a set of regulatory agencies randomly assigned not to undertake such review (the “control” group). All agencies participate in retrospective review, and executive branch agencies have generally complied with the regular reporting requirements under Executive Orders 13563 and 13610 even as they tailor their implementation of retrospective review to their own circumstances. Moreover, agencies already conducted various kinds of retrospective review – under the Regulatory Flexibility act, under Executive Order 12866, under regular legislative reauthorization processes (e.g., the Farm Bill, the Transportation Bill, etc.), and under specific statutory authorities (e.g., the five-year cycle for Environmental Protection Agency review of the National Ambient Air Quality Standards, the six-year cycle for Department of Energy minimum efficiency standards for appliances, etc.). Thus, it is difficult to ascertain the incremental effect of the review called for under the Obama Administration executive orders. Regardless of the policy driver, over the past three years agencies have modified, streamlined, and rescinded existing rules that have delivered cost savings in the tens of billions of dollars.

Recommendations

Retrospective review can inform regulators, stakeholders, and the general public on the efficacy, benefits, and costs of Federal regulatory policy. Such reviews of existing regulations can help identify what works and focus efforts to improve the design and implementation of regulatory policy in those areas that are not effectively delivering on societal objectives. By enhancing the transparency of government regulations, retrospective review can make regulatory policy more accessible to the public. In light of the benefits that retrospective review can deliver to regulatory policy, these recommendations aim to improve and institutionalize the practice of retrospective review of existing regulations.

Retrospective Review Guidelines

The Office of Management and Budget should work with regulatory agencies to establish guidelines for the conduct of retrospective review. Just as Circular A-4 has promoted the culture of prospective review and institutionalized a professional and rigorous approach to evaluating ex ante the impacts of proposed regulations, new guidance for how agencies evaluate their existing rules would help institutionalize retrospective review.

The guidance should inform agencies in designing and publicizing a process for prioritizing certain rules for retrospective analysis. Agency processes should be transparent and enable the public to understand why the agency prioritized certain rules for review in light of the articulated selection criteria. The following factors can help identify candidates for retrospective review that could inform regulatory revision: likelihood of improving attainment of statutory objective; likelihood of increasing net social benefits and the magnitude of those benefits; uncertainty about the accuracy of initial cost

and benefit estimates; changes in underlying economic conditions, technological advances, evolving social norms, and/or changes in public risk tolerance; cumulative regulatory burden created by the rule (in conjunction with other, related regulations); changes in statutory authority; internal administrative burden associated with the regulation; comments, petitions, complaints, or suggestions received from stakeholders and the general public; opportunities for closing differences between U.S. regulatory approaches and those of key international trading partners.

While agencies will likely focus their retrospective analysis resources primarily on regulations that satisfy the criteria list above, they should also take advantage of simple opportunities to improve regulations when the changes are relatively minor, such as reducing paperwork and reporting burdens.

Agencies' most economically significant rules could be subject to further guidelines on the conduct of retrospective analysis. Such analyses could focus on ex post estimates of benefits, costs, cost-effectiveness, attainment of statutory objective, and regulatory compliance. This would include guidance on how to plan for ex post analysis in the design and implementation of new regulations (see next recommendation). To strengthen the incentives for timely, high-quality ex post analysis, the guidance could call for integrating the design of the ex post analysis in the text of the regulation. The guidance could explore other incentives for ex post analysis, such as sunset provisions in rules that would be triggered absent a positive outcome from an ex post analysis. Finally, the guidance could provide a template for data collection protocols specific to ex post analysis.

This guidance should provide opportunities for agency discretion, just as Circular A-4 does, so that agencies may tailor the details of their retrospective review and analysis program to the unique characteristics of their regulatory program. In doing so, agencies and the Office of Management and Budget should strive to integrate retrospective review with existing mandates for review under the Regulatory Flexibility Act and agencies' existing statutory authorities.

Integrating Retrospective Review into New Regulations

When formulating new regulations, agencies should present in the rule's preamble a framework for reassessing the regulation at a later date. The rigor of the analysis should be tailored to the rule. The framework should include the following. Agencies should describe the methods they will employ to evaluate the efficacy of and the impacts caused by the regulation, using data-driven experimental and quasi-experimental designs, where appropriate. Agencies should include a clear statement of the rule's intended regulatory results with some objectively measurable outcomes and a plan for gathering the data needed to measure the desired outcomes. Objectives may include measures of efficacy, benefits, costs, and cost-effectiveness. Agencies should identify key assumptions underlying any regulatory impact analysis performed on the regulation. This should include a description of the level of uncertainty associated with projected regulatory benefits and costs. Agencies should establish a target time frame within which they plan to reassess the regulation.

Agencies should consider designing their regulations in ways that allow for experimentation, innovation, competition, and experiential learning. Agencies might allow states and localities greater flexibility to tailor regulatory programs to their specific needs and circumstances to serve as models for alternative regulatory approaches. Many of the statutes that authorize Federal regulations are based on shared responsibility among different levels of government and are thus amenable to such flexibility.

In developing their frameworks, regulatory agencies could draw from experts in statistical offices as well as policy and program evaluation shops from around the government to develop research design protocols for those agencies with the most economically significant rules. To promote best practices across government and facilitate cross-agency learning, a given research design team should include representatives from an agency's program office and its statistics or program and policy offices as well as representatives from experts in other agencies. In particular, these research design teams

could draw from staff with expertise in evaluation of government programs – such as from the Departments of Labor and Health and Human Services – to share their insights from program evaluation for application in regulatory evaluation.

The research design teams would have the task of operationalizing the guidance for ex post analysis, and tailoring it to each agency. They should identify one or a small set of upcoming new rules to work on within each agency, to serve as proof of concept and demonstrate opportunities for replication in subsequent rule-makings. The teams would bring expertise and independence to the task, but by also incorporating those from within the regulatory agency, they would also facilitate buy-in to what, for some agencies, would be the new approach to designing regulations for evaluation. The research design teams should also develop protocols for the public dissemination of data and analysis (such as online availability), to promote external, independent replication of economic analyses of existing rules by academics and interested stakeholders.

Independent Review

Agencies should consider assigning the primary responsibility for conducting retrospective review to a set of officials other than those responsible for producing or enforcing the regulation, and ensure that these officials have adequate resources to conduct effective reviews. Reviewing officials should coordinate and collaborate with rule writers and those responsible for enforcing the rules.

Regulatory Coordination

Regulatory coordination can help address regulatory overlap and redundancies as well as gaps in regulatory oversight. Regulatory coordination is also hard. There are a few examples of joint

rulemakings (such as by the Commodity Futures Trading Commission and the Securities Exchange Commission in implementing the Dodd-Frank Act as well as by the Department of Transportation and the Environmental Protection Agency on fuel economy and tailpipe carbon dioxide emissions), and examples of agencies ceding regulatory authority as a result of sufficiency of another agency's oversight (e.g., the "spilled milk" rule discussed above). The Office of Management and Budget should work with agencies to promote better regulatory coordination. Some of this can build on existing ad hoc networks among regulators, but a more formal effort, such as through regular meetings of the Regulatory Working Group, could promote further coordination. This regulatory coordination could focus on long-term planning – say over the next five or more years – and identify opportunities for streamlining government oversight involving multiple agencies.

Agencies should consider regulations adopted by key trading partners and examine the possibility of either harmonizing regulatory approaches or recognizing foreign regulations as equivalent to their U.S. counterparts when doing so would advance the agency mission or remove an unnecessary regulatory difference without undermining that mission.

In the context of independent regulatory agencies, they may consider voluntarily participating in these Office of Management and Budget-coordinated processes. Alternatively, they may employ their own mechanisms for potential regulatory coordination. For example, the financial regulatory agencies could work through the Financial Stability Oversight Council to identify common analytical methods for retrospective review (perhaps through the Office of Financial Research) as well as identify opportunities for improved coordination.

Cumulative Regulatory Burden

The vast majority of regulatory evaluation focuses on prospective, rule-by-rule analysis. As a result, there is little assessment of the cumulative regulatory burden of specific agency's regulatory programs or the entirety of Federal regulation. The aggregation of benefits and costs of economically significant rules in the annual report to Congress from the Office of Management and Budget does not convey effectively the cumulative burden of regulation. First, it simply sums the ex ante estimates of benefits and costs of economically significant regulations across the U.S. economy. Thus, it does not address the cumulative burden specific to any class of firms, industries, etc. Moreover, it does not capture the impacts of non-significant rules. Second, it does not account for potential interactions among regulations. The overlap of multiple rules could potentially increase or decrease economic burdens. This is an empirical question, but the current accounting in the annual reports does not address this question. Third, simply adding up benefits and costs does not provide relevant context for burden. For example, one way to consider whether a burden is unnecessary is if the costs per unit of benefit (e.g., reduction in mortality risk, or reduction in financial sector systemic risk) are higher for some rules than for others. If there is significant variation in cost-effectiveness across the Federal regulatory program, then the cumulative burden is greater than is necessary to deliver on the societal objective.

As a result, new procedures for estimating cumulative burden should be explored. The Office of Management and Budget and the Council of Economic Advisers could convene an interagency working group to develop options for estimating the cumulative regulatory burden of the Federal regulatory program. Such an effort could explore how the burden may vary across industries, may vary by size of firms, and may vary in response to new regulations. It could investigate various analytic tools that could generate such estimates. It could also identify several societal objectives common to multiple regulatory

agencies (e.g., mortality risk reduction) and evaluate the cost-effectiveness of regulations in delivering on these societal objectives. The results of this interagency process could be published as part of the Office of Management and Budget's annual report to Congress on the benefits and costs of Federal regulations, and the report could solicit comment on the identified options. In addition, the Office of Management and Budget could request a National Research Council committee to review and analyze the proposed options and, if necessary, advance alternative approaches to estimating cumulative burden. This effort should also include mechanisms for public dissemination of data to facilitate replication by academics and interested stakeholders.

Public Participation

A culture of retrospective review will only take hold if it involves the stakeholders of specific agency regulatory programs. If the stakeholders are engaged in retrospective review, then they will provide positive reinforcement for the application and improvement of such review. Thus, agencies should continue their active outreach to stakeholders and the public more generally. This includes extensive use of social media for communicating the status of retrospective review. Moreover, agencies should solicit data and analysis on the impacts of existing regulations from stakeholders, as well as academic researchers, and, where possible, make this information available to the public through the internet. Agencies should also be transparent about these requests by noting publicly when they have made such requests. This will create a positive incentive for stakeholders to engage with the agencies. Agencies may also solicit petitions for review from the public.

Regulatory agencies could also consider working with interested stakeholders to create external review boards that would use agency data and attempt to replicate agency retrospective analyses of regulations. This promotes further buy-in by stakeholders and creates an additional opportunity for

independent analysis. Agencies should disclose relevant data concerning their retrospective analysis of existing regulations on their Open Government webpages. In so doing, and to the extent appropriate, agencies should organize the data in ways that allow private parties to recreate the agency's work and to run additional analysis concerning existing rules' effectiveness.

Resources

Improving the Federal regulatory program through an enhanced, institutionalized retrospective review will require additional resources. Asking regulatory agencies, many of which are understaffed given the current workload of potential new regulations, to undertake new responsibilities for retrospective review only creates further pressures on scarce resources. The Administration should work with Congress to provide additional resources to support retrospective review. While the current fiscal and political environment may illustrate some challenges for increasing funding for regulators, it is important to recognize the potentially significant returns to these resources if they enable reforms that increase the net social benefits of the Federal regulatory program.

References

- Abadie, Alberto, Alexis Diamond, and Jens Hainmueller. 2010. Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California's Tobacco Control Program. *Journal of the American Statistical Association* 105(490).
- Abbott, Linda, Robert Johansson, and James Schaub. 2013. Using a Systems Approach to Retrospective Regulatory Review: Quantifying Economic Impact and Potential Risk Reduction Due to Cumulative Regulatory Actions in an Agricultural Watershed in Washington. USDA Office of the Chief Economist. Internet:
http://www.usda.gov/oce/risk_assessment/presentations/MiniSRA_Abbott.pptx.
- Administrative Conference of the United States. 2011. Retrospective Review of Existing Regulations Workshop Summary. Washington, DC: ACUS.
- Aldy, Joseph E. and W. Kip Viscusi. 2014. Environmental Risk and Uncertainty. In: *Handbook of the Economics of Risk and Uncertainty*, Volume 1, Mark J. Machina and W. Kip Viscusi, eds., Elsevier, 601-649.
- Arrow, Kenneth J. et al. (40+ contributors). 2000. National Ambient Air Quality Standards Brief. Amicus Curiae Brief submitted to the U.S. Supreme Court, American Trucking Association, Inc. et al. vs. Carol M. Browner, Administrator of the Environmental Protection Agency, et al., No. 99-1426, July 21, 2000.
- Becker, Randy and Vernon Henderson. 2000. Effects of Air Quality Regulation on Polluting Industries. *Journal of Political Economy* 108: 379-421.
- Bennear, Lori S. and Sheila M. Olmstead. 2008. The Impacts of the "Right to Know": Information Disclosure and the Violation of Drinking Water Standards. *Journal of Environmental Economics and Management* 56(2): 117-130.

- Bernanke, Ben S. 2011. Letter to Cass R. Sunstein, Administrator, Office of Information and Regulatory Affairs, OMB, November 8. Internet:
<http://www.federalreserve.gov/generalinfo/foia/regulatory-burden-reduction-111115.pdf>.
- Berry, Christopher R. and Sarah L. Lee. 2007. The Community Reinvestment Act: A Regression Discontinuity Analysis. Harris School Working Paper Series 07.04. Chicago: University of Chicago.
- Bull, Reeve T. 2014. Building a Framework for Governance: Retrospective Review and Rulemaking Petitions. *Administrative Law Review*, forthcoming.
- Bureau of Consumer Financial Protection. 2011. Streamlining Inherited Regulations. Notice of streamlining project; request for information. *Federal Register* 76(233): 75825-75829.
- Carlson, Curtis, Dallas Burtraw, Maureen Cropper, Karen L. Palmer. 2000. Sulfur Dioxide Control by Electric Utilities: What Are the Gains from Trade? *Journal of Political Economy* 108(6): 1292-1326.
- Coglianesi, Cary. 2013a. Institutionalizing Regulatory Lookback. RegBlog, Penn Program on Regulation, University of Pennsylvania, June 10, 2013.
- Coglianesi, Cary. 2013b. Moving Forward with Regulatory Lookback. *Yale Journal on Regulation* 30: 57-66.
- Coglianesi, Cary. 2013c. Moving Toward the Evaluation State. RegBlog, Penn Program on Regulation, University of Pennsylvania, December 9, 2013.
- Coglianesi, Cary. 2013d. Thinking Ahead, Looking Back: Assessing the Value of Regulatory Impact Analysis and Procedures for Its Use. *KLRI Journal of Law and Legislation* 3(1): 5-28.
- Coglianesi, Cary. 2012a. Improving Regulatory Performance through Ex Post Evaluation. RegBlog, Penn Program on Regulation, University of Pennsylvania, August 27, 2012.
- Coglianesi, Cary. 2012b. Measuring Regulatory Performance: Evaluating the Impact of Regulation and Regulatory Policy. Expert Paper No. 1. Paris: OECD.

Coglianesi, Cary. 2012c. Taking Regulation Seriously. RegBlog, Penn Program on Regulation, University of Pennsylvania, January 28, 2012.

Coglianesi, Cary. 2011. The Administration's Regulatory Review Plans: Toward Evidence-Based Governance. RegBlog, Penn Program on Regulation, University of Pennsylvania, May 26, 2011.

Coglianesi, Cary. 2002. Empirical Analysis and Administrative Law. University of Illinois Law Review 2002(4): 1111-1137.

Coglianesi, Cary and Lori D. Snyder Benneer. 2005. Appendix E: Program Evaluation of Environmental Policies: Toward Evidence-Based Decision Making. In: Decision Making for the Environment: Social and Behavioral Science Research Priorities, Garry D. Brewer and Paul C. Stern, eds. Washington, DC: National Academies Press.

Commodity Futures Trading Commission. 2013a. Fifth Status Report on CFTC Retrospective Review of Agency Regulations. July 2013. Internet:
www.cftc.gov/ucm/groups/public/@aboutcftc/documents/file/oirastatusreport070813.pdf.

Commodity Futures Trading Commission. 2013b. Fourth Status Report on CFTC Retrospective Review of Agency Regulations. January 2013. Internet:
<http://www.cftc.gov/ucm/groups/public/@aboutcftc/documents/file/oirastatusreport011113.pdf>.

Commodity Futures Trading Commission. 2012. Second Status Report on CFTC Retrospective Review of Agency Regulations. June 2012. Internet:
<http://www.cftc.gov/ucm/groups/public/@aboutcftc/documents/file/oirastatusreport060712.pdf>.

Commodity Futures Trading Commission. 2011a. Status Report on CFTC Retrospective Review of Agency Regulations. November 2011. Internet:

<http://www.cftc.gov/ucm/groups/public/@aboutcftc/documents/file/oirastatusreport110711.pdf>.

Commodity Futures Trading Commission. 2011b. Reducing Regulatory Burden; Retrospective Review under E.O. 13563. Request for information. Federal Register 76(126): 38328-38330.

Copeland, Curtis W. 2004. Federal Regulatory Reform: An Overview. CRS Report to Congress. April 21. Washington, DC: Congressional Research Service.

Copeland, Curtis W. 2013. Economic Analysis and Independent Regulatory Agencies. Report drafted for the Administrative Conference of the United States, April 30, 2013.

Council of Economic Advisers. 2014. Economic Report of the President. Washington, DC: Government Printing Office.

Council of Economic Advisers. 2012. Smarter Regulations through Retrospective Review. White Paper, May 12. Internet:

http://www.whitehouse.gov/sites/default/files/lookback_report_rev_final.pdf.

Davis, Lucas and Lutz Killian. 2011. The Allocative Cost of Price Ceilings in the U.S. Residential Market for Natural Gas. Journal of Political Economy 119(2): 212-241.

Department of Energy. 2013a. DOE Retrospective Review Plan and Burden Reduction Report. July 29, 2013. Internet:

<http://www.energy.gov/sites/prod/files/2013/07/f2/DOE%2013563%20and%20ICR%20Report%20-%20Final.pdf>.

Department of Energy. 2013b. DOE Retrospective Review Plan and Burden Reduction Report. February 15, 2013. Internet:

http://www.energy.gov/sites/prod/files/DOE%2013563%20and%20ICR%20Report%202_15_13%20FINAL_0.pdf.

Department of Energy. 2012a. DOE Retrospective Review Plan and Burden Reduction Report. December 18, 2012. Internet: www.energy.gov/sites/prod/files/13563_and_ICR_%20Rpt_12_18_12.pdf.

Department of Energy. 2012b. DOE Retrospective Review Plan and Burden Reduction Report. May 2012. Internet: www.energy.gov/sites/prod/files/May_2012_%20Report_DOE_5_25.pdf.

Department of Energy. 2012c. DOE Retrospective Review Plan and Burden Reduction Report. January 2012. Internet: www.whitehouse.gov/files/regulatory-reform/DOE-RegulatoryReform-January2012.pdf.

Department of Energy. 2011. Final Plan for Retrospective Analysis of Existing Rules. August 23, 2011. Internet: <http://www.whitehouse.gov/sites/default/files/other/2011-regulatory-action-plans/departmentofenergyregulatoryreformplanaugust2011.pdf>.

Department of Health and Human Services. 2013a. HHS Retrospective Review Update. July 2013. Internet: www.hhs.gov/open/execorders/13563/regulatory_introductions_statement201307.pdf.

Department of Health and Human Services. 2013b. HHS Retrospective Review Update. January 2013. Internet: www.hhs.gov/open/execorders/13563/regulatory_introductions_statement201301.pdf.

Department of Health and Human Services. 2012a. HHS Retrospective Review Update. September 2012. Internet: www.hhs.gov/open/execorders/13563/regulatory_introductions_statement201209.pdf.

Department of Health and Human Services. 2012b. HHS Retrospective Review Update. May 2012. Internet: www.hhs.gov/open/execorders/13563/regulatory_introductions_statement201205.pdf.

Department of Health and Human Services. 2012c. HHS Retrospective Review Update. January 2012.

Internet:

www.hhs.gov/open/execorders/13563/regulatory_introduutory_statement201201.pdf.

Department of Health and Human Services. 2011. Plan for Retrospective Review of Existing Rules.

August 22, 2011. Internet:

http://www.hhs.gov/open/execorders/13563/hhs_final_retrospective_review_plan_8-19-11_4.pdf.

Department of Homeland Security. 2014. Retrospective Review of Existing Regulations – Progress

Report. January. Internet: <http://www.dhs.gov/sites/default/files/publications/DHS-January-2014-Retrospective-Review-Plan-Report.pdf>.

Department of Homeland Security. 2013. Retrospective Review of Existing Regulations – Progress

Report. January 14, 2013. Internet: www.dhs.gov/sites/default/files/publications/ogc/jan2013-retro-review-report.pdf.

Department of Homeland Security. 2012. Department of Homeland Security Strategic Plan 2012-2016.

February. Internet: <http://www.dhs.gov/xlibrary/assets/dhs-strategic-plan-fy-2012-2016.pdf>.

Department of Homeland Security. 2011. Final Plan for the Retrospective Review of Existing Regulations.

August 22, 2011. Internet: www.dhs.gov/xlibrary/assets/dhs-ogc-final-retrospective-review-plan-8-22-11-final.pdf.

Department of Justice. 2011. Plan for Retrospective Analysis of Existing Rules. August 22, 2011. Internet:

www.justice.gov/open/doj-rr-final-plan.pdf.

Department of Labor. 2014. U.S. Department of Labor Strategic Plan Fiscal Years 2014-2018. Internet:

http://www.dol.gov/_sec/stratplan/FY2014-2018StrategicPlan.pdf.

Department of Labor. 2013. Agency Retrospective Review Plan Reports, Fifth Report. July 2013. Internet:

<http://www.dol.gov/regulations/20130701AgencyRetrospectiveReview.pdf>.

Department of Labor. 2012a. Agency Retrospective Review Plan Reports. December 2012. Internet:
<http://www.dol.gov/regulations/20121218AgencyRetrospectiveReview.pdf>.

Department of Labor. 2012b. Agency Retrospective Review Plan Reports. May 2012. Internet:
<http://www.dol.gov/regulations/20120531AgencyRetrospectiveReview.pdf>.

Department of Labor. 2012c. Agency Retrospective Review Plan Reports. January 2012. Internet:
<http://www.dol.gov/regulations/20120106AgencyRetrospectiveReview.pdf>.

Department of Labor. 2011. Plan for Retrospective Analysis of Existing Rules. August 2011. Internet:
www.dol.gov/regulations/EO13563Plan.pdf.

Department of Transportation. 2012. E.O. 13563 Retrospective Regulatory Review Report for DOT.
September 2012. Internet:
<http://www.dot.gov/sites/dot.gov/files/docs/September%202012%20DOT%20RRR%20Report%20-%20Final.pdf>.

Department of Transportation. 2011. Plan for Implementation of Executive Order 13563: Retrospective
Review and Analysis of Existing Rules. August 2011. Internet:
<http://www.dot.gov/sites/dot.gov/files/docs/RRR-Planfinal-8-20.pdf>.

DiNardo, John and David S. Lee. 2011. Program Evaluation and Research Designs. Handbook of Labor
Economics, Volume 4A. Elsevier.

Eisner, Neil R., Judith S. Kaleta, and Peter L. Strauss. 1996. Federal Agency Reviews of Existing
Regulations. *Administrative Law Review* 48(1): 139-174.

Ellerman, A Denny, Paul L. Joskow, Richard Schmalensee, Juan-Pablo Montero, and Elizabeth M. Bailey.
2000. *Markets for Clean Air: The U.S. Acid Rain Program*. Cambridge: Cambridge University
Press.

Ellig, Jerry, Patrick A. McLaughlin, and John F. Morall III. 2013. Continuity, Change, and Priorities: The Quality and Use of Regulatory Analysis Across U.S. Administrations. *Regulation & Governance* 7: 153-173.

Environmental Protection Agency. 2014a. EO 13563 Progress Report. January 2014. Internet:
<http://www.epa.gov/retrospective/documents/eparetroreviewprogressrpt-jan2014.pdf>.

Environmental Protection Agency. 2014b. FY 2014-2018 EPA Strategic Plan. Internet:
http://www2.epa.gov/sites/production/files/2014-09/documents/epa_strategic_plan_fy14-18.pdf.

Environmental Protection Agency. 2013a. EO 13563 Progress Report. July 2013. Internet:
<http://www.epa.gov/regdarrt/retrospective/documents/eparetroreviewprogressrpt-july2013.pdf>.

Environmental Protection Agency. 2013b. EO 13563 Progress Report. January 2013. Internet:
<http://www.epa.gov/regdarrt/retrospective/documents/eparetroreviewprogressrpt-jan2013.pdf>.

Environmental Protection Agency. 2012a. EO 13563 Progress Report. September 2012. Internet:
<http://www.epa.gov/regdarrt/retrospective/documents/eparetroreviewprogressrpt-sept2012.pdf>.

Environmental Protection Agency. 2012b. EO 13563 Progress Report. May 2012. Internet:
<http://www.epa.gov/regdarrt/retrospective/documents/eparetroreviewprogressrpt-may2012.pdf>.

Environmental Protection Agency. 2012c. EO 13563 Progress Report. January 2012. Internet:
<http://www.epa.gov/regdarrt/retrospective/documents/eparetroreviewprogressrpt-jan2012.pdf>.

Environmental Protection Agency. 2011. Improving Our Regulations: Final Plan for Periodic Retrospective Reviews of Existing Regulations. August 2011. Internet: <http://www.epa.gov/regdarrt/retrospective/documents/eparetroreviewplan-aug2011.pdf>.

Environmental Protection Agency. 1997. The Benefits and Costs of the Clean Air Act: 1970 to 1990. Report to Congress, October 1997.

Federal Motor Carrier Safety Administration. 2013. Inspection, Repair, and Maintenance; Driver-Vehicle Inspection Report. RIN 2126-AB46. Notice of Proposed Rulemaking. Federal Register 78(152): 48125-48133.

Furlong, Scott R. 1995. The 1992 Regulatory Moratorium: Did It Make a Difference? Public Administration Review 55(3): 254-262.

Government Accountability Office. 2007. Reexamining Regulations: Opportunities Exist to Improve Effectiveness and Transparency of Retrospective Reviews. Report GAO-07-791. Internet: <http://www.gao.gov/new.items/d07791.pdf>.

Government Accountability Office. 2007. Reexamining Regulations: Agencies Often Made Regulatory Changes, but Could Strengthen Linkages to Performance Goals. Report GAO-14-268.

Graham, John D., Pail R. Noe, and Elizabeth L. Branch. 2005. Managing the Regulatory State: The Experience of the Bush Administration. Fordham Urban Law Journal 33(4): 101-148.

Greenstone, Michael. 2014. Statement before the U.S. Congress Joint Economic Committee, Hearing on "The First Step to Cutting Red Tape: Better Analysis." April 30.

Greenstone, Michael. 2009. Toward a Culture of Persistent Regulatory Experimentation and Evaluation. In: New Perspectives on Regulation, David Moss and John Cisternino, eds. Cambridge, MA: The Tobin Project.

Greenstone, Michael. 2002. The Impacts of Environmental Regulations on Industrial Activity: Evidence from the 1970 and 1977 Clean Air Act Amendments and the Census of Manufactures. *Journal of Political Economy* 110(6): 1175-1219.

Greenstone, Michael, Paul Oyer, and Annette Vissing-Jorgensen. 2006. Mandated Disclosure, Stock Returns, and the 1964 Securities Acts Amendments. *Quarterly Journal of Economics* 121: 399-460.

Gruenspecht, Howard. 1982. Differentiated Regulation: The Cost of Auto Emissions Standards. *American Economic Review* 72(2): 328-331.

Hahn, Robert W., Randall W. Lutter, and W. Kip Viscusi. 2000. *Do Federal Regulations Reduce Mortality?* AEI-Brookings Joint Center on Regulatory Studies.

Hahn, Robert W., Sheila M. Olmstead, and Robert N. Stavins. 2003. Environmental Regulation in the 1990s: A Retrospective Analysis. *Harvard Environmental Law Review* 27: 377-415.

Harrington, Winston. 2006. Grading Estimates of the Benefits and Costs of Federal Regulation: A Review of Reviews. Resources for the Future Discussion Paper 06-39.

Harrington, Winston, Richard D. Morgenstern, and Peter Nelson. 2000. On the Accuracy of Regulatory Cost Estimates. *Journal of Policy Analysis and Management* 19(2): 297-322.

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

Henderson, Vernon. 1996. Effects of Air Quality Regulation. *American Economic Review* 86: 789-813.

Institute for Policy Integrity. 2012. *Regulatory Report: Interagency Data Interoperability*. New York University School of Law, June.

Institute for Policy Integrity. 2011a. Comments on EPA's Preliminary Plan for Periodic Retrospective Reviews of Existing Regulations. New York University School of Law, June 27, 2011 letter to the Environmental Protection Agency.

Institute for Policy Integrity. 2011b. Comments on “Preliminary Plan for Retrospective Analysis of Existing Rules.” New York University School of Law, August 1, 2011 letter to the Department of Energy.

Institute for Policy Integrity. 2011c. Comments on Reducing Regulatory Burden: Retrospective Review Plans Under EO 13563. New York University School of Law, March 28, 2011 letter to the Department of the Interior.

Institute for Policy Integrity. 2011d. Comments on State’s Preliminary Plan for Retrospective Analysis of Existing Rules. New York University School of Law, June 30, 2011 letter to the Department of State.

Institute for Policy Integrity. 2011e. Reducing Regulatory Burden: Retrospective Review Plans Under EO 13563: Request for Information, Preliminary Plan for Retrospective Review of Existing Rules. New York University School of Law, June 30, 2011 letter to the Department of Health and Human Services.

Institute for Policy Integrity. 2011f. Reducing Regulatory Burden: Retrospective Review Plans Under EO 13563, 76 Fed Reg 106. New York University School of Law, August 1, 2011 letter to the Department of Housing and Urban Development.

Johansson, Robert and Linda Abbott. 2013. Building Retrospective Review into Endangered Species Protection. USDA Office of the Chief Economist. Internet:
http://www.usda.gov/oce/speeches/2013/SBCA_Feb21ppt_Final2.pdf.

Joskow, Paul L. and Roger G. Noll. 1994. Economic Regulation. In: American Economic Policy in the 1980s, Martin Feldstein, ed. Chicago: University of Chicago Press.

Kerr, Suzi and Richard G. Newell. 2003. Policy-Induced Technology Adoption: Evidence from the U.S. Lead Phasedown. *Journal of Industrial Economics* 51(3): 317-343.

Kolp, Paul W. and W. Kip Viscusi. 1986. Uncertainty in Risk Analysis: A Retrospective Assessment of the OSHA Cotton Dust Standard. *Advances in Applied Micro-Economics* 4: 105-130.

Lacko, James M. and Janis K. Pappalardo. 2010. The Failure and Promise of Mandated Consumer Mortgage Disclosures: Evidence from Qualitative Interviews and a Controlled Experiment with Mortgage Borrowers. *American Economic Review* 100(2): 516-521.

Lubbers, Jeffrey S. 1994. Better Regulations: The National Performance Review's Regulatory Reform Recommendations. *Duke Law Journal* 43(6): 1165-1179.

Lutter, Randall. 2013. Regulatory Policy: What Role for Retrospective Analysis and Review? *Journal of Benefit-Cost Analysis* 4(1): 17-38.

Lutter, Randall. 1999. The Role of Economic Analysis in Regulatory Reform. *Regulation* 22(2): 38-46.

Moore, Thomas Gale. 2002. Moving Ahead. *Regulation* 25(2): 6-13

Morgenstern, Richard D., William A. Pizer, and Jhih-Shyang Shih. 2002. Jobs Versus Environment: An Industry-Level Perspective. *Journal of Environmental Economics and Management* 43(3): 412-436.

Morrall III, John F. 1986. A Review of the Record. *Regulation* (Nov/Dec): 25-34.

Morrall III, John F. and James W. Broughel. 2014. The Role of Regulatory Impact Analysis in Federal Rulemaking. Mercatus Center Working Paper, George Mason University.

National Center for Environmental Economics. 2012. Retrospective Study of the Costs of EPA Regulations: An Interim Report of Five Case Studies. Prepared for review by the SAB-EEAC. March 2012.

National Oceanic and Atmospheric Administration. 2013. Endangered Fish and Wildlife; Final Rule to Remove the Sunset Provision of the Final Rule Implementing Vessel Speed Restrictions to Reduce the Threat of Ship Collisions with North Atlantic Right Whales. RIN 0648-BB20. Final Rule. *Federal Register* 78(236): 73726-73736.

National Performance Review. 1993. *Improving Regulatory Systems*. Washington, DC: Office of the Vice President of the United States.

National Performance Review. n.d. *A Brief History of the National Performance Review*. Archived Website of the National Performance Review. Internet:
<http://govinfo.library.unt.edu/npr/library/papers/bkgrd/brief.html> .

New Zealand Treasury. *Regulatory Systems Paper One: Update on Reviews and System Performance*. Office of the Minister of Finance and Office of the Minister for Regulatory Reform. April.
Internet: <http://www.treasury.govt.nz/economy/regulation/programme/pdfs/reg-2596910.pdf>.

Nuclear Regulatory Commission. 2011. *Initial Plan for a Retrospective Analysis of Existing Rules*. October 2011. Internet: <http://pbadupws.nrc.gov/docs/ML1126/ML112690277.pdf>.

Nuclear Regulatory Commission. 2014. *Final Plan for Retrospective Analysis of Existing Rules*. January 6. Internet: <http://pbadupws.nrc.gov/docs/ML1400/ML14007A216.pdf>.

Office of Management and Budget. 2014. *2014 Draft Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities*. Internet:
http://www.whitehouse.gov/sites/default/files/omb/inforeg/2014_cb/draft_2014_cost_benefit_report-updated.pdf.

Office of Management and Budget. 2013a. *2013 Draft Report to Congress on the Benefits and Costs of Federal Regulations and Agency Compliance with the Unfunded Mandates Reform Act*. Internet:
http://www.whitehouse.gov/sites/default/files/omb/inforeg/2013_cb/draft_2013_cost_benefit_report.pdf.

Office of Management and Budget. 2013b. *Fall 2013 Regulatory Plan and Unified Agenda of Federal Regulatory and Deregulatory Actions*. Memorandum for Regulatory Policy Officers at Executive Departments and Agencies and Managing and Executive Directors of Certain Agencies and Commissions. April 7.

Office of Management and Budget. 2012. Cumulative Effects of Regulation. Memorandum for the Heads of Executive Departments and Agencies. March 20.

Office of Management and Budget. 2011a. Executive Order 13563, "Improving Regulation and Regulatory Review." Memorandum for the Heads of Executive Departments and Agencies, and of Independent Regulatory Agencies. February 2. M-11-10.

Office of Management and Budget. 2011b. Retrospective Analysis of Existing Significant Regulations. Memorandum for the Heads of Executive Departments and Agencies. April 25. M-11-19.

Office of Management and Budget. 2011c. Final Plans for Retrospective Analysis of Existing Rules. Memorandum for the Heads of Executive Departments and Agencies. June 14. M-11-25.

Office of Management and Budget. 2011d. Executive Order 13579, "Regulation and Independent Regulatory Agencies." Memorandum for the Heads of Independent Regulatory Agencies. July 22. M-11-28.

Office of Management and Budget. 2011e. Implementation of Retrospective Review Plans. Memorandum for the Heads of Executive Departments and Agencies. October 26.

Office of Management and Budget. 2009. Increased Emphasis on Program Evaluations. Memorandum for Heads of Executive Departments and Agencies. M-10-01. October 7.

Office of Management and Budget. 2005. *Validating Regulatory Analysis: 2005 Report to Congress on the Costs and Benefits of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities*. Internet:

http://www.whitehouse.gov/sites/default/files/omb/inforeg/2004_cb_final.pdf.

Office of Management and Budget. 2004. *Progress in Regulatory Reform: 2004 Report to Congress on the Costs and Benefits of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities*. Internet:

- Organisation for Economic Co-operation and Development (OECD). 2009. Indicators of Regulatory Management Systems. Paris: OECD Regulatory Policy Committee.
- Peltzman, Sam. 1975. The Effects of Automobile Safety Regulation. *Journal of Political Economy* 83(4): 677-726.
- Revesz, Richard L. and Michael A. Livermore. 2011. Thirty Years of Regulatory Review. *Huffington Post Business*, March 29, 2011.
- Revesz, Richard L. and Michael A. Livermore. 2008. Fixing Regulatory Review: Recommendations for the Next Administration. Report no. 2, Institute for Policy Integrity, New York University School of Law, December.
- Ryan, Stephen P. 2012. The Costs of Environmental Regulation in a Concentrated Industry. *Econometrica* 80(3): 1019-1061.
- Schmalensee, Richard and Robert N. Stavins. 2013. The SO₂ Allowance Trading System: The Ironic History of a Grand Policy Experiment. *Journal of Economic Perspectives* 27(1): 103-122.
- Securities and Exchange Commission. 2011. Retrospective Review of Existing Regulations. Request for information. *Federal Register* 76(176): 56128-56130.
- See, Michael R. 2005. Willful Blindness: Federal Agencies' Failure to Comply with the Regulatory Flexibility Act's Periodic Review Requirement and Current Proposals to Invigorate the Act. *Fordham Urban Law Journal* 33(4): 101-155.
- Shapiro, Sidney A. 1995. Agency Review of Existing Regulations. Report for Recommendation 95-3. Report prepared for the Administrative Conference of the United States.
- Shapiro, Sidney A., Richard Murphy, and James Goodwin. 2012. Regulatory "Pay Go": Rationing the Public Interest. Center for Progressive Reform Issue Alert 1214.
- Shapiro, Stuart. 2011. Defragmenting the Regulatory Process. *Risk Analysis* 31(6): 893-901.

- Shapiro, Stuart. 2008. Evaluating the Benefits and Costs of Regulatory Reforms: What Questions Need to be Asked? *Evaluation and Program Planning* 31: 223-230.
- Shapiro, Stuart. 2007. Presidents and Process: A Comparison of the Regulatory Process under the Clinton and Bush (43) Administrations. *Journal of Law and Politics* 23: 393-418.
- Shapiro, Stuart and John F. Morrall III. 2012. The Triumph of Regulatory Politics: Benefit-Cost Analysis and Political Salience. *Regulation & Governance* 6: 189-206.
- Shelanski, Howard. 2013. Regulatory Lookback Eliminates Major Paperwork Burden. *White House Blog*, August 8, 2013.
- Small Business Administration. 2008. Report on the Regulatory Flexibility Act FY 2007. Annual Report of the Chief Counsel for Advocacy on Implementation of the Regulatory Flexibility Act and Executive Order 13272. Washington, DC: Small Business Administration, February.
- Sunstein, Cass R. 2011. Empirically Informed Regulation. *University of Chicago Law Review* 78: 1349-1429.
- Sunstein, Cass R. 2012. Regulation: Looking Backward, Looking Forward. Prepared remarks for address of the Administrative Law Section, American Bar Association, Washington, DC, May 10, 2012.
- Sunstein, Cass R. 2013. *Simpler: The Future of Government*. New York: Simon and Schuster.
- Sunstein, Cass R. 2014. The Regulatory Lookback. Regulatory Policy Program Working Paper RPP-2014-01. Mossavar-Rahmani Center for Business and Government, Harvard Kennedy School.
- Tengs, Tammy O., Miriam E. Adams, Joseph S. Pliskin, Dana Gelb Safran, Joanna Siegel, Milton C. Weinstein, and John D. Graham. 1995. Five Hundred Life-Saving Interventions and their Cost-Effectiveness. *Risk Analysis* 15(3): 369-389.
- Thompson, Kimberly M., Maria Segui-Gomez, and John D. Graham. 2002. Validating Benefit and Cost Estimates: The Case of Airbag Regulation. *Risk Analysis* 22(4): 803-811.

- United States Department of Agriculture. 2013a. Agency Retrospective Review Plan Report – January 2013 – USDA. Internet: <http://www.usda.gov/documents/usda-retrospective-review-plan-report-jan-2013.pdf>
- United States Department of Agriculture. 2013b. Agency Retrospective Review Plan Report – July 2013 – USDA. Internet: <http://www.usda.gov/documents/usda-retrospective-review-plan-report-july-2013.pdf>.
- United States Department of Agriculture. 2012. Agency Retrospective Review Plan Report – May 2012 – USDA. Internet: <http://www.usda.gov/documents/Retrospective-May-2012-2.pdf>.
- United States Department of Agriculture. 2011. Final Plan for Retrospective Analysis Pursuant to Executive Order 13563, August 18, 2011. Internet: <http://www.usda.gov/documents/usda-regulatory-reform-plan-aug2011.pdf>.
- Viscusi, W. Kip. 1994. Health and Safety Regulation. In: American Economic Policy in the 1980s, Martin Feldstein, ed. Chicago: University of Chicago Press.
- Viscusi, W. Kip. 1985. Cotton Dust Regulation: An OSHA Success Story? *Journal of Policy Analysis and Management* 4(3): 325-343.
- Viscusi, W. Kip. 1983. *Risk by Choice: Regulating Health and Safety in the Workplace*. Cambridge: Harvard University Press.
- Viscusi, W. Kip and Joseph E. Aldy. 2003. The Value of a Statistical Life: A Critical Review of Market Estimates throughout the World. *Journal of Risk and Uncertainty* 27(1): 5-76.
- Warner, Mark R. 2010. To Revive the Economy, Pull Back the Red Tape. Op-ed, Washington Post, December 13, 2010.
- Watts, Kathryn A. 2012. Regulatory Moratoria. *Duke Law Journal* 61: 1883-1955.
- Winston, Clifford. 2007. Government Failure vs. Market Failure (book excerpt). *Milken Institute Review* (First Quarter): 57-76.

Tables

Table 1. Executive Orders and Related Administration Announcements on Retrospective Review of Regulations

Administration	Administration Policy Document	Date
Carter	Executive Order 12044: Improving Government Regulations	March 23, 1978
Reagan	Presidential Task Force on Regulatory Relief	January 22, 1981
Reagan	Executive Order 12291: Federal Regulation	February 17, 1981
Reagan	Executive Order 12498: Regulatory Planning Process	January 4, 1985
Bush I	Memorandum on Reducing the Burden of Government Regulation	January 28, 1992
Clinton	Executive Order 12866: Regulatory Planning and Review	September 30, 1993
Bush II	Draft Report to Congress on the Costs and Benefits of Federal Regulations	May 2, 2001
Obama	Executive Order 13563: Improving Regulation and Regulatory Review	January 18, 2011
Obama	Executive Order 13579: Regulation and Independent Regulatory Agencies	July 11, 2011
Obama	Executive Order 13609: Promoting International Regulatory Cooperation	May 1, 2012
Obama	Executive Order 13610: Identifying and Reducing Regulatory Burdens	May 10, 2012

Notes: All documents accessible via hyperlinks in electronic version of this report.

Table 2. Agency Retrospective Review Plans, Status Updates, and Related Analyses (with hyperlinks in electronic version of this report)

Agency	Plan and Related Plan Implementation Documents	Publication Date
U.S. Department of Agriculture	Open Government at USDA Website	n.d.
	Final Plan for Retrospective Analysis Pursuant to Executive Order 13563	August 18, 2011
	Agency Retrospective Review Plan Report – May 2012 – USDA	May 2012
	Agency Retrospective Review Plan Report – January 2013 – USDA	January 2013
	Agency Retrospective Review Plan Report – July 2013 – USDA	July 2013
	Agency Retrospective Review Plan Report – January 2014 – USDA	January 2014
	Agency Retrospective Review Plan Report – July 2014 – USDA	July 2014
Department of Energy	Retrospective Regulatory Review Website	n.d.
	Reducing Regulatory Burden Request for Information	February 3, 2011
	Preliminary Plan for Retrospective Analysis of Existing Rules	April 29, 2011
	Final Plan for Retrospective Analysis of Existing Rules	August 23, 2011
	Reducing Regulatory Burden Request for Information	December 5, 2011
	DOE Retrospective Review Plan Report January 2012	January 2012
	Reducing Regulatory Burden Request for Information	May 15, 2012
	Reducing Regulatory Burden Request for Information	August 8, 2012
	DOE Retrospective Review Plan and Burden Reduction Report December 18, 2012	December 18, 2012
	DOE Retrospective Review Plan and Burden Reduction Report February 15, 2013	February 15, 2013
	DOE Retrospective Review Plan and Burden Reduction Report July 29, 2013	July 29, 2013
	DOE Retrospective Review Plan and Burden Reduction Report January 2014	January 2014
DOE Retrospective Review Plan and Burden Reduction Report August 2014	August 2014	

Department of Health and
Human Services

[Retrospective Review of Existing Rules Website](#)

n.d.

[Plan for Retrospective Review of Existing Rules](#)

August 22, 2011

[Appendix A: List of Regulations Initially Identified for Retrospective Review](#)

August 22, 2011

[Appendix B: Summary of Public Comments](#)

August 22, 2011

[Appendix C: Public Comments on HHS Preliminary Plan for Retrospective Review of Existing Rules](#)

August 22, 2011

[HHS Retrospective Regulatory Review Update – January 2012](#)

January 2012

[HHS Retrospective Regulatory Review Update – January 2012 – Chart](#)

January 2012

[HHS Retrospective Regulatory Review Update – May 2012](#)

May 2012

[HHS Retrospective Regulatory Review Update – May 2012 – Chart](#)

May 2012

[HHS Retrospective Regulatory Review Update – September 2012](#)

September 2012

[HHS Retrospective Regulatory Review Update – September 2012 – Chart](#)

September 2012

[HHS Retrospective Regulatory Review Update – January 2013](#)

January 2013

[HHS Retrospective Regulatory Review Update – January 2013 – Chart](#)

January 2013

[HHS Retrospective Regulatory Review Update – July 2013](#)

July 2013

[HHS Retrospective Regulatory Review Update – July 2013 – Chart](#)

July 2013

[HHS Retrospective Regulatory Review Update – January 2014](#)

January 2014

[HHS Retrospective Regulatory Review Update – January 2014 – Chart](#)

January 2014

[HHS Retrospective Regulatory Review Update – July 2014](#)

July 2014

[HHS Retrospective Regulatory Review Update – July 2014 – Chart](#)

July 2014

Department of Homeland Security	Latest Progress in Open Government Website	n.d.
	DHS Implementation of Executive Order 13563 Website	n.d.
	Preliminary Plan for Retrospective Review of Existing Regulations	May 18, 2011
	Final Plan for the Retrospective Review of Existing Regulations	August 22, 2011
	Retrospective Review of Existing Regulations – Progress Report	May 14, 2012
	Retrospective Review of Existing Regulations – Progress Report	January 14, 2013
	Retrospective Review of Existing Regulations – Progress Report	July 2013
	Retrospective Review of Existing Regulations – Progress Report	January 2014
	Retrospective Review of Existing Regulations; Request for Public Input	February 26, 2014
	Retrospective Review of Existing Regulations – Progress Report	July 2014
Department of Justice	Open Government at the Department of Justice Website	n.d.
	Preliminary Plan for Retrospective Analysis of Existing Rules	May 18, 2011
	Plan for Retrospective Analysis of Existing Rules	August 22, 2011
	Department of Justice Retrospective Review Status Report	May 2012
	Department of Justice Retrospective Review Status Report	December 18, 2012
	Department of Justice Retrospective Review Status Report	February 2013
	Department of Justice Retrospective Review Report – July 2014	July 2014
Department of Labor	DOL Regulations Website	n.d.
	Reducing Regulatory Burden; Retrospective Review under E.O. 13563 Request for Information	March 21, 2011
	United States Department of Labor Plan for Retrospective Analysis of Existing Rules	August 2011

	Agency Retrospective Review Plan Reports	January 2012
	Agency Retrospective Review Plan Reports	May 2012
	Agency Retrospective Review Plan Reports	December 2012
	Agency Retrospective Review Plan Reports Fifth Report July 2013	July 2013
	Agency Retrospective Review Plan Reports	January 2014
	Agency Retrospective Review Plan Reports August 2014	August 2014
Department of Transportation	Retrospective Review of Rules Website	n.d.
	Plan for Implementation of Executive Order 13563 Retrospective Review and Analysis of Existing Rules	August 2011
	RRR Review Plan	January 2012
	DOT RRR Report	May 2012
	E.O. 13563 Retrospective Review Report for DOT September 2012	September 2012
	E.O. 13563 Retrospective Review Report for DOT January 2013	January 2013
	E.O. 13563 Retrospective Review Report for DOT July 2013	July 2013
	DOT RRR Report January 2014	January 2014
	DOT July 2014 RRR Report	July 2014
Environmental Protection Agency	History of Our Retrospective Review Plan Website	n.d.
	Dockets for Public Input on Retrospective Review Website	n.d.
	Meetings on the Periodic Retrospective Reviews Plan	n.d.
	Improving Our Regulations: A Preliminary Plan for Periodic Retrospective Reviews of Existing Regulations	May 24, 2011
	Improving Our Regulations: Final Plan for Periodic Retrospective Reviews of Existing	August 2011

	Regulations	
	Progress Report, January 2012	January 2012
	Progress Report, May 2012	May 2012
	EO 13563 Progress Report, September 2012	September 2012
	EO 13563 Progress Report, January 2013	January 2013
	EO 13563 Progress Report, July 2013	July 2013
	EO 13563 Progress Report, January 2014	January 2014
	EO 13563 Progress Report, July 2014	July 2014
Commodity Futures Trading Commission	Reducing Regulatory Burden; Retrospective Review Under E.O. 13563	June 30, 2011
	Status Report on “Phase One” of Commodity Futures Trading Commission’s Plan for Retrospective Review of Agency Regulations Under Executive Order 13563	November 7, 2011
	Second Status Report on “Phase One” of Commodity Futures Trading Commission’s Plan for Retrospective Review of Agency Regulations Under Executive Order 13563	June 7, 2012
	Fourth Status Report on “Phase One” of Commodity Futures Trading Commission’s Plan for Retrospective Review of Agency Regulations Under Executive Order 13563	January 11, 2013
	Fifth Status Report on “Phase One” of Commodity Futures Trading Commission’s Plan for Retrospective Review of Agency Regulations Under Executive Order 13563	July 8, 2013
Consumer Financial Protection Bureau	Streamlining Inherited Regulations: Notice of streamlining project; request for information	December 5, 2011
Federal Reserve System	Letter from Chairman Bernanke to Administrator Sunstein	November 8, 2011
Nuclear Regulatory Commission	The NRC Approach to Open Government Website	n.d.
	Initial Plan for a Retrospective Analysis of Existing Rules	October 2011
	Nuclear Regulatory Commission Information Collection Burden Reduction Activities	n.d.

	Final Plan for Retrospective Analysis of Existing Rules	January 6, 2014
Securities and Exchange Commission	Retrospective Review of Existing Regulations; request for information	September 12, 2011
	Comments on Retrospective Review of Existing Regulations (Request for Information) Website	n.d.

Notes: All links active as on September 18, 2014. Some Department of Justice progress reports could be located on through the Internet Archive Wayback Machine (<http://archive.org/web/>). The third progress report of the Commodities Futures Trading Commission could not be located on the agency's website or via Google search.

Table 3. Comments Received on Preliminary Plans for Retrospective Review

Agency	Number of Comments	Use of Social Media
U.S. Department of Agriculture	> 2100	Solicited suggestions via department's Open Government website. Agencies within the department conducted webinars (e.g., Rural Development) and launched agency-specific websites.
Department of Energy	29	Created an idea suggestion link and dedicated email address associated with department's general counsel website.
Department of Health and Human Services	31	As a part of its transparency initiative, the Food and Drug Administration established a website on Executive Order 13563 implementation.
Department of Homeland Security	35	Used IdeaScale, which produced another 98 suggestions for review.
Department of Justice	10	Posted information on and provided means to submit ideas through department's Open Government website.
Department of Labor		Used an interactive website to solicit suggestions, and received 113 ideas for review. Launched a second website (IdeaScale) in June 2011.
Department of Transportation	102	Used IdeaScale, which produced another 53 suggestions for review.
Environmental Protection Agency	> 800	Agency launched an "Improving Our Regulations" website that provided direct links to 15 dockets established at www.regulations.gov .

Notes: All data and descriptions of agencies' use of social media drawn from their respective August 2011 final regulatory review plans.

Table 4. Illustrations of Initial Impacts of Retrospective Review under Executive Order 13563

Agency	RIN	Estimated Impacts	Description
U.S. Department of Agriculture	0583-AD32	> \$350 million in net benefits	Modernization of Poultry Slaughter inspection
Department of Energy	1904-AA34	> \$100 million in cost savings	National Environmental Policy Act Implementing Procedures
Department of Health and Human Services	0938-AQ89; 0938-AQ96	> \$5 billion cost savings	Reform of Hospital and Critical Access Hospital Conditions of Participation; Regulatory Provisions To Promote Program Efficiency, Transparency, and Burden Reduction
Department of Labor	1218-AC20	> \$2.5 billion in net benefits	Hazard Communication
Department of Transportation	2130-AC27	>\$300 million in cost savings	Positive Train Control Amendments
Environmental Protection Agency	2060-AQ97	> \$400 million in cost savings	Widespread Use for Onboard Refueling Vapor Recovery and Stage II Waiver

Notes: Examples for the Department of Health and Human Services, Department of Labor, Department of Transportation, and Environmental Protection Agency identified in Council of Economic Advisers (2012). Other examples drawn from U.S. Department of Agriculture (2012) and Department of Energy (2011)

Table 5. Status of “First 5 Rules” Identified in 2012 Progress Reports

Agency	Final Rules	Major Rule under CRA	References Retrospective Review
U.S. Department of Agriculture	4	0	2
Department of Energy	5	3	0
Department of Health and Human Services	5	4	3
Department of Homeland Security	2	1	1
Department of Justice*	1	0	1
Department of Labor	3	1	3
Department of Transportation	3	0	3
Environmental Protection Agency	2	1	1
Total	25	10	14

Notes: * The Department of Justice listed only two rules in its initial progress report.

Table 6. Executive Branch Major Rules 2014: Retrospective Review

Agency	Major Rules	Monetized Benefits and Costs	Result of Retrospective Review	Plan for Retrospective Review of Rule in the Future
U.S. Department of Agriculture	3	0	0	0
Department of Energy	2	2	0	0
Department of Health and Human Services	9	1	1	0
Department of Homeland Security	1	0	1	0
Department of the Interior	2	0	0	0
Department of Labor	2	0	0	0
Department of Transportation	1	1	0	0
Environmental Protection Agency	3	3	0	0
Office of Personnel Management	1	0	0	0
Total	24	7	2	0

Notes: Based on data presented in Tables 1-6(a) and 1-6(b) of Office of Management and Budget (2014). Refer to Appendix Table 2 for details on each rule.

Table 7. Executive Branch Major Rules 2013: Retrospective Review

Agency	Major Rules	Monetized Benefits <u>and</u> Costs	Result of Retrospective Review	Plan for Retrospective Review of Rule in the Future
U.S. Department of Agriculture	1	0	0	0
Department of Energy	2	2	0	0
Department of Health and Human Services	7	3	2	0
Department of Homeland Security	1	1	0	0
Department of the Interior	3	0	0	0
Department of Justice	1	0	0	0
Department of Labor	2	1	1	0
Department of Transportation	4*	4	0	0
Environmental Protection Agency	5*	4	0	0
Total	25	15	3	0

Notes: * The Department of Transportation and the Environmental Protection Agency jointly issued 1 major rule. Based on data presented in Tables 1-5(a) and 1-5(b) of Office of Management and Budget (2013a). Refer to Appendix Table 3 for details on each rule.

Table 8. Executive Branch Major Transfer Rules 2014: Retrospective Review

Agency	Major Rules	Monetized Transfers	Result of Retrospective Review	Plan for Retrospective Review of Rule in the Future
U.S. Department of Agriculture	2	2	0	0
Department of Commerce	1	1	0	0
Department of Defense	2	2	0	0
Department of Education	6	6	0	0
Department of Health and Human Services	12	12	1	0
Department of Transportation	3	3	1	0
Department of the Treasury	1	1	0	0
Total	27	27	2	0

Notes: Based on data presented in Table 1-7(a) of Office of Management and Budget (2014). Refer to Appendix Table 4 for details on each rule.

Table 9. Executive Branch Major Transfer Rules 2013: Retrospective Review

Agency	Major Rules	Monetized Transfers	Result of Retrospective Review	Plan for Retrospective Review of Rule in the Future
U.S. Department of Agriculture	1	1	0	0
Department of Education	4	4	0	0
Department of Health and Human Services	12	11	1	0
Department of the Treasury	1	0	0	0
Department of Veterans Affairs	1	1	0	0
Total	19	17	1	0

Notes: Based on data presented in Table 1-6(a) of Office of Management and Budget (2013a). Refer to Appendix Table 5 for details on each rule.

Table 10. Independent Agency Major Rules 2014: Retrospective Review

Agency	Major Rules	Monetized Benefits <u>and</u> Costs	Result of Retrospective Review	Plan for Retrospective Review of Rule in the Future
Consumer Financial Protection Bureau	4	0	0	0
Commodity Futures Trading Commission	2	0	0	0
Federal Communications Commission	1	0	0	0
Federal Deposit Insurance Corporation	1	0	0	0
Federal Reserve Board of Governors	1	0	0	0
Nuclear Regulatory Commission	4	0	0	0
Securities and Exchange Commission	5	0	0	0
Total	18	0	0	0

Notes: Based on data presented in Table 1-10 of Office of Management and Budget (2014). Refer to Appendix Table 6 for details on each rule.

Table 11. Independent Agency Major Rules 2013: Retrospective Review

Agency	Major Rules	Monetized Benefits <u>and</u> Costs	Result of Retrospective Review	Plan for Retrospective Review of Rule in the Future
Consumer Financial Protection Bureau	2	0	0	0
Commodity Futures Trading Commission	13	0	0	0
Consumer Product Safety Commission	1	0	0	0
Nuclear Regulatory Commission	1	0	0	0
Securities and Exchange Commission	4	0	0	1
Total	21	0	0	1

Notes: Based on data presented in Table 1-8 of Office of Management and Budget (2013a). Refer to Appendix Table 7 for details on each rule.

Appendix Tables

Appendix Table 1. Status of the “First Five” Rules Identified in 2012 Agency Progress Reports

Agency	Report Date	RIN	Title	Proposal Date	Final Date	Major Rule under CRA	References Retrospective Review
Department of Agriculture	May 2012	0583-AD39	Electronic Import Inspection and Certification of Imported Products and Foreign Establishments	November 27, 2012	September 19, 2014	No	No
Department of Agriculture	May 2012	0583-AD41	Electronic Export Application and Certification Fee	January 23, 2012	NA	No	No
Department of Agriculture	May 2012	0583-AC59	Prior Labeling Approval System: Generic Label Approval	December 5, 2011	November 7, 2013	No	Yes
Department of Agriculture	May 2012	0583-AD32	Modernization of Poultry Slaughter inspection	January 27, 2012	August 21, 2014	No	Yes
Department of Agriculture	May 2012	0596-AD01	National Environmental Policy Act Efficiencies	June 23, 2012	September 12, 2013	No	No
Department of Energy	January 2012	1904-AB57	Energy Efficiency Standards for Battery Chargers and External Power Supplies	March 27, 2012	February 10, 2014	Yes	No
Department of Energy	January 2012	1904-AB90	Energy Conservation Standards for Residential Clothes Washers	NA	May 31, 2012	Yes	No
Department of Energy	January 2012	1904-AA34	National Environmental Policy Act Implementing Procedures	January 3, 2011	October 13, 2011	No	No
Department of Energy	January 2012	1904-AC04	Energy Conservation Standards for Distribution Transformers	February 10, 2012	April 18, 2013	Yes	No
Department of Energy	January 2012	1904-AC58	Compliance Date Regarding the Test Procedures for Walk-In Coolers and Freezers and the Certification for Metal Halide Lamp Ballasts and	August 9, 2011	October 21, 2011	No	No

Fixtures							
Department of Health and Human Services	January 2012	0938-AQ89	Reform of Hospital and Critical Access Hospital Conditions of Participation	October 24, 2011	May 16, 2012	Yes	Yes
Department of Health and Human Services	January 2012	0938-AQ96	Regulatory Provisions to Promote Program Efficiency, Transparency, and Burden Reduction	October 24, 2011	May 16, 2012	Yes	Yes
Department of Health and Human Services	January 2012	0938-AC86	Changes to the Medicare Advantage and the Medicare Prescription Drug Benefit Programs for Contract Year 2013 and Other Changes	October 11, 2011	April 12, 2012	Yes	No
Department of Health and Human Services	January 2012	0938-AP61	State Plan Home and Community-Based Services, 5-Year Period for Waivers, Provider Payment Reassignment, and Home and Community-Based Setting Requirements for Community First Choice and Home and Community-Based Services Waivers	April 15, 2011	January 16, 2014	Yes	No
Department of Health and Human Services	January 2012	0938-AQ32	Disallowance of Claims for FFP and Technical Corrections	August 3, 2011	May 29, 2012	No	Yes
Department of Homeland Security	May 2012	1615-AB95	Immigration Benefits Business Transformation, Increment II: Nonimmigrant Classes	No proposal as of September 22, 2014	NA	NA	NA

Department of Homeland Security	May 2012	1615-AB71	Registration Requirement for Petitioners Seeking to File H-AB Petitions on Behalf of Aliens Subject to the Numerical Limitations	March 3, 2011	NA	NA	NA
Department of Homeland Security	May 2012	1615-AB99	Provisional Unlawful Presence Waivers of Inadmissibility for Certain Immediate Relatives	April 2, 2012	January 3, 2013	Yes	Yes
Department of Homeland Security	May 2012	1615-AB92	Employment Authorization for Certain H-4 Dependent Spouses	May 12, 2014	NA	No	No
Department of Homeland Security	May 2012	1625-AA16	Implementation of the Amendments to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, and Changes to National Endorsements	August 2, 2011	December 24, 2013	No	No
Department of Justice	May 2012	1140-AA42	Importation of Arms, Ammunition and Implements of War and Machine Guns, Destructive Devices, and Certain Other Firearms; Extending the Term of Import Permits	February 6, 2012	February 7, 2014	No	Yes
Department of Justice	May 2012	1125-AA71	Retrospective Regulatory Review Under EO 13563 of 8 CFR Parts 1003, 1103, 1211, 1212, 1215, 1216, 1235	September 28, 2012	NA	NA	Yes
Department of Labor	May 2012	1218-AC20	Hazard Communication	December 29, 2009	March 26, 2012	Yes	Yes
Department of Labor	May 2012	1218-AC34	Bloodborne Pathogens	May 14, 2010	NA	NA	Yes

Department of Labor	May 2012	1218-AC64	Updating OSHA Standards Based on National Consensus Standards -- Acetylene	December 5, 2011	March 8, 2012	No	No
Department of Labor	May 2012	1218-AC65	Updating OSHA Standards Based on National Consensus Standards -- Personal Protection Equipment (Head Protection)	NA	June 22, 2012	No	No
Department of Labor	May 2012	1218-AC67	Standard Improvement Project IV	December 6, 2012	NA	NA	Yes
Department of Transportation	September 2012	2133-AB77	MARAD NEPA Procedures	No proposal as of September 22, 2014	NA	NA	NA
Department of Transportation	September 2012	2133-AB78	Transportation Priority Allocation System, Part 341	No proposal as of September 22, 2014	NA	NA	NA
Department of Transportation	September 2012	2133-AB79	Administrative Claims, Part 327	February 2, 2012	October 30, 2012	No	Yes
Department of Transportation	September 2012	2133-AB80	Operating Differential Subsidy and Construction Differential Subsidy Programs	NA	February 2, 2012	No	Yes
Department of Transportation	September 2012	2133-AB81	Foreign Transfer Regulations	NA	June 14, 2013	No	Yes
Environmental Protection Agency	January 2012	2060-AQ86	Control of Air Pollution from Motor Vehicles: Tier 3 Motor Vehicle Emission and Fuel Standards	May 21, 2013	April 28, 2014	Yes	No
Environmental Protection	January 2012	2060-AP66	Equipment and Leak Detection and Repair: Reducing Burden	NA	NA	NA	NA

Agency							
Environmental Protection Agency	January 2012	2060-AR00	Uniform Standards for Equipment Leaks and Ancillary Systems, Closed Vent Systems and Control Devices, Storage Vessels and Transfer Operations, and Wastewater Operations	March 26, 2012	NA	No	Yes
Environmental Protection Agency	January 2012	2070-AJ75	Electronic Reporting under the Toxic Substances Control Act (TSCA)	April 17, 2012	December 4, 2013	No	Yes
Environmental Protection Agency	January 2012	2040-AF25	National Pollutant Discharge Elimination System (NPDES) Application and Program Updates Rule	NA	NA	NA	NA

Notes: The Department of Justice listed only two rules in its May 2012 progress report. The Department of Labor "Bloodborne Pathogens" proposed rule references Section 610 of the Regulatory Flexibility Act. "NA" typically means that a final rule has not been promulgated. In the case of "NA" for a proposed rule that has gone final, the promulgated regulation was a direct final rule.

Appendix Table 2. Major Rules Promulgated by Executive Branch Agencies Listed in the 2014 Office of Management and Budget Draft Report to Congress (excluding transfer/budgetary rules) with Assessment of Retrospective Review

Agency	RIN	Title	Benefits (billions 2001\$)	Costs (billions 2001\$)	Result of Retrospective Review	Plan Rule Implementation for Retrospective Review
Department of Health and Human Services	0910-AG84	Food Labeling; Gluten-Free Labeling of Foods	\$0 - \$0.2	< \$0.1	No	No
Department of Energy	1904-AC04	Energy Efficiency Standards for Distribution Transformers	\$0.7 - \$1.0	\$0.2 - \$0.3	No	No
Department of Energy	1904-AC07	Energy Efficiency Standards for Microwave Ovens	\$0.2 - \$0.3	< \$0.1	No	No
Environmental Protection Agency	2060-AO47	Review of the NAAQS for PM	\$3.0 - \$7.5	\$0 - \$0.3	No	No
Environmental Protection Agency	2060-AQ58	Reconsideration of Final NESHAP for Reciprocating Internal Combustion Engines	\$0.6 - \$1.7	\$0.4	No	No
Environmental Protection Agency	2060-AR13	NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and	\$21.1 - \$56.6	\$1.2 - \$1.4	No	No

		Process Heaters; Proposed Reconsideration				
Department of Transportation	2120-AJ67	Pilot Certification and Qualification Requirements	< \$0.1	\$0.1 - \$0.2	No	No
Department of Agriculture	0560-AH86	Feedstock Flexibility Program	not estimated	< \$0.1	No	No
Department of Agriculture	0581-AD29	Mandatory Country of Origin Labeling of Beef, Pork, Lamb, Chicken, Goat Meat, Perishable Agricultural Commodities, Peanuts, Pecans, Macadamia Nuts, Ginseng, etc.	not estimated	\$0 - \$0.2	No	No
Department of Agriculture	0584-AE09	National School Lunch and School Breakfast Programs: Nutrition Standards for All Foods Sold in School, as Required by the Healthy, Hunger- Free Kids Act of 2010	not estimated	< \$0.1	No	No

Department of Health and Human Services	0910-AG31	Unique Device Identification	not estimated	\$0 - \$0.1	No	No
Department of Health and Human Services	0938-AR04	Medicaid, Exchanges, and Children's Health Insurance Programs: Eligibility, Appeals, and Other Provisions under the Affordable Care Act	not estimated	\$1.0	No	No
Department of Health and Human Services	0938-AR33	Transparency Reports and Reporting of Physician Ownership of Investment Interests	not estimated	\$0.2	No	No
Department of Health and Human Services	0938-AR40	Patient Protection and Affordable Care Act; Health Insurance Market: Rate Review	not estimated	< \$0.1	No	No
Department of Health and Human Services	0945-AA03	Modifications to the HIPAA Privacy, Security, Enforcement and Breach Notification Rules	not estimated	< \$0.1	Yes	No

Department of the Interior	1018-AY87	Migratory Bird Hunting: 2013-2014 Migratory Game Bird Hunting Regulations (Early Season)	\$0.3	not estimated	No	No
Department of the Interior	1018-AY87	Migratory Bird Hunting: 2013-2014 Migratory Game Bird Hunting Regulations (Late Season)	\$0.2 - \$0.3	not estimated	No	No
Department of Labor	1250-AA00	Affirmative Action and Nondiscrimination Obligations of Contractors and Subcontractors Regarding Protected Veterans	not estimated	\$0.1 - \$0.3	No	No
Department of Labor	1250-AA02	Affirmative Action and Nondiscrimination Obligations of Contractors and Subcontractors Regarding Individuals with Disabilities	not estimated	\$0.2 - \$0.4	No	No

Department of Homeland Security	1615-AB99	Provisional Unlawful Presence Waivers of Inadmissibility for Certain Immediate Relatives	not estimated	\$0 - \$0.1	Yes	No
Department of Health and Human Services	0938-AQ70	Pre-Existing Condition Insurance Plan; High Risk Pool	not estimated	not estimated	No	No
Department of Health and Human Services	0938-AR03	Patient Protection and Affordable Care Act; Standards Related to Essential Health Benefits, Actuarial Value, and Accreditation	not estimated	not estimated	No	No
Department of Health and Human Services	0938-AR68	Exchange Functions: Eligibility for Exemptions; Miscellaneous	not estimated	not estimated	No	No
Office of Personnel Management	3206-AM47	Multi-State Exchanges; Implementations for Affordable Care Act Provisions	not estimated	not estimated	No	No

Notes: Data presented in the first five columns are from Tables 1-6(a) and 1-6(b) of Office of Management and Budget (2014). Data in the last columns reflect a review and word searches (“retrospective,” “ex post,” and “13563”) of the final rules published in the Federal Register.

Appendix Table 3. Major Rules Promulgated by Executive Branch Agencies Listed in the 2013 Office of Management and Budget Draft Report to Congress (excluding transfer/budgetary rules) with Assessment of Retrospective Review

Agency	RIN	Title	Benefits (billions 2001\$)	Costs (billions 2001\$)	Result of Retrospective Review	Plan Rule Implementation for Retrospective Review
Department of Health and Human Services	0938-AQ11	Administrative Simplification: Adoption of Standards for Electronic Funds Transfer	\$0.2 - \$0.3	< \$0.1	No	No
Department of Health and Human Services	0938-AQ13	Administrative Simplification: Standard Unique Identifier for Health Plans and ICD-10 Compliance Date Delay	\$0.4 - \$1.0	\$0.2 - \$0.8	No	No
Department of Health and Human Services	0938-AR01	Administrative Simplification: Adoption of Operating Rules for Electronic Funds Transfer and Remittance Advice	\$0.2 - \$0.3	\$0.1 - \$0.3	No	No
Department of Labor	1218-AC20	Hazard Communication	\$0.5 - \$0.6	\$0.1 - \$0.2	Yes	No
Department of Homeland Security	1625-AA32	Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters	< \$0.1 - \$0.4	\$0.1 - \$0.2	No	No
Department of Energy	1904-AB50	Energy Efficiency Standards for Fluorescent Lamp Ballasts	\$0.8 - \$1.6	\$0.2 - \$0.5	No	No
Department of Energy	1904-AB90	Energy Conservation Standards for Residential Clothes Washers	\$1.0 - \$1.8	\$0.2 - \$0.3	No	No
Environmental Protection Agency	2060-AN72	Petroleum Refineries -- New Source Performance Standards	\$0.4 - \$0.7	\$0.1	No	No

-- Subparts J and Ja						
Environmental Protection Agency	2060-AP52	NESHAP from Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Electric Utility Steam Generating Units	\$28.1 - \$76.9	\$8.2	No	No
Environmental Protection Agency	2060-AP76	Oil and Natural Gas Sector -- New Source Performance Standards and NESHAPs	\$0.2	\$0.1	No	No
Environmental Protection Agency / Department of Transportation	2060-AQ54; 2127-AK79	Joint Rulemaking to Establish 2017 and Later Model Year Light Duty Vehicle GHG Emissions and CAFE Standards	\$21.2 - \$28.8	\$5.3 - \$8.8	No	No
Department of Transportation	2126-AA97	National Registry of Certified Medical Examiners	\$0.1 - \$0.2	< \$0.1	No	No
Department of Transportation	2126-AB26	Hours of Service	\$0.2 - \$1.0	\$0.4	No	No
Department of Transportation	2130-AC27	Positive Train Control Systems Amendments	\$0 - \$0.1	< \$0.1	No	No
U.S. Department of Agriculture	0584-AD59	Nutrition Standards in the National School Lunch and School Breakfast Programs	not estimated	\$0.5	No	No
Department of Health and Human Services	0938-AQ22	Medicare Shared Savings Program: Accountable Care Organizations	not estimated	\$0.1	No	No
Department of Health and Human Services	0938-AQ67	Establishment of Exchanges and Qualified Health Plans Part I	not estimated	\$0.5 - \$0.6	No	No

Department of Health and Human Services	0938-AQ89	Medicare and Medicaid Programs: Reform of Hospital and Critical Access Hospital Conditions of Participation	not estimated	-0.70	Yes	No
Department of Health and Human Services	0938-AQ96	Regulatory Provisions to Promote Program Efficiency, Transparency, and Burden Reduction	not estimated	-0.10	Yes	No
Department of the Interior	1014-AA02	Increased Safety Measures for Oil and Gas Operations on the OCS	not estimated	\$0.1	No	No
Department of the Interior	1018-AX97	Migratory Bird Hunting; 2012-2013 Migratory Game Bird Hunting Regulations -- Early Season	\$0.2	not estimated	No	No
Department of the Interior	1018-AX97	Migratory Bird Hunting; 2012-2013 Migratory Game Bird Hunting Regulations -- Late Season	\$0.2	not estimated	No	No
Department of Justice	1105-AB34	National Standards to Prevent, Detect, and Respond to Prison Rape	not estimated	\$0.4	No	No
Department of Labor	1210-AB08	Improved Fee Disclosure for Pension plans	not estimated	< \$0.1 - \$0.1	No	No
Environmental Protection Agency	2060-AR55	Regulation of Fuels and Fuel Additives; 2013 Biomass-Based Diesel Renewable Fuel Volume	not estimated	\$0.2 - \$0.3	No	No

Notes: Data presented in the first five columns are from Tables 1-5(a) and 1-5(b) of Office of Management and Budget (2013a). Data in the last columns reflect a review and word searches (“retrospective,” “ex post,” and “13563”) of the final rules published in the Federal Register.

Appendix Table 4. Major Transfer Rules Promulgated by Executive Branch Agencies Listed in the 2014 Office of Management and Budget Draft Report to Congress with Assessment of Retrospective Review

Agency	RIN	Title	Transfers (billions 2001\$)	Result of Retrospective Review	Plan Retrospective Review of Rule
Department of Agriculture	0572-AC06	Rural Broadband Access Loans and Loan Guarantees	<\$0.1	No	No
Department of Education	1840-AD11	Federal Pell Grant Program	(\$3.8-\$3.9)	No	No
Department of Education	1840-AD05	Federal Perkins Loan Program, Federal Family Education Loan Program, and William D. Ford Federal Direct Loan Program	\$0.3	No	No
Department of Health and Human Services	0938-AQ63	Payments for Services Furnished by Certain Primary Care Physicians and Charges for Vaccine Administration Under the Vaccines for Children Program (CMS-2370-F)	\$4.7	No	No
Department of Health and Human Services	0938-AR10	Proposed Changes to Hospital OPPS and CY 2013 Payment Rates; ASC Payment System and CY 2013 Payment Rates (CMS- 1589-FC)	\$0.5	No	No
Department of Health and Human Services	0938-AR11	Revisions to Payment Policies Under the Physician Fee Schedule and Part B for CY 2013 (CMS-1590-FC)	(\$19.7)	No	No
Department of Health and Human Services	0938-AR13	Changes to the End-Stage Renal Disease Prospective Payment System for CY 2013 (CMS-1352-F)	(\$0.1)	No	No
Department of Defense	0790-AI50	Voluntary Education Programs	\$0.4	No	No
Department of	1559-AA01	Interim Rule for the CDFI Bond Guarantee	\$0.2-\$1.6	No	No

the Treasury		Program			
Department of Transportation	2132-AB02	Major Capital Investment Projects (RRR)	\$0.2	No	Yes
Department of Commerce	0651-AC54	Setting and Adjusting Patent Fees	(\$2.2) Range: (\$1.9-\$2.3)	No	No
Department of Transportation	2127-AL30	Uniform Procedures for State Highway Safety Programs	\$0.2	No	No
Department of Health and Human Services	0938-AR51	Notice of Benefit and Payment Parameters (CMS-9964-P)	\$5.1-\$5.3	No	No
Department of Education	1855-AA09	Investing in Innovation	\$0.1	No	No
Department of Transportation	2132-AB13	Public Transportation Emergency Relief Program	\$8.6	No	No
Department of Agriculture	0584-AE07	Supplemental Nutrition Assistance Program: Nutrition Education and Obesity Prevention Grant	(\$0.1)	No	No
Department of Education	1840-AD13	150% Regulations	(\$0.2)	No	No
Department of Health and Human Services	0938-AR69	Medicare Advantage (MA) and Prescription Drug Benefit Programs: Medical Loss Ratio Requirements (CMS-4173-F)	(\$0.6-\$0.7)	No	No
Department of Health and Human Services	0938-AR54	Changes to the Hospital Outpatient Prospective Payment System and Ambulatory Surgical Center Payment System for CY 2014 (CMS-1601-F)	\$0.5	No	No
Department of	0720-AB41	TRICARE; Reimbursement of Sole	(<\$0.1)	No	No

Defense		Community Hospitals			
Department of Education	1810-AB17	Race to the Top--District	\$0.1	No	No
Department of Health and Human Services	0938-AR64	FY 2014 Hospice Rate Update (CMS-1449-F)	\$0.1	No	No
Department of Health and Human Services	0938-AR65	Prospective Payment System and Consolidated Billing for Skilled Nursing Facilities--Update for FY 2014 (CMS-1446-F)	\$0.4	No	No
Department of Health and Human Services	0938-AR66	Prospective Payment System for Inpatient Rehabilitation Facilities for FY 2014 (CMS-1448-F)	\$0.3 Range: \$0.1-\$0.5	No	No
Department of Health and Human Services	0938-AR53	Changes to the Hospital Inpatient and Long- Term Care Prospective Payment System for FY 2014 (CMS-1599-F)	\$0.9	Yes	No
Department of Education	1810-AB18	Race to the Top--Early Learning Challenge	\$0.2	No	No
Department of Health and Human Services	0938-AR31	Disproportionate Share Hospital Payment Reduction (CMS-2367-F)	(\$0.4)	No	No

Notes: Data presented in the first five columns are from Table 1-7(a) of Office of Management and Budget (2014). Data in the last columns reflect a review and word searches (“retrospective,” “ex post,” and “13563”) of the final rules published in the Federal Register.

Appendix Table 5. Major Transfer Rules Promulgated by Executive Branch Agencies Listed in the 2013 Office of Management and Budget Draft Report to Congress with Assessment of Retrospective Review

Agency	RIN	Title	Transfers (billions 2001\$)	Result of Retrospective Review	Plan Rule Implementation for Retrospective Review
Department of Agriculture	0584-AE15	Certification of Compliance With Meal Requirements for the National School Lunch Program Under the Healthy, Hunger-Free Kids Act of 2010	\$0.2	No	No
Department of Health and Human Services	0938-AO53	Home and Community-Based State Plan Services Program and Provider Payment Reassignments (CMS-2249-P2)	\$0.1	No	No
Department of Health and Human Services	0938-AQ01	Changes in Provider and Supplier Enrollment, Ordering and Referring, and Documentation Requirements; and Changes in Provider Agreements (CMS-6010-F)	(\$0.1)	No	No
Department of Health and Human Services	0938-AQ25	Revisions to Payment Policies Under the Physician Fee Schedule and Part B for CY 2012 (CMS-1524-FC)	(\$15.4)	No	No
Department of Health and Human Services	0938-AQ26	Changes to the Hospital Outpatient Prospective Payment System and Ambulatory Surgical Center Payment System for CY 2012 (CMS-1525-F)	\$0.5	No	No
Department of Health and Human Services	0938-AQ27	System for CY 2012, Quality Incentive Program for PY 2013	\$0.2	No	No

Services		and PY 2014; Ambulance Fee Schedule; and Durable Medical Equipment (CMS-1577-F)			
Department of Health and Human Services	0938-AQ30	Home Health Prospective Payment System Refinements and Rate Update for CY 2012 (CMS-1353-F)	(\$0.3)	No	No
Department of Health and Human Services	0938-AQ35	Community First Choice Option (CMS-2337-F)	\$1.5	No	No
Department of Health and Human Services	0938-AQ62	Medicaid Eligibility Expansion Under the Affordable Care Act of 2010 (CMS-2349-F)	\$23.8	No	No
Department of Health and Human Services	0938-AQ84	Medicare and Medicaid Electronic Health Record Incentive Program-- Stage 2 (CMS- 0044-F)	\$2.0	No	No
Department of Health and Human Services	0938-AQ98	Establishment of the Consumer Operated and Oriented Plan Program (CMS-9983-F)	Not Estimated	No	No
Department of Health and Human Services	0938-AR12	Changes to the Hospital Inpatient and Long- Term Care Prospective Payment Systems for FY 2013 (CMS-1588-F)	\$1.7	Yes	No
Department of Health and Human Services	0938-AR20	Prospective Payment System and Consolidated Billing for Skilled Nursing Facilities--Update for FY 2013 (CMS-1432-N)	\$0.5	No	No
Department of the Treasury	1505-AC42	Assessment of Fees for Large Bank Holding Companies and Nonbank	Not Estimated	No	No

		Financial Companies Supervised by the Federal Reserve to Cover the Expenses of the Financial Research Fund			
Department of Education	1810-AB12	Teacher Incentive Fund	\$0.2	No	No
Department of Education	1810-AB15	Race to the Top--Early Learning Challenge Phase 2	\$0.1	No	No
Department of Education	1840-AD11	Federal Pell Grant Program	(\$3.8)	No	No
Department of Education	1894-AA01	Race to the Top Fund Phase 3	\$0.2	No	No
Department of Veterans Affairs	2900-AO10	Vocational Rehabilitation and Employment Program—Changes to Subsistence Allowance	\$0.1	No	No

Notes: Data presented in the first five columns are from Table 1-6(a) of Office of Management and Budget (2013a). Data in the last columns reflect a review and word searches (“retrospective,” “ex post,” and “13563”) of the final rules published in the Federal Register.

Appendix Table 6. Major Rules Promulgated by Independent Agencies Listed in the 2014 Office of Management and Budget Draft Report to Congress (excluding transfer rules) with Assessment of Retrospective Review

Agency	RIN	Title	Monetized Benefits	Monetized Costs	Result of Retrospective Review	Plan Retrospective Review of Rule
Consumer Financial Protection Bureau	3170-AA17	Ability-to-Repay and Qualified Mortgage Standards Under the Truth in Lending Act (Regulation Z)	No	No	No	No
Consumer Financial Protection Bureau	3170-AA13	Loan Originator Compensation Requirements Under the Truth in Lending Act (Regulation Z)	No	No	No	No
Consumer Financial Protection Bureau	3170-AA14	Mortgage Servicing Rules Under the Real Estate Settlement Procedures Act (Regulation X)	No	No	No	No
Consumer Financial Protection Bureau	3170-AA14	Mortgage Servicing Rules Under the Truth in Lending Act (Regulation Z)	No	Yes	No	No
Commodity Futures Trading Commission	3038-AD47	Clearing Exemption for Swaps Between Certain Affiliated Entities	No	No	No	No
Commodity Futures Trading Commission	3038-AD18	Core Principles and Other Requirements for Swap Execution Facilities	No	No	No	No
Federal Communications Commission	FCC 12-153	Special Access for Price Cap Local Exchange Carriers; AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services	No	No	No	No

Federal Deposit Insurance Corporation	3064-AD95	Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach to Risk-weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule	No	No	No	No
Federal Reserve Board of Governors	7100-AD95	Supervision and Regulation Assessments for Bank Holding Companies and Savings and Loan Holding Companies with Total Consolidated Assets of \$50 Billion or More and Nonbank Financial Companies Supervised by the Federal Reserve	No	No	No	No
Nuclear Regulatory Commission	NRC-2013-0038	Electric Power Research Institute; Seismic Evaluation Guidance	No	No	No	No
Nuclear Regulatory Commission	3150-AJ25	Inflation Adjustments to the Price-Anderson Act Financial Protection Regulations	No	No	No	No
Nuclear Regulatory Commission	3150-AI12	Physical Protection of Byproduct Material	No	Yes	No	No
Nuclear Regulatory Commission	3150-AJ19	Revision of Fee Schedules; Fee Recovery for Fiscal Year 2013	No	No	No	No
Securities and Exchange Commission	3235-AK56	Broker-Dealer Reports	No	No	No	No
Securities and Exchange Commission	3235-AK97	Disqualification of Felons and Other "Bad Actors" from Rule 506 Offerings	No	No	No	No

Securities and Exchange Commission	3235-AL34	Eliminating the Prohibition Against General Solicitation and General Advertising in Rule 506 and Rule 144A Offerings	No	No	No	No
Securities and Exchange Commission	3235-AJ85	Financial Responsibility Rules for Broker-Dealers	No	No	No	No
Securities and Exchange Commission	3235-AK86	Registration of Municipal Advisors	No	No	No	No

Notes: Data presented in the first five columns are from Table 1-10 of Office of Management and Budget (2014). Data in the last columns reflect a review and word searches (“retrospective,” “ex post,” and “13579”) of the final rules published in the Federal Register.

Appendix Table 7. Major Rules Promulgated by Independent Agencies Listed in the 2013 Office of Management and Budget Draft Report to Congress (excluding transfer rules) with Assessment of Retrospective Review

Agency	RIN	Title	Monetized Benefits	Monetized Costs	Result of Retrospective Review	Plan Retrospective Review of Rule
Bureau of Consumer Financial Protection	3170-AA15	Electronic fund transfers (Regulation E) (77 FR 6194)	No	No	No	No
Bureau of Consumer Financial Protection	3170-AA06	Fair credit reporting (Regulation V) (76 FR 79308)	No	No	No	No
Commodity Futures Trading Commission	3038-AD25	Business conduct standards for swap dealers and major swap participants with counterparties (77 FR 9734)	No	No	No	No
Commodity Futures Trading Commission	3038-AD09	Core principles and other requirements for designated contract markets (77 FR 36612)	No	Yes	No	No
Commodity Futures Trading Commission	3038-0092	Customer clearing documentation, timing of acceptance for clearing, and clearing member risk management (77 FR 21278)	No	No	No	No
Commodity Futures Trading Commission	3038-AC98	Derivatives clearing organization general provisions and core principles (76 FR	No	No	No	No

Commission		69334)				
Commodity Futures Trading Commission	3038-AC79	Investment of customer funds and funds held in an account for foreign futures and foreign options transactions (76 FR 78776)	No	No	No	No
Commodity Futures Trading Commission	3038-AD17	Position limits for futures and swaps (76 FR 71626)	No	Yes	No	No
Commodity Futures Trading Commission	3038-AC99	Protection of cleared swaps customer contracts and collateral; conforming amendments to the commodity broker bankruptcy provisions (77 FR 6336)	No	No	No	No
Commodity Futures Trading Commission	3038-AD08	Real-time public reporting of swap transaction data (77 FR 1182)	No	No	No	No
Commodity Futures Trading Commission	3038-AD19	Swap data recordkeeping and reporting requirements (77 FR 2136)	No	No	No	No
Commodity Futures Trading Commission	3038-AC96	Swap dealer and major swap participant recordkeeping, reporting, and duties rules; futures commission merchant and introducing broker conflicts of interest rules; and chief compliance officer rules for swap dealers, major swap participants,	No	No	No	No

		and futures commission merchants (77 FR 20128)				
Commodity Futures Trading Commission and Securities Exchange Commission	3038-AD46 and 3235-AK65	Further definition of “swap dealer,” “security-based swap dealer,” “major swap participant,” “major security-based swap participant” and “eligible contract participant” (77 FR 30596 (Interim Final Rule), 77 FR 48208 (Final Rule))	No	Yes	No	No
Commodity Futures Trading Commission and Securities and Exchange Commission		Further definition of “swap,” “security-based swap,” and “security-based swap agreement”; mixed swaps; security-based swap agreement recordkeeping (77 FR 48208)	No	No	No	No
Commodity Futures Trading Commission and Securities Exchange Commission	3038-AD03 and 3235-AK92	Reporting by investment advisers to private funds and certain commodity pool operators and commodity trading advisors on form PF (76 FR 71128)	No	Yes	No	No
Consumer Product Safety Commission		Testing and labeling pertaining to product certification (76 FR 69482)	No	No	No	No
Nuclear Regulatory Commission	3150-AJ03	Revision of fee schedules; fee recovery for FY 2012 (77 FR	No	No	No	No

35809)

Securities and Exchange Commission	3235-AK51	Consolidated audit trail (77 FR 45722)	No	Yes	No	Yes
Securities and Exchange Commission	3235-AK85	Disclosure of payments by resource extraction issuers (77 FR 56365)	No	Yes	No	No
Securities and Exchange Commission	3235-AK71	Investment adviser performance compensation (77 FR 10358)	No	No	No	No
Securities and Exchange Commission	3235-AK90	Net worth standard for accredited investors (76 FR 81793)	No	No	No	No

Notes: Data presented in the first five columns are from Table 1-8 of Office of Management and Budget (2013a). Data in the last columns reflect a review and word searches (“retrospective,” “ex post,” and “13579”) of the final rules published in the Federal Register.