



J O I N T C E N T E R
AEI-BROOKINGS JOINT CENTER FOR REGULATORY STUDIES

**An Analysis of the Ninth Government Report on the
Costs and Benefits of Federal Regulations**

Robert W. Hahn and Robert E. Litan*

**Regulatory Analysis 06-05
June 2006**

* Mr. Hahn and Mr. Litan are the Directors of the American Enterprise Institute-Brookings Joint Center for Regulatory Studies. The authors would like to thank Laura Goodman and Molly Wells for research assistance. This paper represents the views of the authors and does not necessarily represent the views of the institutions with which they are affiliated. It was prepared at the request of OMB to provide a peer review.



J O I N T C E N T E R

AEI-BROOKINGS JOINT CENTER FOR REGULATORY STUDIES

In order to promote public understanding of the impact of regulations on consumers, business, and government, the American Enterprise Institute and the Brookings Institution established the AEI-Brookings Joint Center for Regulatory Studies. The Joint Center's primary purpose is to hold lawmakers and regulators more accountable by providing thoughtful, objective analysis of relevant laws and regulations. Over the past three decades, AEI and Brookings have generated an impressive body of research on regulation. The Joint Center builds on this solid foundation, evaluating the economic impact of laws and regulations and offering constructive suggestions for reforms to enhance productivity and welfare. The views expressed in Joint Center publications are those of the authors and do not necessarily reflect the views of the Joint Center.

ROBERT W. HAHN
Executive Director

ROBERT E. LITAN
Director

COUNCIL OF ACADEMIC ADVISERS

KENNETH J. ARROW
Stanford University

MAUREEN L. CROPPER
University of Maryland

JOHN D. GRAHAM
*Pardee RAND Graduate
School*

PHILIP K. HOWARD
Common Good

PAUL L. JOSKOW
*Massachusetts Institute
of Technology*

DONALD KENNEDY
Stanford University

ROGER G. NOLL
Stanford University

PETER PASSELL
Milken Institute

RICHARD SCHMALENSEE
*Massachusetts Institute
of Technology*

ROBERT N. STAVINS
Harvard University

CASS R. SUNSTEIN
University of Chicago

W. KIP VISCUSI
Harvard University

All AEI-Brookings Joint Center publications can be found at www.aei-brookings.org

© 2006 by the authors. All rights reserved.

Executive Summary

This paper critically reviews the draft of the Office of Management and Budget's ninth report on the benefits and costs of federal regulation. The draft report is similar to previous reports, and does not break new ground.

We offer seven recommendations—six for OMB and one for Congress—that would help hold lawmakers and regulators more accountable for the regulations they produce. Our recommendations focus on getting the regulatory agencies to produce better analysis, making that analysis more transparent and readily available, and making the regulatory process itself more transparent.

We recommend that OMB:

- examine the extent to which regulations maximize net benefits;
- include a scorecard showing the number and percentage of final regulations that pass a benefit-cost test based on factors that can be quantified and monetized;
- request that all agencies report on the extent to which they comply with OMB's guidelines for conducting regulatory analysis;
- provide guidelines for assessing the effectiveness of antiterrorism regulations;
- include a discussion of the costs and benefits of antitrust activities in its annual report; and
- facilitate the use of information markets to increase overall economic efficiency and to inform regulatory decision making

We also recommend that Congress require *all* agencies to comply with OMB's guidelines for conducting regulatory analysis.

An Analysis of the Ninth Government Report On the Costs and Benefits of Federal Regulations

Robert W. Hahn and Robert E. Litan

1. Introduction

The Office of Management and Budget (OMB) has recently released a draft of its ninth annual report to Congress on the costs and benefits of federal regulation.¹ The law requires that OMB submit a report to Congress that provides estimates of the costs and benefits of federal regulation. The report is also supposed to make recommendations for reform, provide guidelines for agencies to standardize benefit and cost estimates, and assess the impact of federal regulation on State and local government, small business, wages and economic growth.²

The 2006 OMB draft report offers a new discussion of some international developments in regulatory policy.³ While this discussion is useful, it does not address the actual impact of regulatory oversight mechanisms, which is a very important issue. For example, it compares U.S. and EU guidelines on regulatory analysis, but does not consider whether these guidelines affect policy in any meaningful way.⁴

In this analysis, we argue that OMB has failed to address the most serious problems with agencies' regulatory analyses. We offer seven recommendations—six for OMB and one for Congress—that would help address these core issues.

We recommend that OMB: examine the extent to which regulations maximize net benefits; include a scorecard showing the number and percentage of final regulations that pass a benefit-cost test; request that all agencies report on the extent to which they comply with OMB's guidelines for conducting regulatory analysis; provide guidelines for assessing the effectiveness

¹ OMB (2006).

² The FY2001 Treasury and General Government Appropriations Act, § 624 (a) requires OMB to submit an "accounting statement and associated report" containing: "(1) an estimate of the total annual costs and benefits (including quantifiable and non-quantifiable effects) of Federal rules and paperwork, to the extent feasible: (A) in the aggregate; (B) by agency and agency program; and (C) by major rule; (2) an analysis of impacts of Federal regulation on State, local, and tribal government, small business, wages, and economic growth; and (3) recommendations for reform." Section 624 (c) also requires OMB to "issue guidelines to agencies to standardize: (1) measures of costs and benefits; and (2) the format of accounting statements."

³ Although the report is published in the Federal Register by OMB, the particular office within the Office of Management that is responsible for reviewing rules submitted by agencies, issuing information quality guidelines, issuing prompt letters, and enforcing Executive Order 12866 is the Office of Information and Regulatory Affairs (OIRA). See Office of Management and Budget, OIRA Q&A's. Available at http://www.whitehouse.gov/omb/inforeg/qa_2-25-02.pdf (last visited June 12, 2006).

of antiterrorism regulations; include a discussion of the costs and benefits of antitrust activities in its annual report; and facilitate the use of information markets to increase overall economic efficiency and to inform regulatory decision making.

Requiring agencies to comply with OMB's guidelines has been unsuccessful. The guidelines have little value if they are not seriously enforced. We recommend that Congress require *all* agencies to comply with OMB's guidelines for conducting regulatory analysis.⁵

Section 2 offers recommendations for improving OMB's report and regulatory oversight function. Section 3 presents our conclusions.

2. Recommendations

While OMB has addressed a few key issues in this report, there is significant room for improvement. We offer seven recommendations aimed at improving the OMB report and the regulatory process.

Recommendation 1: OMB should add a discussion in its report that assesses the extent to which the regulations under consideration maximize net benefits.

Both executive orders 12866 and 12291 require selecting regulatory proposals that would maximize net benefits.⁶ We think it is important to compare the regulatory proposal that is selected with a proposal that would have maximized net benefits. OMB could then develop estimates, based on an agency's regulatory analysis, of the extent to which proposals selected fell short of maximizing expected net benefits.

To our knowledge, OMB has not addressed this issue, and we believe it is a good time to do so. While there may be analytical challenges in accomplishing this task, they are surmountable. Initially, the regulatory agencies should identify the alternative (or alternatives) that maximize expected net benefits. They should then quantify those net benefits to the extent reasonable. In addition, they should also explain why those alternatives are not selected in cases where they are not selected. OMB could then offer an additional descriptive statistic for each regulation it reviews that would be useful for measuring the efficiency of the regulatory process.

⁴ For an evaluation of regulatory analyses in the U.S. and Europe, see Hahn (2006) and Renda (2006).

⁵ *All* agencies include both executive and independent agencies.

⁶ See Clinton (1993), §1: "...in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and

This statistic would be an estimate of the extent to which quantifiable net benefits of the proposal fall short of maximum feasible net benefits.

In future work, OMB may want to ask the agencies to furnish an additional calculation that would provide an additional benchmark for comparison—that benchmark would take as given the need to do a regulation in a particular area, but would relax the assumption that all legal requirements would need to be met. So, for example, in the case of regulating mercury emissions from power plants, one might ask the question whether there is any regulation that would result in positive net benefits. At this point, we think OMB should focus on the simpler case where the benchmark is defining an alternative that maximizes net benefits and is legal.⁷

Recommendation 2: OMB should include a scorecard showing the number and percentage of final regulations that pass or fail a benefit-cost test based strictly on factors that can be quantified and expressed in monetary terms.⁸

OMB could provide valuable information by including a scorecard that estimated the economic efficiency of regulation over time and across individual regulations.⁹ One approach is to assess the fraction of regulations that would pass a strict benefit-cost test. A strict benefit-cost test is based on the *quantified* benefit and cost estimates and *excludes* unquantified benefits and costs.¹⁰ To the extent possible, this test should include all costs and benefits that can be quantified.

Table 1 provides an overview of the fraction of regulations that pass a strict benefit-cost test based on data contained in this year's and previous years' reports. We consider 124 economically significant regulations for which OMB provides some information on costs *and* benefits between October 1, 1992 and September 30, 2005.¹¹ We exclude from the calculation

other advantages; distributive impacts; and equity), unless a statute requires another approach.” See also Reagan (1981), §2(c): “Regulatory objectives shall be chosen to maximize the net benefits to society.”

⁷ In some cases, the unconstrained first-best net benefit maximization problem may be difficult to specify. For example, in the case of mercury emissions, should it be restricted to power plants? Furthermore, some might argue that such “first-best” estimates should be beyond the purview of OMB, since it needs to operate within legal constraints imposed by Congress. While this is true, first-best estimates can help inform decision makers about the overall efficiency of regulations.

⁸ This scorecard should include all final, economically significant regulations. The time frame should be at least the past decade.

⁹ See, e.g., Hahn and Dudley (2004). See also GAO (1998).

¹⁰ For a discussion of how a cost-benefit analysis can incorporate unquantified costs and benefits, see Arrow et al. (1996).

¹¹ All of the regulations are non-transfer rules. Of the 45 major regulations implemented between October 1, 2004 and September 30, 2005, 24 were transfer rules. For a description of the difference between transfer and non-transfer rules, see OMB (2005): “Of the 45 rules, 19 implemented Federal budgetary programs, which caused income

those regulations for which agencies did not present estimates for both costs and benefits.¹² We also exclude two regulations from the calculation because they have net benefits of zero, and therefore, neither pass nor fail.¹³

OMB did not always provide a single estimate for costs or benefits, but often presented a range. We find this approach problematic and believe OMB and the regulatory agencies should present a “best” estimate. Where OMB presented a range, we treated the midpoint as the best estimate. When OMB provided a single estimate, we considered it to be the best estimate.

The table shows that 80 percent (99 of 124) of the major non-transfer rules with quantified costs and benefits would pass a benefit-cost test using best estimates based on OMB’s numbers. The other 20 percent would fail.¹⁴

One obvious question is how sensitive these results are to changes in assumptions about estimates. We explore this question by doing a bounding analysis. When OMB provided a range, we used the maximum benefits and the minimum costs to generate our “best-case” and “worst-case” scenarios. The best-case scenario couples the maximum benefit estimate with the minimum cost estimate. The worst-case scenario does just the opposite.

Table 1 shows that, under the best case scenario, 108 of the 124 regulations have positive net benefits. Under the worst-case scenario, only 77 out of 124 pass our strict benefit-cost test. Aggregate net benefits under all scenarios are positive and significant, a finding that is consistent with earlier work that examined the government’s numbers over a much longer time period.¹⁵

transfers, usually from taxpayers to another group. Rules that transfer Federal dollars among parties are not included in the benefit-cost totals because transfers are not social costs or benefits. If included, they would add equal amounts to benefits and costs. The remaining 26 regulations were ‘social regulations,’ which may require substantial additional private expenditures as well as provide new social benefits.” If included in the analysis, transfer rules would not pass a benefit-cost test because they add equal amounts to benefits and costs. For a discussion of the differences between transfer rules and non-transfer rules as they apply to regulatory analysis, see Hahn (1999). See also Eric Posner (2003) for a useful suggestion on how to improve agency analyses of transfer rules.

¹² For the most recent period, October 1, 2004 to September 30, 2005, agencies did not present estimates for costs and benefits for eight of the 21 “social” regulations. Two of these eight were homeland security regulations for which benefits are difficult to quantify and monetize.

¹³ These two regulations are “Child Restraint System” and “Roadway Worker Protection.”

¹⁴ In this case, two regulations, “Child Restraint System” and “Roadway Worker Protection” had net benefits of zero. We excluded these two regulations from the analysis since they neither pass nor fail. If we had included in the analysis the eight regulations for which agencies did not present estimates for costs and benefits, and assumed zero for benefits and costs where they were not quantified, four of the eight would have failed using any of the “best case”, “worst case”, or “best estimate” scenarios to evaluate net benefits. Two migratory bird hunting regulations would have passed since they had positive benefits and unquantified costs. Two regulations did not have estimates for either benefits or costs, so they neither pass nor fail using this test.

¹⁵ See, for example, Hahn (2000) showing that aggregate net benefits are positive under a wide range of assumptions for discount rate and value of a statistical life. His database includes 106 final regulations promulgated between 1983 and 1996. This aggregation does not take into account that different regulations may be implemented in

The exclusion of several regulations with unquantified benefits may remove many regulations with negative net benefits.¹⁶

OMB's numbers suggest that a significant fraction of rules over the period from October 1, 1992 to September 30, 2005 may not yield positive net benefits, at least when considering those benefits and costs that can be quantified and expressed in monetary terms. A more detailed breakdown of those rules is provided in Table 2, which shows rules that pass or fail a benefit-cost test under various assumptions and their net benefits. If rules do not pass a benefit-cost test under reasonable assumptions, or at least those deemed reasonable by a regulatory agency, both the agency writing the regulation and the OMB should explain why they were still implemented. If the numbers strongly suggest that a rule fails a benefit-cost test, OMB should consider arguing for its reform or elimination.¹⁷

Once it presents basic information on whether a regulation passes or fails a benefit-cost test based on point estimates, OMB should consider refining its analysis by getting better information on the *distribution* of benefits, costs and net benefits. This is consistent with its guidelines to agencies that ask for such information on distributions.¹⁸ Agencies often do not provide best estimates and ranges for benefits and costs, as illustrated in this year's draft report. Furthermore, we are aware of only a few RIAs in which an agency has provided a probability distribution for benefits or costs.¹⁹ With a distribution of net benefits for each regulation, OMB could present a more nuanced probabilistic analysis of the net benefits of regulation individually

different years. We doubt that this would change the basic qualitative result about aggregate net benefits being positive.

¹⁶ Hahn (2005) suggests that including such rules in a scorecard could motivate agencies to search for better estimates on benefits and costs.

¹⁷ In these situations, OMB should consider unquantifiable benefits and costs as well. When suggesting the elimination or reform of a regulation in its report to Congress, OMB should explain why it expects the overall benefits not to exceed the costs.

¹⁸ OMB (2003b), at 41: "Whenever possible, you should use appropriate statistical techniques to determine a probability distribution of the relevant outcomes. For rules that exceed the \$1 billion annual threshold, a formal quantitative analysis of uncertainty is required. For rules with annual benefits and/or costs in the range from \$100 million to \$1 billion, you should seek to use more rigorous approaches with higher consequence rules." See also OMB (2003b), at 18: "When benefit and cost estimates are uncertain, you should report benefit and cost estimates (including benefits of risk reductions) that reflect the full probability distribution of potential consequences. Where possible, present probability distributions of benefits and costs and include the upper and lower bound estimates as complements to central tendency and other estimates."

¹⁹ For example, the National Ambient Air Quality Standards (NAAQS) for Particulate Matter RIA has a distribution of benefits and costs with a mean and standard deviation. It uses a normal distribution to estimate benefits. See Environmental Protection Agency (1997), *National Ambient Air Quality Standards for Particulate Matter Regulatory Impact Analysis*. This RIA is available on the AEI-Brookings Joint Center's website, <http://www.aei-brookings.com/publications/index.php?tab=topics&topicid=68>. We are not aware of any Regulatory Impact Analyses that have a probability distribution for net benefits.

and in the aggregate. At a minimum, however, OMB should require that the agencies provide information on a point estimate and range for net benefits. Moreover, it should provide guidance on how to determine the range.²⁰

One example of a problem where there is a great deal of uncertainty is the reduction of fine particles. If the Environmental Protection Agency's benefit numbers associated with a reduction in fine particles are reasonable, then we may be under-regulating. However, as OMB has noted, there is a great deal of uncertainty surrounding these numbers. It would be useful for OMB to suggest ways research might reduce this uncertainty over time, perhaps by funding studies that assess the extent of the actual effect on humans that are better designed, or which use better data. We think that it is appropriate for OMB to work with EPA, as it is doing, to better the techniques used to quantify the level of uncertainty in estimates of benefits.²¹

Recommendation 3: OMB should request that *all* agencies report on the extent to which they comply with OMB's guidelines for conducting regulatory analysis, and OMB should report the results in its annual report.²²

In the past, we have recommended that OMB issue a scorecard identifying the extent to which regulatory analyses comply with its guidelines for conducting regulatory analysis. OMB, however, has not yet implemented this recommendation. OMB should hold the agencies more accountable for the quality of their regulatory analyses and should request that agencies adhere to OMB's guidelines for regulatory analysis. For example, in its guidelines for conducting regulatory analysis, OMB requests that agencies quantify and monetize estimates whenever possible.²³ This past year, of the twenty-one final major non-transfer rules adopted, eight, or 38 percent, did not have quantified and monetized estimates of both benefits and costs. Although three of these eight regulations were related to homeland security measures for which benefits

²⁰ There may be large uncertainties in some of these distributions, but we prefer that they be made explicit where possible. See, e.g., Arrow et al. (1996): "Available methods and data generally imply ranges of possible values of costs and benefits, not single numbers. Benefit-cost analysis contributes most to intelligent decisionmaking when those ranges are clearly described along with best estimates...If the decisionmaker wishes to introduce a 'margin of safety' into his decision, he should do so explicitly."

²¹ National Research Council (2002).

²² For OMB's most recent guidelines for conducting regulatory analysis, see OMB Circular A-4, OMB (2004).

²³ See OMB (2003), at 3: "During the past year, 11 'major' final rules with quantified and monetized benefits and costs were adopted...There were an additional 15 final 'major' rules that did not have quantified and monetized estimates of both benefits and costs."

are difficult to quantify, this overall lack of quantification is problematic.²⁴ It is difficult to determine the aggregate net benefits of regulation if more than a third of the rule analyses do not provide benefits or costs.²⁵

We propose that OMB ask the agencies to score their own regulatory analyses on a few simple criteria: whether the agency monetized or quantified costs and benefits, used the discount rates prescribed by OMB, considered alternatives, and provided both a best estimate and range of estimates for net benefits.²⁶ OMB should summarize the results from the scorecards in its annual report.

OMB's guidelines should apply to both executive and independent agencies.²⁷ In this year's report, OMB provides a table showing whether independent agencies monetized costs and benefits for economically significant regulations issued between October, 2004 and September, 2005.²⁸ OMB does not, however, provide any estimates of the costs and benefits of these regulations. In cases where the agencies have provided benefits or costs, OMB should publish these estimates and explain any uncertainties.²⁹ In cases where independent agencies have not supplied benefit or cost information, OMB should ask them to estimate benefits and costs in the same format that executive agencies estimate them.³⁰ Finally, OMB should describe the major

²⁴ Two rules this year were homeland security regulations, while an additional HHS-FDA regulation, "Establishment and Maintenance of Records Pursuant to the Public Health Security and Bioterrorism Preparedness and Response Act of 2002" derives "a substantial portion of the benefits" from improvements to homeland security. See OMB (2006), at 44.

²⁵ See OMB (2003b), at 26-27: "Sound quantitative estimates for benefits and costs, where feasible, are preferable to qualitative descriptions of benefits and costs because they help decision makers understand the magnitudes of the effects of alternative actions...You should monetize quantitative estimates whenever possible...If monetization is impossible, explain why and present all available quantitative information."

²⁶ For a discussion of alternatives, see Hahn et al. (2000), at 874-875: "Unfortunately, the agencies generally did not provide a significant analysis of alternatives in RIAs, even when the agencies conducted a quantitative analysis of the preferred option...This incomplete assessment of alternatives makes it difficult to assess whether the alternatives would actually be superior to an agency's preferred policy, even when using an agency's own assessment."

²⁷ In the Regulatory Right-to-Know Act, Congress does not specify which agencies OMB can review for its annual report. See Section 624 of the Treasury and General Government Appropriations Act of 2001, Public Law 106-554, 31 U.S.C. 1105. OMB can and should review both independent and executive agencies for its annual report to provide a comprehensive overview of regulation. It is imperative that independent agencies follow the same guidelines for conducting regulatory analysis as executive agencies so that OMB can provide standardized estimates of benefits and costs for all economically significant regulations.

²⁸ OMB (2006), at 15.

²⁹ See Table 1-7, OMB (2006), at 15. The table, based on GAO reports, shows that the Securities and Exchange Commission (SEC) monetized benefits and costs for two economically significant regulations: "Securities Offering Reform," and "Regulation NMS." The SEC also monetized costs but not benefits for three other rules.

³⁰ Independent agencies, such as the Securities and Exchange Commission (SEC) and the Federal Communications Commission (FCC) recently issued significant regulations that could have benefited from benefit-cost analyses. The Securities and Exchange Commission decision requiring Proxy Voting Policies and Proxy Voting Records by

rules for which the agency provides benefits and costs. For example, OMB lists the SEC rule, “Securities Offering Reform,” as having monetized benefits and costs. However, we do not know anything about the rule other than its title. At a minimum, OMB should describe the costs and benefits of major rules issued by independent agencies with the same level of detail as it does for executive agencies.

Recommendation 4: Congress should require that all agencies comply with OMB’s guidelines for conducting regulatory analysis.

We believe that it is important that regulatory analyses adhere to certain economic and scientific standards, such as quantifying and monetizing costs and benefits to the extent possible, using the discount rates prescribed by OMB, considering alternatives, and providing both a best estimate and range of estimates for net benefits. The guidelines issued by OMB were designed to help to achieve that goal. Unfortunately, the guidelines do not appear to have been enforced very well.³¹ Furthermore, they do not currently apply to independent regulatory agencies.³² OMB does not even follow these guidelines in the sense that it often fails to provide best estimates and ranges, presumably because agencies have failed to do so.

There are two policy options for having all relevant agencies comply with specific guidelines for doing economic analysis of regulations—one is to pass a law and the other is to issue a new executive order. Congress could pass a law requiring that the proposed regulations move forward only if OMB determines that an agencies’ Regulatory Impact Analyses meet

Registered Management Investment Companies could have benefited from a regulatory impact analysis. See, e.g., Kroszner (2003) for an analysis of a proposed SEC rule governing the inclusion of nominees of significant shareholders in company proxy voting materials. Under Executive Order 12866, OMB can require independent agencies to summarize alternatives and preliminary estimates of anticipated costs and benefits for economically significant regulations. See Clinton (1993) for Executive Order 12866, § 4(c), which outlines “The Regulatory Plan”: “For purposes of this subsection, the term “agency” or “agencies” shall also include those considered to be independent regulatory agencies, as defined in 44 U.S.C. 3502(10). (1) As part of the Unified Regulatory Agenda, beginning in 1994, each agency shall prepare a Regulatory Plan (Plan)...The Plan shall be approved personally by the agency head and shall contain at a minimum: A summary of each planned significant regulatory action including, to the extent possible, alternatives to be considered and preliminary estimates of the anticipated costs and benefits.”

³¹ See, for example, Figure 5 in Hahn et al. (2000), at 875, suggesting that agencies often do not quantify the impacts of alternatives in RIAs.

³² See OMB (2003a). OMB Circular A-4, providing guidelines to Federal agencies on the development of regulatory analysis, is addressed only to executive agencies. We recommend that, at the very least, OMB should address this circular to the heads of independent agencies as well.

certain guidelines.³³ Congress should also stipulate that if OMB determines that an agency's Regulatory Impact Analysis does not comply with those guidelines, OMB must return the proposed regulation to the agency until the analysis complies.³⁴

A second alternative is for the President to draft a new executive order requiring *all* agencies to comply with the guidelines.³⁵ It is not immediately clear whether the President could have legal authority over independent agencies. The President, however, is entitled to remove members of independent agencies for “inefficiency, neglect of duty, or malfeasance in office.”³⁶ At a minimum, the President can require documents to ensure that agency officials are acting efficiently and in a way that does not show neglect. Therefore, requiring the independent agencies to comply with OMB's guidelines for conducting regulatory analysis seems to have a firm legal basis. Moreover, if agencies implement regulations without showing that the benefits exceed the costs, they might be thought to be acting “inefficiently,” and in a way that shows neglect of duty.³⁷

A new executive order could help ensure that both executive and independent agencies followed OMB's guidelines prior to implementing a regulation.³⁸ That order could have the same enforcement mechanism as we suggested for the law.³⁹

³³ Congress could, for example, insert a provision in the Regulatory-Right-to-Know Act specifying that both independent and executive agencies are required to submit the costs and benefits of their regulations to OMB and comply with OMB's guidelines.

³⁴ Time-sensitive regulations could be given an exception. In addition, if an agency explains why complying with a guideline is not possible, and OMB agrees with the agency's assessment, OMB should allow the rule to move forward.

³⁵ A new Executive Order would be easier to implement, but a law passed by Congress would be more effective. For a more in-depth discussion of promoting agency compliance with OMB's regulatory guidelines, see Hahn and Sunstein (2002). Hahn and Sunstein propose a new executive order that would require agencies to comply with OMB's guidelines for regulatory analysis. Currently, OMB lacks the statutory authority to enforce its guidelines. On the other hand, the President has the authority, via executive order, to issue binding principles. For a general discussion, see Kagan (2001). If the President has that authority, he also has the authority to delegate that power to the Director of OMB, at least if he does so expressly via executive order.

³⁶ See, e.g., 15 U.S.C. §41; 29 U.S.C. § 661 (b).

³⁷ See Hahn and Sunstein (2002), which argues that presidential oversight of independent agencies is both legal and critical to ensuring rationality in regulation.

³⁸ An executive order requiring that independent agencies follow OMB's guidelines may violate the separation of powers between the executive and legislative branches. For a closer look at this problem, see Hahn and Sunstein (2002). For an analysis of the constitutional concerns raised by an agency with “complete independence from the President,” see Lessig and Sunstein (1994).

³⁹ While we believe that a law passed by Congress would be more effective at requiring all the agencies to comply with OMB's guidelines, an executive order might be easier to obtain because it does not require approval of both houses of Congress. The executive order should also state the consequences to the agencies of not complying with OMB's guidelines. For example, if an agency's regulatory analysis does not comply with OMB's guidelines, OMB should have the right to return this regulation to the agency until the agency complies.

Recommendation 5: OMB should provide guidelines for how the Department of Homeland Security should quantify and monetize the benefits of antiterrorism regulations.

OMB should ask the agencies to analyze the costs and benefits of current antiterrorism regulations. Homeland Security regulations represented two of the eight major rules implemented in the past year that did not have quantified and monetized estimates of both benefits and costs.⁴⁰ OMB could develop ways to measure the regulations' effectiveness.⁴¹ While determining precise quantitative estimates of benefits is often difficult, some quantitative or qualitative description may be possible. Even if estimates are not precise, some measure of whether the regulations will likely improve things would be useful.

At a minimum, agencies should try to bound estimates in a way that policy makers can determine if they are making reasonable investments. For example, OMB estimates that society is paying \$2.1 billion to \$3.9 billion per year for the nine major homeland security measures finalized since the Department of Homeland Security was created.⁴² How many lives might be saved if we had spent this money differently? And would as many lives be likely to be saved with these measures?

An attempt at measuring the net benefits of terrorism-related regulations will help policy makers and the public to compare the merits of different regulatory options and assess whether these regulations are meeting expectations.⁴³ If regulations involving homeland security do not have any plausible benefit estimates attached, there is a very real danger of ineffective and inefficient regulation because the agency will not be held accountable.

⁴⁰ See OMB (2006), at 1: "Two of these eight rules implemented homeland security programs where the benefits of improved security are very difficult to quantify and monetize." One additional HHS-FDA regulation, "Establishment and Maintenance of Records Pursuant to the Public Health Security and Bioterrorism Preparedness and Response Act of 2002," had only some of its benefits quantified because a significant portion of the benefits are related to homeland security. See OMB (2006), at 44.

⁴¹ For some insights into measuring the effectiveness of a policy to counter terrorism, see Richard Posner (2004).

⁴² See OMB (2006), at 12.

⁴³ For a discussion of how the government can effectively deal with the risk of terrorism, see O'Hanlon et al. (2002).

Recommendation 6: OMB should include a discussion of the costs and benefits of antitrust activities in its annual report.

Antitrust policy can affect pricing, output, and entry decisions of firms, and therefore can be important for consumers and producers.⁴⁴ Yet, OMB does not consider antitrust policy in tallying the costs and benefits of federal regulation.⁴⁵ Hahn and Hird, by contrast, regard antitrust as regulation.⁴⁶ The costs and benefits of antitrust actions are coming under increasing scrutiny by academics.⁴⁷

The Federal Trade Commission (FTC) and Department of Justice (DOJ) currently publish some data on the economic impacts of antitrust investigations. For example, they provide a few aggregate estimates of consumer savings from antitrust enforcement in their annual performance reports to Congress.⁴⁸ The FTC also publishes an excellent series of reports and working papers, including several that estimate the economic impacts of various antitrust cases.⁴⁹ The DOJ, in contrast, does not appear to do retrospective analyses of antitrust activities on a regular basis or publish them in one central location.⁵⁰ Although the FTC and DOJ's websites and annual

⁴⁴ See Shenefield and Stelzer (2001), at 8 for the origins and objectives of antitrust policy: "Where competition fails, government has two choices. It can either protect the consumer from market abuse by directly regulating the firm with monopoly power or restore the vigor of competition through antitrust enforcement that prevents competitors from conspiring to fix prices or individual firms from dominating markets."

⁴⁵ See OMB (1997) Appendix, Summary of Public Comments: "Some commenters, on the other hand, thought economic regulation included anti-trust enforcement...we did not make it clear that these types of activities, which may be viewed by some to be regulating economic activity, were not intended to be included in the "economic regulation" category because they do not directly regulate firms' pricing, output, or entry decisions. For example, antitrust enforcement by the Department of Justice and the Federal Trade Commission is not generally done through regulation."

⁴⁶ See Hahn and Hird (1991): "Economic regulation, including antitrust, may produce social benefits when natural monopolies are regulated to stimulate competition or when firms are prevented from anticompetitive collusion and mergers. In a dynamic economy, however, the dollar amount of such economic efficiency benefits are thought to be small."

⁴⁷ The area is controversial. For a pessimistic view of the impact of some antitrust actions, see Crandall and Winston (2003). For more optimistic views, see Baker (2003) and Werden (2003).

⁴⁸ See Federal Trade Commission Performance Report, Fiscal Year 2003 under the Government Performance and Results Act (2004), available at <http://www.ftc.gov/opp/gpra/prfy2003.pdf>. See also Department of Justice's FY 2003 Performance and Accountability Report, under the Government Performance and Results Act (2004), available at <http://www.usdoj.gov/ag/annualreports/ar2003/p2sg2.htm>.

⁴⁹ See the FTC's working papers and reports from the Bureau of Economics, available at <http://www.ftc.gov/be/econwork.htm>. Many of the retrospective analyses are not cost-benefit analyses. For example, some address the market share or price changes post-merger or post-enforcement, and do not contain a cost-benefit analysis of the agency's action (or inaction). The Bureau of Economics at the FTC also analyzes consumer protection regulations: See <http://www.ftc.gov/be/>: "The Bureau helps the FTC evaluate the economic impact of its actions. To do so, the Bureau provides economic analysis and support to antitrust and consumer protection investigations and rulemakings."

⁵⁰ The Economic Analysis Group (EAG) within the antitrust division of DOJ is responsible for conducting economic analyses of DOJ's antitrust activities. It should follow the Bureau of Economics' model in publishing its analyses in a consolidated place on a website.

performance reports contain valuable information about antitrust activities, the agencies do not provide a good summary of the estimated costs and benefits.

OMB should request that the FTC and DOJ provide it with annual cost and benefit estimates of selected antitrust activities where available.⁵¹ OMB should then summarize this data in its regulatory report. In addition, it may be useful for OMB to publish guidelines for analyzing the costs and benefits of antitrust activities, similar to OMB's Guidelines for the Conduct of Regulatory Analysis.⁵²

We believe that providing more cost and benefit information about FTC and DOJ's antitrust activities in the OMB Report will increase the transparency of antitrust policy and could increase economic efficiency.⁵³ It could also encourage the FTC and DOJ to continue to document their investigations and do retrospective analyses.

By requiring agencies to submit annual cost and benefit estimates to OMB, Congress can help improve agency discipline in documenting information from antitrust investigations. Congress should give the agencies some leeway in the actions they analyze—particularly because of the difficulties in doing such analysis.⁵⁴ Nonetheless, it should suggest that the agency focus on evaluating the impact of major antitrust decisions, including decisions not to block particular mergers.⁵⁵

Recommendation 7: OMB should facilitate the use of information markets to increase overall economic efficiency and to inform regulatory decision making.

A fundamental problem with benefit-cost analysis in assessing new regulations is that it is usually done before the fact. It is *ex ante* as opposed to *ex post*. When doing analyses before the fact, it is difficult to predict the future values of key variables that could be affected by a policy. The analyst may need to forecast, for example, the net benefits of a regulation to reduce arsenic several years before any benefits are realized.⁵⁶

⁵¹ We recognize the challenges in doing retrospective economic analyses for non-merger activities. However, retrospective analyses of mergers are often more easily done.

⁵² For OMB's Guidelines on the Conduct of Regulatory Analysis, see OMB (2003a).

⁵³ If the information proves to be useful, the idea could be extended to other regulatory agencies that deal with antitrust.

⁵⁴ It can sometimes take years to gather the data to do a good study on the likely impacts of a merger.

⁵⁵ Many retrospective analyses address the outcome of agency inaction (i.e., mergers that the agencies did not block, but might have been close to the enforcement threshold).

⁵⁶ See discussion, *infra* §4, §5.

We think that information markets could be used to estimate parameters that would be directly useful for doing a benefit-cost analysis. Information markets are markets for contracts that yield payments based on the outcome of an uncertain future event, such as the impact of an EPA air quality regulation on the incidence of lung cancer twenty years from now. An information market allows individuals to purchase contracts, using real money, that yield payments to their owners that depend on the uncertain outcome of a future event.⁵⁷ With the advent of the Internet, information markets are becoming more widespread. They are used in a number of contexts ranging from assessing the likelihood that the Federal Reserve will raise interest rates to assessing the odds that a particular presidential candidate will be elected.

But how confident should we be in the results derived from information markets? We can be more confident in such results if we introduce information markets that allow people to profit from superior knowledge about the future.⁵⁸

If there were an information market that suggested that the incidence of cancer would decrease by 10% with a particulate matter regulation, this estimate would in theory incorporate all publicly available information about that regulation's effects.⁵⁹ Moreover, information from the prices in these markets is likely to dominate other forecasts if the information markets are designed well.

OMB should consider encouraging regulatory agencies to facilitate the use of information markets that could provide information on the costs and benefits of regulation. It should also advise agencies on how to apply information markets to determine the economic impacts of regulations. At this point, the benefit-cost estimates derived from information markets should supplement, not replace, conventional regulatory analyses.

In order for OMB and the agencies to use information markets, they must be allowed to do so. There are, however, several regulatory hurdles to establishing such markets, largely arising from state prohibitions on Internet gambling. The authority for regulating many

⁵⁷ For a useful definition of information markets, see Wolfers and Zitzewitz (2004), at 108. "Analytically, these are markets where participants trade in contracts whose payoff depends on unknown future events." The literature also refers to these markets as "speculative markets" and "betting markets." For a discussion of speculative markets, see Hanson (2003) (revised), at 6: "Most markets for stocks, bonds, currency, and commodities futures are called *speculative markets* because they allow people to bet on future prices by buying or selling today in the hope of later reversing such trades for a profit." For a discussion of "betting markets" see Rhode and Strumpf (2004).

⁵⁸ See, e.g., Hanson (2003) (revised). See also Abramowicz (2004).

⁵⁹ When we say the market may "know", "believe" or "suggest," we are referring to the knowledge and beliefs of speculators in the market, which will be reflected in the market price. In what follows, when we ascribe a view to the market, such as "the market expects," we use this as a shorthand.

information markets should be shifted from the states to the federal government, and the federal government should implement a clear policy that would make it relatively easy to research and organize information markets that would improve economic decisions.⁶⁰

4. Conclusion

This analysis critically reviews the draft of the Office of Management and Budget's ninth report on the benefits and costs of federal regulation.

We offer seven recommendations—six for OMB and one for Congress—that would help hold regulators and lawmakers more accountable for the regulations they produce. Our recommendations focus on getting the regulatory agencies to produce better analysis, making that analysis more transparent and readily available, and making the regulatory process itself more transparent.

Finally, while we believe that covering new topics can have value, we believe OMB should focus on a few critical components of the report. The most important, in our view, is to obtain accurate assessments of the costs and benefits of major individual federal regulations and viable alternatives to those regulations. With such information, decision makers and interested parties will be in a better position to gauge the effectiveness of the federal regulatory process.

⁶⁰ For a more in-depth discussion of how to regulate information markets, see Hahn and Tetlock (2006).

References

- Abramowicz, Michael. 2004. "Information Markets, Administrative Decision-Making, and Predictive Cost-Benefit Analysis." *University of Chicago Law Review*, 71, pp. 933-1015.
- Arrow, Kenneth J., Maureen L. Cropper, George C. Eads, Robert W. Hahn, Lester B. Lave, Roger G. Noll, Paul R. Portney, Milton Russell, Richard Schmalensee, V. Kerry Smith, and Robert N. Stavins. 1996. *Benefit-Cost Analysis in Environmental, Health, and Safety Regulation: A Statement of Principles*. Washington, DC: American Enterprise Institute.
- Baker, Jonathan. 2003. "The Case for Antitrust Enforcement." *Journal of Economic Perspectives*, 17:4, pp. 27-50.
- Clinton, William J. 1993. "Executive Order 12,866: Regulatory Planning and Review." *Public Papers of the Presidents*, September 30, 1993 ed. General Printing Office: Washington, DC.
- Crandall, Robert and Clifford Winston. 2003. "Does Antitrust Policy Improve Consumer Welfare? Assessing the Evidence." *Journal of Economic Perspectives*, 17:4, pp. 3-26.
- Department of Justice. 2004. "FY 2003 Performance and Accountability Report." Available at <http://www.usdoj.gov/ag/annualreports/ar2003/p2sg2.htm>.
- Environmental Protection Agency. 1997. "National Ambient Quality Standards for Particulate Matter." *AEI-Brookings Joint Center for Regulatory Studies*.
- Federal Trade Commission. 2004. "Federal Trade Commission Performance Report Fiscal Year 2003 Under the Government Performance and Results Act."
- General Accounting Office. 1998. "Regulatory Reform: Agencies Could Improve the Development, Documentation, and Clarity of Regulatory Economic Analyses."
- Hahn, Robert W. 1999. "Changing the Federal Register to Improve Regulatory Accountability." *Regulation*, 22:4, pp. 16-19.
- _____. 2000. *Reviving Regulatory Reform: A Global Perspective*. Washington, DC: AEI-Brookings Joint Center for Regulatory Studies.
- _____. 2005. *In Defense of the Economic Analysis of Regulation*. Washington, DC: AEI-Brookings Joint Center for Regulatory Studies.
- _____. 2006. "What Do We Know about Regulatory Oversight?" Draft.

Hahn, Robert W., Jason K. Burnett, Yee-Ho I. Chan, Elizabeth A. Mader, and Petrea R. Moyle. 2000. "Assessing Regulatory Impact Analyses: The Failure of Agencies to Comply With Executive Order 12,866." *Harvard Journal of Law and Public Policy*, 23:3, pp. 859-877.

Hahn, Robert W. and Patrick Dudley. 2004. "How Well Does the Government Do Cost-Benefit Analysis?" AEI-Brookings Joint Center Working Paper 04-01: Washington, D.C.

Hahn, Robert W. and John Hird. 1991. "The Costs and Benefits of Regulation: Review and Synthesis." *Yale Journal of Regulation*, 8:1, pp. 233-278.

Hahn, Robert W. and Cass Sunstein. 2002. "A New Executive Order for Doing Cost-Benefit Analysis." *University of Pennsylvania Law Review*, pp. 1489-1552.

Hahn, Robert W. and Paul C. Tetlock. 2006. "A New Approach for Regulating Information Markets." *Journal of Regulatory Economics*, 29:3, pp. 265-281.

Hanson, Robin. 2003. "Shall We Vote on Values, But Bet on Beliefs?" Working Paper. George Mason University: Department of Economics.

Kagan, Elena. 2001. "Presidential Administration." *Harvard Law Review*, 114:2245, pp. 2319-2331.

Kroszner, Randall S. 2003. "Comment on U.S. Securities and Exchange Commission Proposed Rules on Security Holder Director Nominations." Regulatory Analysis 03-12. Washington D.C.: AEI-Brookings Joint Center for Regulatory Studies.

Lessig, Lawrence and Cass Sunstein. 1994. "The President and the Administration." *Columbia Law Review*, 94:1, pp. 1-123.

National Research Council Committee on Estimating the Health-Risk-Reduction Benefits of Proposed Air Pollution Regulations. 2002. "Estimating the Public Health Benefits of Proposed Air Pollution Regulations." The National Academies Press: Washington, D.C.

O'Hanlon, Michael E. et al. 2002. *Protecting the American Homeland*. Washington, DC: Brookings Institution Press.

Office of Management and Budget. 1997. "Report to Congress on the Costs and Benefits of Federal Regulations." Available at <http://www.whitehouse.gov/OMB/inforeg/rcongress.html#toc>.

_____. 2003. "Circular A-4: Memorandum to the Heads of Executive Agencies and Establishments." Regulatory Analysis.

_____. 2003. "Informing Regulatory Decision: 2003 Report to Congress on the Costs and Benefits of Federal Regulation and Unfunded Mandates on State, Local, and Tribal Entities."

_____. 2004. "Informing Regulatory Decision: 2004 Draft Report to Congress on the Costs and Benefits of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities."

_____. 2005. "Draft Report to Congress on the Costs and Benefits of Federal Regulations."

_____. 2006. "Draft 2006 Report to Congress on the Costs and Benefits of Federal Regulations." Available at http://www.whitehouse.gov/omb/inforeg/reports/2006_draft_cost_benefit_report.pdf.

Posner, Eric. 2003. "Transfer Rules and Cost-Effectiveness Analysis." *Duke Law Journal*, 53:3, pp. 1067-1110.

Reagan, Ronald. 1981. "Executive Order 12,291: Federal Regulation." *Public Papers of the Presidents*, February 17, 1991 ed. General Printing Office: Washington, DC.

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

Rhode, Paul W. and Koleman S. Strumpf. 2004. "Historical Presidential Betting Markets." *Journal of Economic Perspectives*, 18:2, pp. 127-142.

Shenefield, John H. and Irwin M. Stelzer. 2001. *The Antitrust Laws: A Primer*. Washington, D.C.: American Enterprise Institute.

Werden, Gregory. 2003. "The Effect of Antitrust Policy on Consumer Welfare: What Crandall and Winston Overlook." United States Department of Justice Antitrust Division Discussion Paper No. EAG 03-2.

Wolfers, Justin and Eric Zitzewitz. 2004. "Prediction Markets." *Journal of Economic Perspectives*, 18:2, pp. 107-126.

Table 1

Major Rules Passing a Strict Benefit-Cost Test (1992 – 2005)¹

(n=124)

	Number of rules passing	Percentage passing	Total annualized net benefits ⁵
Best estimate²	99	80%	\$332 billion
Best-case scenario³	108	87%	\$536 billion
Worst-case scenario⁴	77	62%	\$127 billion

¹ This benefit-cost test subtracts quantified costs from quantified benefits. The analysis includes 126 non-transfer rules described in the OMB's reports that were finalized between October 1, 1992 and September 30, 2005. Two regulations of the 126, "Child Restraint System" and "Roadway Worker Protection," had net benefits of zero. We excluded them from the pass/fail test analysis because they neither pass nor fail.

² When the OMB presents a single estimate, we take that as the best estimate. When only a range is provided, we take the midpoint for costs or benefits as the best estimate.

³ When a range is provided, this scenario uses the maximum benefits and minimum costs.

⁴ When a range is provided, this scenario uses minimum benefits and maximum costs.

⁵ Total annualized net benefits are the sum of annualized net benefits for all 124. Annualized net benefits for each regulation equals the annualized benefits of the regulation minus the annualized costs, as reported by the OMB. Numbers are rounded to the nearest billion 2001 dollars. These calculations do not adjust for the fact that regulations are implemented in different years. See, for example, Hahn (2000).

Sources: OMB (2006), OMB (2005), OMB (2004), OMB (2003a), OMB (2000).



Table 2
Net Benefits of Major Rules (\$2001 M) (1992 - 2005)¹

<u>Regulation</u>	<u>Year</u>	<u>Agency</u>	<u>Best Estimate</u>	<u>Pass?</u>
Bovine Spongiform Encephalopathy: Minimal Risk Regions and Importation of Commodities	04-'05	USDA-APHIS	16	Yes
Mexican Hass Avocado Import Program	04-'05	USDA-APHIS	61	Yes
Amendments to the Performance Standard for Diagnostic X-Ray Systems and Their Major Components	04-'05	HHS/ FDA	1288	Yes
Immunization Standard for Long Term Care Facilities	04-'05	HHS/ CMS	10994	Yes
Electronic Orders for Schedule I and II Controlled Substance	04-'05	DOJ/ DEA	162	Yes
Hours of Service of Drivers, 2005	04-'05	DOT/FMCSA	254	Yes
Tire Pressure Monitoring Systems	04-'05	DOT/NHTSA	-446	No
Rear Center Lap/Shoulder Belt Requirement--Standard 208	04-'05	DOT/NHTSA	30	Yes
Upgrade of Head Restraints	04-'05	DOT/NHTSA	42	Yes
Clean Air Interstate Rule Formerly Titled: Interstate Air Quality Rule	04-'05	EPA/Air	80053	Yes
Clean Air Visibility Rule	04-'05	EPA/Air	4648	Yes
Clean Air Mercury Rule--Electric Utility Steam Generating Units	04-'05	EPA/Air	-499	No
National Primary Drinking Water Regulations: Long Term 2 Enhanced Surface Water Treatment Rule	04-'05	EPA/Water	918	Yes
Bar Code Label Requirements for Human Drug Products	03-'04	HHS	3700	Yes
Declaring Dietary Supplements	03-'04	HHS	17	Yes
Standard Unique Health Care Provider	03-'04	HHS	56	Yes
Pipeline Integrity Management	03-'04	DOT	-134	No
Reduced Vertical Separation Minimum	03-'04	DOT	260	Yes
Control of Emissions from Nonroad Diesel Engines	03-'04	EPA	31791	Yes
NESHAP Boilers	03-'04	EPA	20357	Yes
NESHAP Plywood	03-'04	EPA	572	Yes
NESHAP Stationary Reciprocating Internal Combustion	03-'04	EPA	318	Yes
National Pollutant Discharge Elimination System	03-'04	EPA	-311	No
Effluent Guidelines and Standards for Meat and Poultry	03-'04	EPA	-44	No
Truck Driver Hours of Service	02-'03	DOT	-628	No
Light Truck CAFÉ for Model Years '05-'07	02-'03	DOT	35	Yes
National Pollutant Discharge Permits	02-'03	EPA	-81	No
Patent Listing Requirements for Generics	02-'03	FDA	216	Yes

¹ We subtract OMB's estimates of total annual monetized costs from total annual monetized benefits. This analysis consists of 124 non-transfer rules described in OMB's reports that were finalized between October 1, 1992 and September 30, 2005.

² Period indicates the time frame in which the regulation was implemented. 92-'93 indicates the period between October 1, 1992 and September 30, 1993. 93-'94 indicates the period between October 1, 1993 and September 30, 1994. 94-'95 is the period between October 1, 1994 and March 31, 1995. 95-'96 is the period between April 1, 1995 and March 31, 1996. 96-'97 is the period between April 1, 1996 and March 31, 1997. 97-'98 is the period between April 1, 1997 and March 31, 1998. 98-'99 is the period between April 1, 1998 and March 31, 1999. 99-'00 is the period between April 1, 1999 and March 31, 2000. 00-'01 is the period between April 1, 2000 and September 30, 2001. 01-'02 is the period between October 1, 2001 and September 31, 2002. 02-'03 is the period between October 1, 2002 and September 30, 2003. 03-'04 is the period between October 1, 2003 and September 30, 2004. 04-'05 is the period between October 1, 2004 and September 30, 2005.



<u>Regulation</u>	<u>Year</u>	<u>Agency</u>	<u>Best Estimate</u>	<u>Pass?</u>
Trans Fat Labeling	02-'03	FDA	1517	Yes
Control of Listeria Monocytogenes in Meat and Poultry	02-'03	USDA	81	Yes
Energy Conservation Standards for Central Acs	01-'02	DOE	74	Yes
Tire Pressuring Monitoring Systems	01-'02	DOT	-301	No
Control of Emissions from Nonroad Large Spark Ignition Engines	01-'02	EPA	2842	Yes
Roadless Area Conservation	00-'01	USDA	-184	No
Energy Conservation Standards for Fluorescent Lamps	00-'01	DOE	210	Yes
Energy Conservation Standards for Water Heaters	00-'01	DOE	170	Yes
Energy Conservation Standards for Clothes Washers	00-'01	DOE	1210	Yes
Health Insurance Reform: Standards for Electronic Transactions	00-'01	HHS	2020	Yes
Safe and Sanitary Processing and Importing of Juice	00-'01	HHS	120	Yes
Standards for Privacy of Individually Identifiable Health Information	00-'01	HHS	1020	Yes
Labeling of Shell Eggs	00-'01	HHS	246	Yes
Safety Standards for Steel Erection	00-'01	DOL	89	Yes
Advanced Airbags	00-'01	DOT	-330	No
Identification of Dangerous Levels of Lead	00-'01	EPA	1595	Yes
Arsenic and Clarifications	00-'01	EPA	-37	No
National Emissions Standards for Hazardous Air Pollutants	00-'01	EPA	311	Yes
Heavy-Duty Engine and Vehicle Standards	00-'01	EPA	10600	Yes
2004 and Later Model Year Highway Heavy Duty Engines	00-'01	EPA	6763	Yes
Lead-Based Paint Hazards	99-'00	HUD	40	Yes
Storm Water Discharges Phase II	99-'00	EPA	200	Yes
Tier 2 Motor Vehicle Emission Standards	99-'00	EPA	6350	Yes
Regional Haze	99-'00	EPA	2700	Yes
Handheld Engines	99-'00	EPA	310	Yes
Education of Children with Disabilities	98-'99	Dept. Ed.	249	Yes
Safety and Effectiveness of New Drugs in Pediatric Patients	98-'99	HHS	33	Yes
Over-the-Counter Drug Labeling	98-'99	HHS	58	Yes
Provision of Transplant-Related Data	98-'99	HHS	938	Yes
Powered Industrial Truck Operator	98-'99	DOL	217	Yes
Lighting Devices, Reflectors, and Electrical Equipment	98-'99	DOT	21	Yes
Child Restraint Anchorage Systems/Child Restraint System	98-'99	DOT	0	N/A
Stage 1 Disinfectants/Disinfection Byproducts	98-'99	EPA	1373	Yes
Enhanced Surface Water Treatment	98-'99	EPA	706	Yes
Nitrogen Oxide Emission from New Steam Generators	98-'99	EPA	-16	No
Volatile Organic Compound Emission Standards	98-'99	EPA	155	Yes
Non-Road Diesel Engines	98-'99	EPA	2260	Yes
Regional Transport of Ozone	98-'99	EPA	1243	Yes
New Non-Road Non-Handheld Engines	98-'99	EPA	396	Yes
Environmental Quality Incentives	97-'98	USDA	102	Yes
Organ Procurement and Transplantation Network	97-'98	HHS	271	Yes
Quality Mammography Standards	97-'98	HHS	226	Yes



<u>Regulation</u>	<u>Year</u>	<u>Agency</u>	<u>Best Estimate</u>	<u>Pass?</u>
Respiratory Protection	97-'98	DOL	1723	Yes
Energy Conservation Standards for Refrigerators	97-'98	DOE	531	Yes
Energy Conservation Standards for Room Air Conditioners	97-'98	DOE	68	Yes
Emission Standards for New Locomotives	97-'98	EPA	548	Yes
Emission Standards for New Highway Engines	97-'98	EPA	525	Yes
Pulp and Paper: Effluent Guidelines	97-'98	EPA	-136	No
Pulp and Paper: NESHAP	97-'98	EPA	-62	No
NAAQS Ozone	97-'98	EPA	-2220	No
NAAQS Particulate Matter	97-'98	EPA	20340	Yes
Disposal of PCBs	97-'98	EPA	521	Yes
Conservation Reserve Program	96-'97	USDA	1390	Yes
Hazard Analysis and Critical Control Points	96-'97	USDA	1497	Yes
Food Nutrition Labeling: Small Business Exemption	96-'97	HHS	388	Yes
Restriction on the Sale and Distribution of Tobacco	96-'97	HHS	11605	Yes
Medical Devices: Quality Regulations	96-'97	HHS	237	Yes
Exposure to Methylene Chloride	96-'97	DOL	-23	No
Airbag Depowering	96-'97	DOT	-96	No
Roadway Worker Protection	96-'97	DOT	0	N/A
Accidental Release Prevention	96-'97	EPA	79	Yes
Financial Assurance for Municipal Solid Waste Landfills	96-'97	EPA	124	Yes
Deposit Control Gasoline	96-'97	EPA	96	Yes
Acid Rain Phase II Nox Controls	96-'97	EPA	1158	Yes
Federal Test Procedure Revisions	96-'97	EPA	249	Yes
Voluntary Standards for Light-Duty Vehicles	96-'97	EPA	-28	No
Hazard Analysis and Critical Control Points: Seafood	95-'96	HHS	79	Yes
Head Impact Protection	95-'96	DOT	1266	Yes
Vessel Response Plans	95-'96	DOT	-271	No
Marine Tank Vessel Loading and Petroleum Refining NESHAP	95-'96	EPA	367	Yes
Air Emissions from Municipal Solid Waste Landfills	95-'96	EPA	40	Yes
Municipal Waste Combustors	95-'96	EPA	124	Yes
Double-Hull Standards	94-'95	DOT	-566	No
Stability Control of Medium and Heavy Vehicles During Braking	94-'95	DOT	1401	Yes
Oil and Gas Extraction	94-'95	EPA	47	Yes
Refueling Emissions from Light-Duty Vehicles	94-'95	EPA	431	Yes
Non-Road Compression Ignition Engines	94-'95	EPA	1886	Yes
Bay/Delta Water Quality Standards	94-'95	EPA	-129	No
Deposit Control Gasoline	94-'95	EPA	848	Yes
Occupational Exposure to Asbestos	93-'94	DOL	-356	No
Controlled Substances and Alcohol Use	93-'94	DOL	1425	Yes
Prevention of Prohibited Drug Use in Transit Operations	93-'94	DOT	70	Yes
Phase II Land Disposal Restrictions	93-'94	EPA	-230	No
Phase-out of Ozone-Depleting Chemicals	93-'94	EPA	946	Yes



<u>Regulation</u>	<u>Year</u>	<u>Agency</u>	<u>Best Estimate</u>	<u>Pass?</u>
Reformulated Gasoline	93-'94	EPA	-755	No
Acid Rain Nox, Title IV CAAA	93-'94	EPA	2143	Yes
Hazardous Organic NESHAP	93-'94	EPA	1297	Yes
Non-Road Compression Ignition Engines	93-'94	EPA	2370	Yes
Nutrition Labeling of Meat and Poultry	92-'93	USDA/FSIS	177	Yes
Food Labeling	92-'93	HHS/FDA	1334	Yes
Real Estate Settlement Procedures	92-'93	HUD	160	Yes
Manufactured Housing Wind Standards	92-'93	HUD	40	Yes
Permit Required Confined Spaces	92-'93	DOL/OSHA	290	Yes
Vessel Response Plans	92-'93	DHS/USCG	-286	No
Acid Rain Permits Regulations	92-'93	EPA	77140	Yes
Vehicle Inspection and Maintenance	92-'93	EPA	13	Yes
Evaporative Emissions from Light-Duty and Heavy-Duty Vehicles	92-'93	EPA	542	Yes
Onboard Diagnostic Systems	92-'93	EPA	1837	Yes
		Total	331,687	99 Pass

Sources: OMB (2006), OMB (2005), OMB (2004), OMB (2003a), OMB (2000).