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

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Executive Summary

This paper critically reviews the draft of the Office of Management and Budget's third report on the benefits and costs of federal regulation. The purpose of this analysis is to offer constructive recommendations for improving that report.

We conclude that that report represents a small improvement over the second report. There is, however, room for even more progress. We suggest that OMB make greater use of its in-house expertise to refine estimates of benefits and costs and that it place greater emphasis on those regulations that do not pass a benefit-cost test based on numbers provided by agencies themselves. Using agency numbers reported by OMB, we calculate that about ten recent regulations would not pass a strict benefit-cost test. The OMB should either suggest eliminating or reforming these regulations or explain why they should be kept in place.

We also believe that OMB should assemble a scorecard that would assess and compare the quality of regulations and provide guidance on standardizing the content and summary of regulatory analyses. Such changes in presentation would make it easier for interested parties to understand the impacts of regulations and to determine agency compliance with legislation, executive orders, and OMB guidelines.

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

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1. Introduction

The direct costs of federal environmental, health, and safety regulation have grown dramatically in recent decades and are probably on the order of \$200 billion annually.¹ Those regulatory costs, which are about two-thirds the size of all federal domestic, nondefense discretionary spending, are expected to grow significantly in the next decade.² Yet, the economic impacts of regulation receive much less scrutiny than direct, budgeted government spending.

The potential gains of regulatory reform are substantial. Research suggests that a significant number of the federal government's regulations would fail a strict benefit-cost test using the government's own numbers.³

Moreover, ample research suggests that regulation could be significantly improved, so we could save more lives with fewer resources.⁴ One study found that a reallocation of mandated expenditures toward those regulations with the highest payoff to society could save as many as 60,000 more lives a year at no additional cost.⁵

Over the last several years, Congress has shown a greater interest in assessing the economic impact of regulation. In 1996, Senator Ted Stevens of Alaska added an amendment to the Omnibus Consolidated Appropriations Act of 1997 that required the director of the Office of Management and

¹ The OMB (2000) estimates that the annual cost of regulation is between \$170 and \$230 billion. Unless otherwise noted, all dollar amounts are in 1996 dollars.

² See Joint Economic Committee Study (1998).

³ See Hahn (1999).

⁴ See, for example, Morrall (1986) and Viscusi (1996).

⁵ See Tengs and Graham (1996).

Budget (OMB) to provide Congress with estimates of the total annual benefits and costs of all federal regulatory programs and estimates of the benefits and costs of individual regulations. That statute was the first to mandate such an accounting. In September of 1997, the OMB produced its first report on the benefits and costs of regulation in response to the Stevens amendment. It completed its second report in January 1999 and will produce its third report this year.^{6,7}

We conclude that this report represents a small improvement over the second report. There is, however, room for even more progress. We suggest that OMB make greater use of its in-house expertise to refine estimates of benefits and costs and that it place greater emphasis on those regulations that do not pass a benefit-cost test based on numbers provided by agencies themselves. Using agency numbers reported by OMB, we calculate that about ten recent regulations would not pass a strict benefit-cost test.

We also believe OMB should assemble a scorecard that would assess and compare the quality of regulations, and provide guidance on standardizing the content and summary of regulatory analyses. These changes in presentation would make it easier for interested parties to understand the impacts of regulations and to determine agency compliance with legislation, executive orders and OMB guidelines.

This paper critically reviews the draft of OMB's third report. Section 2 provides an evaluation of the report and offers recommendations for improvement. Section 3 concludes.

2. Evaluation and Recommendations

The first OMB report on the benefits and costs of federal regulation was pathbreaking in that

⁶ See OMB (1997, 1999).

⁷ The Office of Information and Regulatory Affairs is the office within the OMB that is responsible for overseeing regulation,

it was the first comprehensive attempt by a government agency to tally up federal regulatory benefits and costs.⁸ The second report built on that effort and made several improvements. They included presenting upper- and lower-bound estimates on individual and aggregate impacts of regulation; developing a more comprehensive database on the benefits and costs of recent regulations based on an agency's own analysis; presenting more information on the aggregate benefits and costs of regulation; monetizing benefits that were quantified, but not monetized, by the agencies; presenting new information on regulations assessed by independent agencies; comparing "before-and-after" economic evaluations of selected regulations; and examining the extent to which regulatory analyses are adhering to best practices.⁹ The third report adds some useful information on net benefits by agency and also provides a somewhat more reasonable estimate of the past benefits from Clean Air Act regulations.¹⁰

While those improvements are important, the report leaves the reader with the impression that the regulatory process and regulation are generally improving.¹¹ We find it hard to reconcile that with the fact that the number of regulations that would not pass a strict benefit-cost test using the government's own numbers is still significant.¹²

Recommendations for Improving the Draft Report

We offer ten recommendations for improving the report. Seven identify ways in which OMB

and it also has primary responsibility for producing the report discussed here.

⁸ See OMB (1997).

⁹ See OMB (1996) and Arrow et al. (1996).

¹⁰ In the second report, the OMB used EPA's upper range for past benefits from Clean Air Act regulations. In the third draft report, the OMB used EPA's expected-value estimate. See OMB (2000).

¹¹ For example, the OMB does not draw attention to the regulations that would not pass a benefit-cost test using the numbers presented in the report.

¹² See Hahn (1999).

could improve the report, and three suggest how OMB could work with Congress to improve the regulatory process.

Recommendations for OMB

Recommendation 1: The OMB should carefully assess the quality of regulatory impact analyses before using them to predict the impact of regulations.

The OMB should continue to evaluate regulations in accord with its guidelines on best practices.¹³ Those guidelines were written by an interagency group to provide agencies assistance in interpreting and applying Executive Order 12866.¹⁴

In this draft, the OMB presents examples of how agencies properly applied best practices in their regulatory analyses.¹⁵ That discussion should also consider cases in which agencies did not apply best practices.

We believe it is possible for the OMB to provide both objective and subjective measures that would report the extent to which agencies are adhering to the best-practices guidelines. It would be useful for the OMB to issue a report on that subject or to have some other organization, such as the General Accounting Office, do such a report.

A recent study by the Joint Center shows how to develop objective measures for such a report.¹⁶ This study provides the most comprehensive evaluation of the quality of economic analyses that agencies conduct before finalizing major regulations. The study uses a new dataset of forty-eight major health, safety and environmental regulations finalized over the past three years. The authors find that economic analyses prepared by regulatory agencies typically do not provide enough

¹³ See OMB (1996).

¹⁴ See Clinton (1993).

¹⁵ See OMB (2000).

information to make decisions that will maximize the efficiency or effectiveness of a rule. The findings suggest that agencies have generally failed to comply with President Clinton's Executive Order 12866 and the related OMB guidelines on benefit-cost analysis.

Recommendation 2: The OMB should rely more heavily on its own expertise to inform judgments about the benefits and costs of regulation.

None of the OMB reports takes advantage of the expertise that resides within the OMB to evaluate the economic impact of regulations. The major advantage that OMB analysts have over other potential authors of this report, such as academics, is that they are more familiar with the details of regulations and regulatory analyses. *Nowhere* in the draft of the third report does the OMB take advantage of its expertise to provide estimates that would allow a comparison with the estimates prepared by the agencies.

We think that is a fundamental problem that OMB should address by providing its own best estimates of the benefits and costs of individual regulations and regulatory activity in general. In fact, the OMB states that many agency cost estimates may significantly underestimate the true cost of regulations, but the OMB does not attempt to estimate the size of that bias.¹⁷ We believe that it would be useful for the OMB to address that bias and to provide Congress with its best estimate of the costs of regulations, even if such an estimate would be highly uncertain. Where possible, the OMB should also provide quantitative information on the uncertainty of the estimate, such as a range.¹⁸

It is clear from the OMB's earlier correspondence with the agencies that it frequently

¹⁶ See Hahn et al. (2000).

¹⁷ The third report states that "estimates of compliance costs may understate substantially the true long-run costs of pollution control (OMB 2000)." The OMB and regulatory agencies should study the feasibility of incorporating indirect benefits and costs in their estimates. The tax-interaction effect, for example, has been estimated to increase the cost of regulations by 25 to 35 percent over the direct costs of compliance. See the Science Advisory Board (1999).

¹⁸ More information on the nature of the uncertainty, such as the variance, should be provided when it is available.

disagrees with agency assessments. Those disagreements should be highlighted and explained in such a document. Thus, the OMB review could provide a kind of quality check on agency analyses.

The OMB should also not treat all estimates as equal. For example, it cites OECD work on measuring the economic impact of deregulation by using macroeconomic models.¹⁹ It is better to put more weight on rigorous microeconomic studies, which evaluate the impacts of deregulation in specific industries.²⁰

Recommendation 3: The OMB should continue to improve its presentation of aggregate estimates, but focus more on *incremental* benefits and costs of new regulations.

Both the aggregate impacts and incremental impacts of regulation are important. There are, however, diminishing returns to focusing on aggregate impacts because that is not where the OMB's expertise lies. Moreover, measures of aggregate impacts do not help inform decisions on individual regulations, although they can affect overall policy. Whether the aggregate impact of past regulation has been beneficial on net, as the EPA study suggests, or closer to neutral, is largely immaterial for policies that are pursued in the future. Each of those regulatory policies needs to be evaluated on its own merits.²¹ Thus, the OMB should focus on incremental impacts of recent and proposed regulations because Congress and regulators can most easily influence decisions regarding those regulations.²²

The OMB offers a number of different ways of presenting information on aggregate benefits and individual regulations. It would be helpful to expand the presentation in some areas. At the

¹⁹ See OMB (2000) and OECD (1999).

²⁰ For example, see Winston (1993). For an analysis suggesting that many of the gains from deregulation may have been underestimated, see Winston (1998).

²¹ See EPA (1997).

aggregate level, the OMB should carefully note categories in which the aggregate benefits exceed the costs. For example, it appears that controlling particulate matter and lead resulted in large aggregate net benefits, while controls on the remaining pollutants either did not offer positive net benefits or had insufficient evidence about net benefits to permit a conclusion. It would also be useful to know the pattern of benefits and costs over time so one could get an idea of the marginal net benefits from controlling pollution in a given year. In principle, such information should be available from the kinds of models discussed in the EPA §812 retrospective study.²³

Another useful step taken by OMB in this year's report was to provide information on aggregate benefits and costs by agency.²⁴ We find it interesting that the agency numbers lead to positive net benefits for all areas of social regulation. Instead of leaving it to the reader to calculate net benefits, the OMB should do that calculation and provide both a range and best estimate. In addition, where there is more data, for agencies such as the EPA, the OMB should provide information on benefits, costs, and net benefits by agency program as well.

Recommendation 4: The OMB should calculate net benefits of all major regulations and focus attention on those regulations and programs with significant negative net benefits.

The OMB has calculated that the net benefits of all health, safety, and environmental regulations range from \$32 billion to \$1.6 trillion.²⁵ The OMB does not present information on the net benefits of individual regulations, although it does present ranges or best estimates for benefits and costs. To illustrate the importance of focusing on individual regulations, we have used the OMB's

²²As the report recognizes, there is also an important role for scholarship evaluating the impact of existing regulations.

²³ See EPA (1997).

²⁴ See table 4 in OMB's draft report (2000).

²⁵ See OMB (2000).

own numbers to calculate net benefits for major nontransfer rules.²⁶ We focus on regulations that may have net costs according to the OMB's numbers because we believe that the OMB should identify such regulations as possible targets for reform or elimination.²⁷ Table 1 shows that eight major regulations fail a strict benefit-cost test using best estimates that are based on the OMB's numbers.²⁸ Those represent 17 percent of the major nontransfer rules finalized between April 1996 and March 1999. If these regulations were eliminated, net benefits to society would increase by \$35 billion, according to the OMB's numbers.

The OMB should determine how sensitive the estimates are to the large uncertainties in predicting the impacts of regulations. We have attempted to do that by using the OMB's numbers. When the OMB provided a range, we used the maximum benefits and the minimum costs to generate our best-case scenario. Table 1 shows that, even in such a scenario, three regulations appear to have negative net benefits.²⁹ The monetized net cost of those three rules is \$7 billion. To calculate the worst-case scenario, we used the minimum benefits and the maximum costs. In that scenario, eighteen rules fail our strict benefit-cost test, as can be seen in table 1. If those eighteen rules were eliminated, net benefits to society would increase in the worst-case by almost \$200 billion, excluding the nonmonetized impacts.

The OMB's own numbers suggest that a significant fraction of the recent rules may not result

²⁶ The OMB has not monetized all benefits and costs from regulations, and those nonmonetized impacts were not included in this analysis. If the OMB believes those nonmonetized impacts would change the outcome of individual benefit-cost analyses, it should provide such an argument with supporting quantitative analysis when possible.

²⁷ Parts of other regulations may be possible targets for reform or elimination. Agencies usually do not calculate costs and benefits of alternatives (Hahn et al, 2000). This makes it difficult to determine if the best alternative was chosen.

²⁸ The OMB did not always present a point estimate for costs or benefits, but often presented a range. In cases where a range was presented, the midpoint was treated as the best estimate. When a point estimate was provided, it was used as the best estimate.

²⁹ The OMB did not present a range for two of the three rules that fail a benefit-cost test. In these cases, no difference exists between the best estimate and the best-case scenario.

in net benefits.³⁰ A more detailed breakdown of those rules is provided in table 2, which shows which rules would not pass a benefit-cost test under various assumptions. If rules do not pass a benefit-cost test under reasonable assumptions, or at least those deemed reasonable by a regulatory agency, the OMB should explain why the numbers do not tell the whole story.³¹ If the numbers strongly suggest that a rule fails a benefit-cost test, the OMB should argue for its reform or elimination.³²

In examining individual regulations, it would be helpful if the OMB aggregated some of the information into a scorecard. For example, a scorecard could specify the number of regulations that pass or fail a cost-benefit test using available data about monetary benefits of rules.³³ It could also summarize the kind of information and assumptions that agencies provide in doing their analysis. Finally, the OMB could rank rules by the agencies and the OMB's best estimate of their expected net benefits and cost-effectiveness.³⁴ Much of the raw material for these kinds of assessments is in the draft OMB report or could be constructed by using the OMB database.

The OMB should not restrict its primary focus to regulations involving social regulation. For example, the Department of Agriculture has many programs and regulations that use price supports or quotas. It would be useful to estimate the inefficiencies associated with regulations in these areas.

The OMB should also focus more attention on the rules with the largest costs or benefits. Of the forty-eight nontransfer rules in the OMB report, three represent almost three-quarters of the

³⁰ Note that the fraction is lower than those found by Hahn (1999). We believe that the difference can be explained, at least in part, by differences in assumptions related to discounting of lives, choice of a discount rate, and choice of the value of a statistical life. It is also possible that the difference in regulations covered could partly explain the difference in net benefits.

³¹ Significant sunk costs may require an additional ex-post analysis before the OMB should recommend that the rules be eliminated.

³² To do that, the OMB must explain why it expects the net benefits from the nonmonetized impacts to exceed the net costs of the monetized impacts.

³³ See, for example, Federal Focus (1995) and Hahn (1999b).

³⁴ See Morrall (1986).

costs.³⁵ They should therefore receive a substantial fraction of the attention in OMB's report.

There is also ample room for significantly reforming regulatory programs. For example, expenditures on the Superfund program to clean hazardous waste sites could be dramatically reduced while enhancing economic efficiency and reducing overall risk.³⁶ For discussion purposes, table 3 shows several regulations and programs that could be targeted for elimination on the basis of economic efficiency grounds.

Recommendation 5: The OMB should make it easier to compare regulations by standardizing some key assumptions.

The OMB report should enable a comparison across regulations and agencies by using standardized assumptions. Some agencies choose not to monetize certain key impacts such as the value of statistical lives saved. In addition, agencies often use different assumptions for key parameters, such as discount rates, when they evaluate the impacts of their regulations. Those differences in assumptions make it difficult to compare programs across agencies.

One important step taken by the OMB was to monetize benefits of selected regulations where agencies had reported some other quantifiable estimate, such as reductions in pollution. That is important, but the agency should go further.

The OMB currently adopts the value of a statistical life that agencies use ranging from \$2.5 million to \$5.9 million.³⁷ It may be appropriate to use a range of values depending on the affected population, but such values would be expected to vary within and across agencies. The OMB should

³⁵ Those are all EPA rules: the NAAQS ozone rule, the NAAQS particulate matter rule, and the regional transport of ozone rule.

³⁶ See Viscusi and Hamilton (1999).

³⁷ The approach that the OMB takes creates some apparent inconsistencies that should be explained or fixed. The OMB uses a value of \$2.7 million for a DOT child restraint rule but uses \$5 million for a DOL industrial truck operator rule.

develop its own system for valuing a statistical life. For simplicity, the OMB could consider applying a standard statistical value of life across different activities but then allow agencies to consider alternative valuations in their sensitivity analyses.³⁸ The OMB should consider using more sophisticated techniques when they improve the accuracy of estimates.³⁹

Recommendation 6: The OMB should interpret its mandate broadly to include major regulatory initiatives at independent agencies and future policies that could involve major regulatory authority.

The OMB included a good assessment of the quality of analysis of major rules issued by independent agencies. Independent agencies finalized twenty-four major rules between April 1998 and March 1999 yet collectively estimated benefits and costs in only one of those rules. When possible, the OMB should try to fill in the missing information for the other rules.

In addition, the OMB should review analyses that could have significant future regulatory impacts by applying the same high standards that are supposed to be applied to proposed major regulations. Examples include proposals for addressing climate change and estimates of the future net benefits to be derived from clean air programs.

Recommendation 7: The OMB should more carefully evaluate the strengths and weaknesses of the EPA §812 retrospective study if it wants to use those numbers. Specifically, it should estimate the sensitivity of the study's results to changes in arbitrary assumptions.

Undoubtedly, one of the most controversial parts of the OMB report is its use of the EPA §812 retrospective study, which provides estimates of the aggregate benefits of clean air. In its last

³⁸ We recognize there are theoretical reasons that this number can vary across life-saving activities, but presenting both analyses might be useful to see how sensitive the results were to such comparisons. The OMB should also consider using life-years or even quality-adjusted life-years when possible.

³⁹ The OMB report presents the arguments for and against various adjustments but does not take a stand on those debates. Instead, it defers to the agencies' positions. See OMB (2000).

report, the OMB used an upper bound of \$3.4 trillion. This year, the report lowers that estimate to \$1.5 trillion, which represents EPA's expected value. It is arbitrary to use an agency's best estimate as the upper bound. If the OMB believes that the EPA §812 overestimates benefits, it should adjust EPA's numbers accordingly. The OMB should then use the adjusted upper bound in its report.

Lutter provides several reasons why the EPA §812 may be an overestimate.⁴⁰ A few general points can be made. First, on the basis of the EPA study, the OMB says benefits could be as high as \$3.38 trillion, which is over 40 percent of GNP.⁴¹ While it is possible, it would seem to defy common sense to think that past federal environmental regulations netted so much for the economy.⁴² Even the use of the expected value of \$1.5 trillion, which replaces the use of the upper bound in the previous report, may be high. Second, a series of technical assumptions and omissions suggest the benefits are overestimated. Possible sources of bias include the definition of the baseline, estimates of willingness to pay, the omission of costs associated with increases in harmful ultraviolet-B radiation, and the assumption that reductions in particulate matter concentrations yield health benefits immediately without any delay.⁴³ The OMB notes, for example, that a reasonable change in the assumption about the latency period between the onset of emission reductions and the reduction in health risks would cut the upper-bound benefit number by a factor of two, or \$1.26 trillion.⁴⁴ Third, the OMB should have directly incorporated those plausible scenarios into its own estimates of net benefits. Instead, the OMB chose to take the EPA study's numbers as given for purposes of reporting the range on benefits. This may be the safest way out, but we think that it is also misleading.

⁴⁰ See Lutter (1998).

⁴¹ See OMB (1997).

⁴² Looked at another way, the calculation suggests that people should be willing to give up over 40 percent of all goods and services currently produced for those benefits!

⁴³ The EPA study assumes that no additional controls would have been in place in the absence of federal programs. See OMB (1999). Also see Lutter (1999).

Making Recommendations to Congress

We would urge the OMB to be bolder in its recommendations to Congress, since Congress specifically requested that the OMB help provide such suggestions.⁴⁵

Recommendation 8: The OMB should examine strategic reforms that could improve the regulatory process.

The OMB is well positioned to identify improvements for the quality of regulatory analysis. For example, the OMB could subject agencies that routinely produce high-quality analysis to less oversight.

The OMB should consider evaluating different proposals for providing better information on the impacts of regulation. One such proposal that has merit is the Congressional Office of Regulatory Analysis. A Congressional Office of Regulatory Analysis is a good idea, because it could provide another credible source of information on the benefits and costs of regulation.

Recommendation 9: The OMB should offer suggestions on how Congress could help make regulations and the regulatory process more transparent.

Congress should instruct the OMB to develop a standardized framework agencies should follow in presenting a regulatory analysis and an executive summary.⁴⁶ Such standardization could encourage agencies to estimate the impacts of their regulations and consider alternatives more seriously. It would also facilitate a comparison of regulatory analysis within and across agencies.

Agencies should be required to fill out a summary scorecard that summarizes the basic

⁴⁴ See OMB (1999).

⁴⁵ Section 638 (a) of the 1999 Omnibus Consolidated and Emergency Supplemental Appropriations Act directs the OMB to provide “recommendations for reform.” See OMB (2000).

⁴⁶ See Hahn (1999a) for an example of how a summary table could improve the content of *Federal Register* notices.

assumptions and results that were obtained in a particular analysis. That scorecard could be present in both the *Federal Register* and the regulatory impact analysis. It would enable the interested reader to see at a glance factors that were included and not included in a particular analysis. The purpose would be to provide information to interested parties in a “user-friendly” format.

We see that as more than an academic exercise because much critical information is frequently not included in a regulatory impact analysis. A recent Joint Center study found that agencies rarely present sufficient information to ensure that a proposed rule should be enacted.⁴⁷

Recommendation 10: The OMB should suggest that Congress require OMB and all federal regulatory agencies to produce an annual report on the benefits and costs of regulatory activities.

Requiring each regulatory agency to produce an annual report on the benefits and costs of its regulatory activities and requiring OMB to continue to produce an annual report on the benefits and costs of all agency regulatory activities would make the regulatory process more transparent. These requirements could also improve estimates of the economic impact of regulatory activity. In addition, the agency reports would help the OMB produce its overall assessment of the impact of federal regulation.

The machinery is in place to produce that report annually, the incremental costs are low, and the value-added is high. Congress should therefore require the OMB to produce this report annually. We believe the OMB reports are helping make the regulatory process more transparent, thus holding regulators and lawmakers more accountable for their actions.

Although agencies are not required to produce an annual report, many attempt to estimate the economic impact of specific regulations. The production of an annual report would allow agencies to

synthesize the results of those analyses and may help improve the analyses by highlighting inconsistencies or other weaknesses. Ensuring that independent agencies produce useful annual reports is perhaps the greatest challenge. A consensus seems to be emerging that the independent agencies are producing little information that evaluates the economic impact of their regulations. That finding is consistent with the OMB's review, a report by the General Accounting Office, and research by Furchtgott-Roth and Hahn.⁴⁸ The OMB notes that last year it received comments from several independent economic regulatory agencies suggesting that it had not emphasized the potential benefits of economic regulation enough.⁴⁹ The requirement of an annual report will push independent agencies to show that they are producing the claimed economic benefits.

3. Conclusion

This paper critically reviews the draft of the Office of Management and Budget's third report on the benefits and costs of federal regulation. That report is the best of its kind in the world. We believe it will set the standard for the development of similar analyses at the state level and in other countries.

We conclude that the third report represents a small improvement over the second report in the level of detail provided on net benefits by agency. We suggest that the OMB place greater emphasis on those regulations that do not pass a benefit-cost test based on numbers provided in the report. The OMB should either suggest eliminating or reforming these regulations or explain why they should be kept in place. We also believe that the agency should assemble a scorecard that would

⁴⁷ See Hahn et al (2000).

⁴⁸ See GAO (1998), Hahn (1999b) and Furchtgott-Roth (1996). More generally, Hahn (1999b) and Furchtgott-Roth (1996) find that regulatory agencies provide very little information on the economic impacts of a large number of regulatory activities in which they are engaged.

assess and compare the quality of regulations and provide guidance on standardizing the content and summary of regulatory analyses. Those changes in presentation would make it easier for interested parties to understand the impacts of regulations and to determine agency compliance with legislation, executive orders, and OMB guidelines.

Finally, OMB should take greater advantage of its in-house expertise in providing a candid assessment of the benefits and costs of regulation. Sharing those insights would enable interested parties to obtain a better sense of how economists most familiar with the individual regulations tally up the benefits and costs. The OMB's assessment could then be compared with independent assessments to develop a more complete picture of the benefits and costs of regulation.

⁴⁹ See OMB (1999).

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Table 1
Major Rules Failing a Strict Benefit-Cost Test¹

	Number of rules (n=48)	Percentage of all rules	Total net benefits ⁵
Best-case scenario²	3	6%	(\$7 billion)
Worst-case scenario³	18	38%	(\$192 billion)
Best estimate⁴	8	17%	(\$35 billion)

¹ We subtract the OMB's monetized costs from their monetized benefits. Included in the analysis are the forty-eight nontransfer rules described in the OMB's report that were finalized between April 1, 1995, and March 31, 1999. See text for details.

² When a range is provided, we assume maximum benefits and minimum costs.

³ When a range is provided, we assume minimum benefits and maximum costs.

⁴ 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.

⁵ Net present value of benefits minus net present value of costs as reported by the OMB. Numbers are rounded to the nearest billion. Negative numbers are in parentheses. All dollar figures are in constant 1996 dollars. We use the numbers as presented by the OMB and ignore baseline issues.

Table 2
List of Major Rules Failing a Strict Benefit-Cost Test¹

Rule name	Agency ⁵ (year)	Best-case scenario ²		Most likely scenario ³		Worst-case scenario ⁴	
		Fails test	Net benefits ⁶	Fails test	Net benefits ⁶	Fails test	Net benefits ⁶
Vessel Response Plans	DOT (1996)	✓	(\$3,600)	✓	(\$3,600)	✓	(\$3,600)
National Ambient Air Quality Standards: Ozone	EPA (1998)	✓	(\$3,000)	✓	(\$27,000)	✓	(\$51,000)
Exposure to Methylene Chloride	DOL (1997)	✓	(\$300)	✓	(\$300)	✓	(\$300)
Pulp and Paper: Effluent Guidelines	EPA (1998)		\$0	✓	(\$1,600)	✓	(\$3,200)
Airbag Depowering	DOT (1997)		\$2,300	✓	(\$1,100)	✓	(\$4,600)
Pulp and Paper: National Emission Standards for Hazardous Air Pollutants	EPA (1998)		\$12,000	✓	(\$1,100)	✓	(\$15,000)
Voluntary Standards for Light-Duty Vehicles	EPA (1997)		\$5,100	✓	(\$370)	✓	(\$5,800)
Nitrogen Oxide Emission from New Fossil-Fuel-Fired Steam Generating Units	EPA (1999)		\$400	✓	(\$190)	✓	(\$770)
National Ambient Air Quality Standards: Particulate Matter	EPA (1998)		\$590,000		\$250,000	✓	(\$82,000)
Regional Transport of Ozone (Nox SIP Call)	EPA (1999)		\$39,000		\$15,000	✓	(\$10,000)
Stage 1 Disinfectants/ Disinfection Byproducts	EPA (1999)		\$43,000		\$17,000	✓	(\$9,200)
Emission Standards for Marine Engines	EPA (1997)		\$5,600		\$2,000	✓	(\$1,700)
Federal Test Procedure Revisions	EPA (1997)		\$8,400		\$3,500	✓	(\$1,500)
Municipal Waste Combustors	EPA (1996)		\$4,200		\$1,500	✓	(\$1,100)
Hazard Analysis and Critical Control Points: Meat and Poultry	USDA (1997)		\$37,000		\$18,000	✓	(\$700)
Child Restraint Anchorage Systems/Child Restraint System	DOT (1999)		\$600		\$0	✓	(\$600)
Air Emissions from Municipal Solid Waste Landfills	EPA (1996)		\$1,500		\$460	✓	(\$580)
Deposit Control Gasoline	EPA (1997)		\$3,200		\$1,500	✓	(\$300)
Total number of rules		3		8		18	

¹ We subtract the OMB's monetized costs from their monetized benefits. Included in the analysis are the forty-eight nontransfer rules described in OMB's report that were finalized between April 1, 1995, and March 31, 1999. See text for details.

² When a range is provided, we assume maximum benefits and minimum costs.

³ When the OMB presents a single estimate, we take this as the best estimate. When only a range is provided, we take the mid-point for benefits or costs as the best estimate.

⁴ When a range is provided, we assume minimum benefits and maximum costs.

⁵ Agencies include the Department of Transportation (DOT), the Department of Labor (DOL), the Environmental Protection Agency (EPA), and the Department of Agriculture (USDA).

⁶ Net present value of benefits minus net present value of costs in millions of 1996 dollars as reported by the OMB. Numbers are presented with two significant figures. Negative numbers are in parentheses.

Table 3
Regulations and Programs That Could Be Targeted for Elimination

Regulation/Act	Description	Welfare Loss
International Trade Restrictions	Various tariffs and quotas constrain international trade.	\$3.5 billion annual welfare loss (1990\$)
Jones Act	Ships traveling between U.S. ports must be built in U.S. shipyards, owned by U.S. citizens, and operated by an American crew.	\$2.8 billion annual welfare loss (1991\$)
Milk Marketing Orders	USDA price discrimination scheme raises the price of fluid milk and drives down the price of manufactured milk products.	\$343–\$608 million annual welfare loss (1985\$)
Davis-Bacon Act	Federally funded construction projects are required to pay laborers at prevailing wages.	\$200 million annual welfare loss (1988\$)
Corporate Average Fuel Economy Standards	Each auto manufacturer must meet federal average fuel economy standards.	\$4 billion welfare loss from 1978 through 1989 (1990\$)
Land Disposal Regulation	1995 rule prohibits the disposal of various untreated hazardous wastes.	\$143 million annual expected cost. Benefits are not monetized (1992\$)
Off-Label Drug Use	Manufacturers cannot legally advertise a pharmaceutical product for any use that the FDA has not specifically approved.	Not available

Sources: See Hahn (1998).