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

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Executive Summary

This paper critically reviews the draft of the Office of Management and Budget's eighth report on the benefits and costs of federal regulation. The draft report offers two modest improvements over previous reports. First, it discusses the importance of information quality in regulatory analyses and the agencies' implementation of the Information Quality Act. Second, it compares ex ante benefit-cost estimates with ex post benefit-cost estimates in some detail.

While there has been progress, there is room for significant improvement. 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 Eighth Government Report On the Costs and Benefits of Federal Regulations

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1. Introduction

The Office of Management and Budget (OMB) has just released a draft of its eighth 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 2005 OMB draft report offers two modest improvements over previous reports.³ First, OMB discusses the importance of information quality in regulatory analyses and the agencies' implementation of the Information Quality Act.⁴ The Act requires OMB to develop government-wide standards "for ensuring and maximizing" the quality of information disseminated by Federal agencies.⁵ Second, OMB compares ex ante benefit-cost estimates with ex post benefit-cost estimates for some regulations. While an ex post analysis can yield important insights about the accuracy of an ex ante regulatory analysis, it also has shortcomings that OMB should describe.

¹ OMB (2005).

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." Unlike reports from the past three years, this year's report does not address impacts of federal regulation on state, local, and tribal governments, small business, wages, and economic growth. The FY2001 Treasury and General Government Appropriations Act, § 624 (c) 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 12,866 is the Office of Information and Regulatory Affairs (OIRA). See Office of Management and Budget, OIRA Q&A's. Available: http://www.whitehouse.gov/omb/inforeg/qa_2-25-02.pdf (last visited March 23, 2004).

⁴ Section 515 of the Treasury and General Government Appropriations Act, 2001 (Public Law 106-554, 31 U.S.C. 3516 note) is commonly known as the Information Quality Act.

⁵ OMB (2005), at 45.

Notwithstanding these two improvements, OMB has failed to address the most serious problems with agencies' regulatory analyses. Our seven recommendations—six for OMB and one for Congress—for Congress 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 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.⁶

Section 2 identifies improvements in the report. Section 3 offers recommendations for improving OMB's report and regulatory oversight function. Section 4 presents our conclusions.

2. Improvements in OMB's Report

In its discussion of the Information Quality Act, OMB discloses the number of public requests to correct information by agency, revealing that most requests were rejected. OMB also discusses public misperceptions of the Act. While this overview is informative, it is not clear how this knowledge can improve regulatory decisions.

OMB should try to quantify the impact of the Information Quality Act on regulatory outcomes.⁷ As a first step, OMB could determine how many information correction requests pertained to problems in a regulatory impact analysis. It could also describe how an agency responded to such a request, and whether this response improved the quality of benefit and cost estimates. Although it may be premature to ask OMB to provide this data, it should begin developing a method for assessing impacts. Alternatively, if OMB believes that the Information

⁶ *All agencies include both executive and independent agencies.*

⁷ The stated objective of the Information Quality Act is to improve the quality of information disseminated by the federal government, including regulatory analyses. See OMB (2005), at 45: "'Information' is defined as 'any

Quality Act is unlikely to have a significant impact on the quality of benefit and cost estimates contained in RIAs or the quality of regulatory decisions, it should say so.⁸

Another improvement in this year's draft report is OMB's comparison of ex ante benefit-cost estimates with ex post benefit-cost estimates. Comparing benefit-cost estimates before a regulation was implemented with estimates several years after implementation is worthwhile, but OMB should explain that neither measure of benefits and costs is completely accurate.⁹ Even when ex post estimates are done, they may be subject to great uncertainty. In the best of all worlds, we would prefer to know the "truth" on benefits and costs, assuming truth exists. The next best alternative might be to have an unbiased estimate of the economic impact of a regulation as it was implemented. The next best after that might be to have an unbiased estimate of the economic impact of a regulation before it was implemented.

3. 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.¹⁰ We think it is important to compare the regulatory proposal that is

communication or representation of knowledge such as facts or data' in any medium, including information related to regulatory, statistical, research, and benefits programs."

⁸ If the Information Quality Act does not improve the quality of regulatory analysis or regulatory decision-making, then OMB should describe the actual rationale for the Act. If dissemination of higher quality information to interested parties is the primary objective, then OMB should say so in its annual report.

⁹ For a discussion of potential problems and uncertainties in comparing ex ante and ex post estimates, see Winston Harrington, Richard Morgenstern, and Peter Nelson, *On the Accuracy of Regulatory Cost Estimates*, Resources for the Future (January, 1999): ("...credible *ex ante/ex post* comparisons cannot be made if the relevant studies don't include the same components or don't refer to the same cost concepts.")

¹⁰ 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 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."

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, subject to being legal. 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. 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.¹¹

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.¹²

OMB could provide valuable information by including a scorecard that estimated the economic efficiency of regulation over time and across individual regulations.¹³ One approach is

¹¹ 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.

¹² This scorecard should include all final, economically significant regulations. The time frame should be at least the past decade.

¹³ See, e.g., Hahn and Dudley (2004). See also GAO (1998).

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.¹⁴ 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 report. We consider one-hundred and eleven economically significant regulations for which OMB provides some information on costs *and* benefits between October 1, 1992 and September 30, 2004.¹⁵ We exclude from the calculation those regulations for which agencies did not present estimates for both costs and benefits.¹⁶ We also exclude two regulations from the calculation because they have net benefits of zero, and therefore, neither pass nor fail.¹⁷

OMB did not always provide a single estimate for costs or benefits, but often presented a range. 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 seventy-nine percent (88 of 111) 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 twenty-one percent would fail.¹⁸

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,

¹⁴ For a discussion of how a cost-benefit analysis can incorporate unquantified costs and benefits, see Arrow et al. (1996a).

¹⁵ All of the regulations are non-transfer rules. Of the 45 major regulations implemented between October 1, 2003 and September 30, 2004, 19 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 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.

¹⁶ For the most recent period, October 1, 2003 to September 30, 2004, agencies did not present estimates for costs and benefits for fifteen of the twenty-six "social" regulations. Seven of these fifteen were homeland security regulations for which benefits are difficult to quantify and monetize. If we had included the fifteen regulations in the analysis, and assumed 0 for benefits and costs where they were not quantified, eleven of the fifteen would have failed. 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 cost, so they neither pass nor fail using this test.

¹⁷ These two regulations are "Child Restraint System" and "Roadway Worker Protection."

¹⁸ 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.

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, ninety-six of the one-hundred and eleven regulations have positive net benefits. Under the worst-case scenario, only sixty-eight out of one-hundred and eleven 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.¹⁹ The exclusion of several regulations with unquantified benefits may remove many regulations with negative net benefits.²⁰

OMB’s numbers suggest that a significant fraction of rules over the period from October 1, 1992 to September 30, 2004 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.²¹

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.²² Agencies often do not

¹⁹ 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 different years. We doubt that this would change the basic qualitative result about aggregate net benefits being positive.

²⁰ Hahn (2005) suggests that including such rules in a scorecard could motivate agencies to search for better estimates on benefits and costs.

²¹ 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.

²² OMB (2003a), 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

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.²³ With a distribution of net benefits for each regulation, OMB could present a more nuanced probabilistic analysis of the net benefits of regulation individually 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.²⁴

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.²⁵

Last year, we 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.²⁶ This past year, of the twenty-six final major rules adopted, fifteen, or fifty-eight

million to \$1 billion, you should seek to use more rigorous approaches with higher consequence rules." See also OMB (2003a), 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."

²³ 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, *National Ambient Air Quality Standards for Particulate Matter*, Regulatory Impact Analysis (Washington, D.C.: Environmental Protection Agency, 1997). 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.

²⁴ 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. (1996b): "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."

²⁵ For OMB's most recent guidelines for conducting regulatory analysis, see OMB Circular A-4, OMB (2003c).

²⁶ See OMB (2005, 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.")

percent, did not have quantified and monetized estimates of both benefits and costs. Although seven of these fifteen regulations were homeland security regulations for which benefits are difficult to quantify, this overall lack of quantification is problematic. It is difficult to determine the aggregate net benefits of regulation if more than half of the rule analyses do not provide benefits or costs.²⁷

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.²⁸ OMB should summarize the results from the scorecards in its annual report.

OMB's guidelines should apply to both executive and independent agencies.²⁹ In this year's report, OMB provides a table showing whether independent agencies monetized costs and benefits for economically significant regulations issued between October, 2003 and September, 2004.³⁰ 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.³¹ In cases where independent agencies have not supplied benefit or cost information, OMB should ask them to estimate benefits and costs in the

²⁷ See OMB (2003a), 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."

²⁸ For a discussion of alternatives, see Hahn et al. (2000, 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." See, e.g., Hahn and Dudley (2004).

²⁹ 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.

³⁰ OMB (2005).

³¹ See Table 6, OMB (2004, 25). The table, based on GAO reports, shows that the Securities and Exchange Commission (SEC) monetized benefits and costs for one economically significant regulation: "Alternative Net Capital Requirements for Broker-Dealers that are Part of Consolidated Supervised Entities." The table also shows that the Federal Communication Commission monetized costs but not benefits for one economically significant regulation: "Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets."

same format that executive agencies estimate them.³² Finally, OMB should describe the major rules for which the agency provides benefits and costs. For example, OMB lists the SEC rule, “Alternative Net Capital Requirements for Broker Dealers,” 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.³³ Furthermore, they do not currently apply to independent regulatory agencies.³⁴

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

³² 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 recent Securities and Exchange Commission decision requiring Proxy Voting Policies and Proxy Voting Records by Registered Management Investment Companies could have benefited from a regulatory impact analysis. See, e.g., Kroszner (2004) 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.”

³³ See, for example, Figure 5 in Hahn et al. (2000, 875), suggesting that agencies often do not quantify the impacts of alternatives in RIAs.

³⁴ See OMB (2003c). 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.³⁵ 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.³⁶

A second alternative is for the President to draft a new executive order requiring *all* agencies to comply with the guidelines.³⁷ 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."³⁸ 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.³⁹

A new executive order could help ensure that both executive and independent agencies followed OMB's guidelines prior to implementing a regulation.⁴⁰ That order could have the same enforcement mechanism as we suggested for the law.⁴¹

³⁵ 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.

³⁶ 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.

³⁷ 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.

³⁸ See, e.g., 15 U.S.C. §41; 29 U.S.C. § 661 (b).

³⁹ See Hahn and Sunstein (2002), at 41 (arguing that Presidential oversight of independent agencies is both legal and critical to ensuring rationality in regulation.)

⁴⁰ 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).

⁴¹ 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

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 *seven* of the fifteen major rules implemented in the past year that did not have quantified and monetized estimates of both benefits and costs.⁴² OMB could develop ways to measure the regulations' effectiveness.⁴³ While determining precise quantitative estimates of benefits is often difficult, some quantitative or qualitative description may be possible. At a minimum, agencies should try to bound estimates in a way that policy makers can determine if they are making reasonable investments. 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.⁴⁴

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.⁴⁵ Yet, OMB does not consider antitrust policy in tallying the costs and benefits of federal regulation.⁴⁶ Hahn and Hird, by contrast, regard

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.

⁴² See OMB (2005, 3) ("Seven of these 15 rules implemented homeland security programs where the benefits of improved security are very difficult to quantify and monetize.")

⁴³ For some insights into measuring the effectiveness of a policy to counter terrorism, see Richard Posner (2004).

⁴⁴ For a discussion of how the government can effectively deal with the risk of terrorism, see O'Hanlon et al. (2002).

⁴⁵ See Shenefield and Stelzer, *The Antitrust Laws: A Primer*, at 8 (2001) 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.")

⁴⁶ See OMB 1997 Report, 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.")

antitrust as regulation.⁴⁷ The costs and benefits of antitrust actions are coming under increasing scrutiny by academics.⁴⁸

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.⁴⁹ The FTC also publishes an excellent series of reports and working papers, including several that estimate the economic impacts of various antitrust cases.⁵⁰ 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.⁵¹ Although the FTC and DOJ's websites and annual 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.⁵² 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.⁵³

⁴⁷ 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.")

⁴⁸ 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).

⁴⁹ See Federal Trade Commission Performance Report, Fiscal Year 2003 under the Government Performance and Results Act (March 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 (January 2004), available at <http://www.usdoj.gov/ag/annualreports/ar2003/p2sg2.htm>.

⁵⁰ 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.")

⁵¹ 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.

⁵² We recognize the challenges in doing retrospective economic analyses for non-merger activities. However, retrospective analyses of mergers are often more easily done.

⁵³ For OMB's Guidelines on the Conduct of Regulatory Analysis, see <http://www.whitehouse.gov/omb/circulars/a004/a-4.pdf>.

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.⁵⁴ 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.⁵⁵ Nonetheless, it should suggest that the agency focus on evaluating the impact of major antitrust decisions, including decisions not to block particular mergers.⁵⁶

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.⁵⁷

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.⁵⁸ With the

⁵⁴ If the information proves to be useful, the idea could be extended to other regulatory agencies that deal with antitrust.

⁵⁵ It can sometimes take years to gather the data to do a good study on the likely impacts of a merger.

⁵⁶ 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).

⁵⁷ See discussion, *infra* §4, §5.

⁵⁸ 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

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.⁵⁹

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.⁶⁰ 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 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.⁶¹

4. Conclusion

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), at 127-142.
⁵⁹ See, e.g., Hanson (2003, revised) (last visited: 7/15/04). See also Abramowicz (2004) <http://www.aei-brookings.com/publications/abstract.php?pid=370> (last visited: 7/15/04).

⁶⁰ 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.

⁶¹ For a more in-depth discussion of how to regulate information markets, see Hahn and Tetlock, *A New Approach for Regulating Information Markets* (2004b).

This analysis critically reviews the draft of the Office of Management and Budget's eighth report on the benefits and costs of federal regulation. The draft report offers two modest improvements over previous reports. OMB includes a discussion of information quality and its importance to regulatory analysis for the first time. It does not, however, describe the impact that the Information Quality Act has had on the quality of regulatory analysis. Another improvement is OMB's discussion of the differences between ex ante benefit-cost estimates and ex post benefit-cost estimates. While such a comparison is useful, there are many things OMB could do now to substantially improve the quality of agency analyses of 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 feel that many of the additions to this and previous reports have value, 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.

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Table 1
Major Rules Passing a Strict Benefit-Cost Test¹

(n=111)

	Number of rules passing	Percentage passing	Total annualized net benefits ⁵
Best estimate²	88	79%	\$234 billion
Best-case scenario³	96	86%	\$362 billion
Worst-case scenario⁴	68	61%	\$106 billion

¹This benefit-cost test subtracts quantified costs from quantified benefits. The analysis includes one-hundred and thirteen non-transfer rules described in the OMB's report that were finalized between October 1, 1992 and September 30, 2004. Two regulations of the one-hundred and thirteen, "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 mid-point 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 one-hundred and thirteen regulations. 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).



Table 2
Net Benefits of Major Rules (\$2001 M) (1992-2004)¹

<u>Regulation</u>	<u>Year</u>	<u>Agency</u>	<u>Best Estimate</u>	<u>Pass?</u>
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
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

¹ We subtract OMB's monetized costs from its monetized benefits. This analysis consists of one-hundred and thirteen non-transfer rules described in OMB's report that were finalized between October 1, 1992 and September 30, 2004.

² Period indicates the time frame in which the regulation was implemented. 1992 indicates the period between October 1, 1992 and September 30, 1993. 1993 indicates the period between October 1, 1993 and September 30, 1994. 1994 is the period between October 1, 1994 and March 31, 1995. 1995 is the period between April 1, 1995 and March 31, 1996. 1996 is the period between April 1, 1996 and March 31, 1997. 1997 is the period between April 1, 1997 and March 31, 1998. 1998 is the period between April 1, 1998 and March 31, 1999. 1999 is the period between April 1, 1999 and March 31, 2000. 2000 is the period between April 1, 2000 and September 30, 2001. 2001 is the period between October 1, 2001 and September 31, 2002. 2002 is the period between October 1, 2002 and September 30, 2003. 2003 is the period between October 1, 2003 and September 30, 2004.



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
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
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	234,161	88 Pass

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