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Public Interest Comment¹ on

The Office of Management and Budget's
2017 Draft Report to Congress on the Benefits and Costs of Federal Regulations

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The George Washington University Regulatory Studies Center improves regulatory policy through research, education, and outreach. As part of its mission, the GW Regulatory Studies Center conducts careful and independent analyses to assess rulemaking proposals from the perspective of the public interest. This comment on the Office of Management and Budget's 2017 Draft Report to Congress offers suggestions for improving the information value of the Report, as well as the evidence on which regulatory policies depend, and does not represent the views of any particular affected party or special interest.

Introduction

Pursuant to the Regulatory Right-to-Know Act,³ the Office of Management and Budget (OMB) submits to Congress each year an accounting statement and associated report providing estimates of the total annual benefits and costs of federal regulations; an analysis of impacts of Federal

¹ This comment reflects the views of the authors, and does not represent an official position of the GW Regulatory Studies Center or the George Washington University. The Center's policy on research integrity is available at <http://regulatorystudies.columbian.gwu.edu/policy-research-integrity>.

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³ Consolidated Appropriations Act of 2001 (H.R. 5658, section 624, P.L. 106-554).

regulation on State, local, and tribal government, small business, wages, and economic growth; and recommendations for reform.

OMB's 2017 Draft *Report to Congress on the Benefits and Costs of Federal Regulations* (the Report) provides information both on estimates of the effects of major executive branch regulations and also on OMB's focus and priorities. Though the Report is an important source of agency information, the usefulness of this information is hampered by the scope of the report, the inadequacy of using *ex ante* estimates, and the difficulty of aggregating agency estimates.

The Report indicates that between fiscal year 2007 and FY 2016, agencies published 36,255 final rules, of which 2,670 (or 7%) were significant and underwent regulatory review at OMB. Of these OMB-reviewed rules, 609 were "major" rules. Importantly, the Report only includes benefit or cost information for 137 rules. In other words, it only includes 22% of all major rules, and less than 0.5% of all rules issued during that decade. According to agency estimates, these 137 major rules add up to \$930.3 billion in annual benefits and \$128.4 billion in annual costs (2015\$);⁴ but the more important finding may be the lack of quantified impact estimates for the vast majority of regulations.

While estimating the aggregate benefits and costs of regulations is a useful exercise, it is challenging and OMB is right to "emphasize that the estimates [it reports] have limitations."⁵ In these comments, we address some of these limitations and offer possible solutions. When relevant, we refer to salient "tips" presented in a 2017 *Journal of Benefit-Cost Analysis* article by 19 experts in regulatory analysis, "Consumers' Guide to Regulatory Impact Analysis: Ten Tips for Being an Informed Policymaker" ("Consumer's Guide").⁶

⁴ These aggregated values are from the high-end estimates of benefits and costs listed in table 1-1 of the Report.

⁵ OMB, p. 3.

⁶ Dudley, S., Belzer, R., Blomquist, G., Brennan, T., Carrigan, C., Cordes, J., Cox L., Fraas, A., Graham, J., Gray, G., Hammitt, J, Krutilla, K., Linquti, P., Lutter, R., Mannix, B., Shapiro, S., Smith, A., Viscusi, K., Zerbe, R. (2017). Consumer's Guide to Regulatory Impact Analysis: Ten Tips for Being an Informed Policymaker. *Journal of Benefit-Cost Analysis*, 8(2), 187-204. doi:10.1017/bca.2017.11

Limitation	Solution
The data presented are aggregates of <i>ex ante</i> estimates developed by agencies before regulations were put into effect.	A greater commitment to gathering evidence on actual impacts of regulations once they are in place could begin to address this problem
The numbers OMB presents necessarily depend on numerous assumptions, some of which can have dramatic effects on estimated benefits and costs.	Greater transparency regarding these assumptions and the range of plausible impacts that derive from using plausible assumptions would improve readers’ understanding of likely policy outcomes. (See Consumer’s Guide Tips 1.3, 6, and 7.)
More than half ⁷ of the benefits presented for all federal regulations are attributed to rules that reduce fine particles (PM2.5), either directly or as “co-benefits” of actions required to address other pollutants. Year after year, these reports acknowledge the significant uncertainties associated with those estimates, yet the federal government does not appear to be working to reducing those uncertainties.	Devoting resources to resolve some of the questions that bedevil regulatory benefit and costs estimates would greatly improve not only the estimates but achievement of the goals these regulations seek to address. (See Consumer’s Guide Tip 5.)
Most of the benefits for environmental, health, and safety rules are calculated in terms of “lives saved” – a metric that cannot meaningfully be aggregated, since a single life can be “saved” an unlimited number of times. Nor can we measure it, nor determine whether it is rising or falling.	The medical professions use life expectancy, rather than lives saved, for sound reasons; regulatory agencies should follow their example. Predicted changes in life expectancy (measured in life-years) can be easily be aggregated and empirically verified.
Distribution matters. In many cases advocates for regulation are using agency authority to force income transfers under the guise of some public purpose. The Renewable Fuel Standard, for example, imposes large costs on consumers in order to subsidize ethanol producers. Aggregate benefits and costs don’t adequately describe these transfer effects.	OMB has requested estimates of distribution impacts, but agencies appear not to be providing much information. In both <i>ex ante</i> and retrospective reviews, OMB should encourage agencies to be more transparent about who bears regulatory benefits and costs. (See Consumer’s Guide Tip 9.)

***Ex-ante* estimates should be supplemented with *ex-post* evidence**

The Report relies on benefit and cost information from agencies’ *ex-ante* estimates. While these estimates are important at a regulation’s outset, they are less informative after implementation, when new data and analyses may be available. The difficulty of aggregating information across

⁷ OMB reports that EPA rules account for more than 80% of estimated benefits, that 95% of EPA’s estimated benefits derive from air quality rules and most of those are associated with reductions in fine particles. OMB Report, p. 12.

agencies is compounded when the only data available are estimates developed before the rules in question were issued. Relying on these data may overlook important developments in markets and consumer behavior that affect both regulatory costs and benefits.

For 40 years, presidents have called on regulatory agencies to consider the effects of regulations once they are in place.⁸ President Obama issued several executive orders to this effect, including EO 13563 (2011), which encouraged agencies to “consider how best to promote retrospective analysis of rules that may be outmoded, ineffective, insufficient, or excessively burdensome, and to modify, streamline, expand, or repeal them in accordance with what has been learned.”⁹ Despite this, retrospective analysis has received much less attention and fewer resources than *ex-ante* analysis.¹⁰

New executive orders may motivate better *ex-post* analysis

President Trump’s executive orders 13771 (requiring new regulatory costs to be offset by removing or modifying existing regulations) and 13777 (designating individuals within agencies to be responsible for regulatory reform) may provide new incentives for agency staff to examine existing regulations. Combined with existing requirements (E.O. 12866 and E.O. 13536), they may offer the impetus needed to develop the analytical tools and data needed for retrospective evaluation. As OMB recognizes in the Report, these new executive orders may serve to increase our understanding of regulations’ actual impact, thereby improving the accuracy of prospective analysis as well as providing a basis for potentially modifying rules as a result of *ex-post* evaluations.¹¹

We recommend that OMB work with the agencies’ regulatory reform officers (RROs) now to develop better estimates of actual regulatory impacts to report in next year’s Report to Congress. Perhaps the RROs could prioritize the evaluation of the 137 major regulations included in the benefit and cost estimates presented in this Report in order to present more evidence-based estimates that reflect actual observed impacts.

⁸ In 1978, President Carter directed agencies to “periodically review their existing regulations to determine whether they are achieving ... policy goals” (EO 12044, 1978).

⁹ While, like most executive orders, E.O. 13563 is not binding on “independent regulatory agencies” such as the Securities and Exchange Commission or the Federal Communications Commission, E.O. 13579 (July 14, 2011) directed independent regulatory agencies, “to the extent permitted by law, [to] comply with [the] provisions of E.O. 13563, particularly the retrospective review provisions.”

¹⁰ Dudley, “Retrospective Evaluation of Chemical Regulations,” OECD Environment Working Papers, No. 118 (2017). Available at: https://www.oecd-ilibrary.org/environment/retrospective-evaluation-of-chemical-regulations_368e41d7-en.

¹¹ OMB, page 7

Rules should be written to facilitate review

In its draft report OMB notes the importance of planning for review during the rulemaking stage:

Rules should be written and designed to facilitate retrospective analysis of their effects, including consideration of the data that will be needed for future evaluation of the rules' *ex post* costs and benefits.¹²

Writing and designing rules to facilitate *ex post* measurement is a critical component of retrospective review. It requires agencies to clearly identify the problem that a rule is intended to solve, state how progress will be measured, assess how these measures are connected to real-world outcomes, and identify the data sources that will be used to measure them.

However, agencies are not doing a good job of planning prospectively for retrospective review.¹³ In 2014, the GW Regulatory Studies Center assessed 22 high-priority rules proposed by executive branch and independent agencies to evaluate whether agencies include plans for retrospective review as a part of their regulations.

Of the 22 rules we examined, not a single one included a plan for review. Agencies did a slightly better job of including five smaller components that could enable agencies to evaluate the effects of their rules: identifying the problem the rule seeks to address, including metrics that can be used to measure the success of the rule, linking proposed standards to desired outcomes, collecting information to measure effects, and committing to a timeframe for reviewing outcomes. Our findings are expressed in the table to the right.

Percent of Rules that Met Criteria for Prospective Retrospective Review	
Problem identified	64%
Metrics	36%
Measuring linkages	0%
Information collection	23%
Timeframe	0%

Regulatory Studies Center scholars recently published a working paper providing a proposed framework for evidence-based regulation (EBR) with recommendations that could help agencies plan for and conduct retrospective review.¹⁴ Though there has been much attention paid to evidence-based policy generally, regulation is a distinct subset of policy with unique legal and procedural constraints. The EBR framework is tailored to the context of regulatory agencies to plan for, collect, and use evidence throughout the life a regulation to predict, evaluate, and

¹² OMB, page 7

¹³ Miller, Sofie E. [Learning from Experience: Retrospective Review of Regulations in 2014](#). The George Washington University Regulatory Studies Center. November 3, 2015.

¹⁴ Marcus Peacock, Sofie E. Miller, & Daniel R. Pérez. [A Proposed Framework for Evidence-Based Regulation](#), a working paper, the *George Washington University Regulatory Studies Center*. February 22, 2018.

improve outcomes. Working with agencies, OMB could draw from this proposed framework to establish a guide to structuring regulations *ex ante* to enable better review—and better regulatory outcomes—*ex post*.

Evidence-Based Regulation Framework

I. Regulatory Design

- A. Identify the problem (state the “compelling public need”).
- B. Evaluate whether modifications to existing rules can address the problem.
- C. Identify and assess available alternatives to direct regulation.
- D. If regulating, determine that the preferred alternative addresses the problem.
- E. Set clear performance goals and metrics for outputs and outcomes.
- F. Exploit opportunities for experimentation.
- G. Plan and budget for retrospective review.

II. Regulatory Decision-making

- A. Assess the expected benefits, costs, and other impacts.
- B. Clearly separate scientific evidence from policy judgments.
- C. Make relevant data, models and assumptions available to the public.

III. Retrospective Review

- A. Reassess planned retrospective review and modify if necessary.
- B. Gather necessary data on regulatory outputs and outcomes.
- C. Implement retrospective review plan.
- D. Compare measured outcomes to original performance goals.
- E. Reassess the rule using new information and the factors in the regulatory design.

OMB should consider providing agencies with guidance on how to write their rules to better facilitate *ex post* measurement. Specifically, OMB should encourage agencies to do the following in their proposed rules, especially economically significant rules:

- Agencies should always identify quantifiable and directional goals of their rules. This information is crucial for assessing whether a rule has fallen short of, met, or exceeded its intended target. Independent agencies especially should make efforts to outline what they intend for their rules to accomplish. This transparency allows the public to know which benefits to expect in return for the opportunity costs incurred by new regulation, and what observers should strive to measure to assess the success of a rule.

- After determining the goals of their rules, agencies should proactively consider how to gather the information necessary to understand whether these goals are met. Considering information collection issues well in advance is necessary due to the requirements of the Paperwork Reduction Act. However, in many instances, it may be possible for an agency to rely on an existing information collection or agency database to aggregate the data necessary to evaluate a rule *ex post*. In these cases, agencies should assess existing data resources during the rule drafting stage and commit to evaluating relevant database information on a recurring basis.
- Given the enormous estimated benefits—and, sometimes, enormous costs—that result from federal regulation, agencies should prioritize establishing strong linkages between the rules they issue and the benefits that are meant to result. (Consumer’s Guide, Tip 7.1) This includes a consideration of mediating factors that may have accomplished goals in the absence of the rule, or undermined achievement of the stated metrics. Understanding the counterfactual and determining linkages between the rule and the measured outcomes is necessary to understand why an outcome was not achieved or to ensure that the policy itself resulted in the desired outcomes, rather than other factors beyond the agencies’ control.

Estimates would benefit from more greater transparency regarding uncertainty and sensitivity to assumptions

As we have noted in comments on previous OMB Reports, estimates of the benefits and costs of regulations, individually and in the aggregate, conceal great uncertainty. The Reports acknowledge this, but the same limitations are identified in each annual report with little evidence that agencies are working to reduce key uncertainties.

In particular, more than half¹⁵ of the benefits presented for all federal regulations are attributed to rules that reduce fine particles (PM_{2.5}), either directly or as “co-benefits” of actions required to address other pollutants. OMB should work with agencies to identify the uncertainties that have the largest impacts on estimated benefits and costs and devote resources to answering questions (e.g., is PM_{2.5} causally linked to premature mortality?) that resolve or reduce those uncertainties.

Climate benefits are also based on elaborate models, not only of the earth’s atmosphere, but also of the global economy and how it might respond to climate change. Benefits are forecast far into the future, where sensitivities to the underlying assumptions are amplified. Rather than disclose major sources of uncertainty, agencies may treat them as opportunities to make biased

¹⁵ OMB reports that EPA rules account for more than 80% of estimated benefits, that 95% of EPA’s estimated benefits derive from air quality rules and most of those are associated with reductions in fine particles. OMB Report, p. 12.

assumptions. OMB should continue to press agencies to be transparent about assumptions and uncertainties and should present those bounds in its annual report.

Use a more realistic filter

OMB should be skeptical of large benefits disconnected from corrections of market failures

In the case of Department of Transportation and Environmental Protection Agency (EPA) corporate average fuel economy (CAFE) standards for automobiles and trucks, and DOE energy efficiency standards for consumer and commercial appliances, the majority of benefits are private benefits that do not arise from any failure of private markets. (Consumer's Guide, Tip 1.3) Agencies attempt to substitute a public discount rate for the actual discount rates of private consumers and businesses, creating an illusion of private benefits, where in fact the regulations are limiting choice and producing only costs.¹⁶

For example, DOE's efficiency standards are premised on the idea that, despite the availability of efficient appliance models, consumers opt for lower-efficiency products due to cognitive bias or inability to accurately trade off costs with the long-term benefits of energy savings. In doing so, the Department neglects to consider that: investments in efficiency have higher costs than realized in *ex ante* engineering studies,¹⁷ which omit important variables that drive purchasing behavior;^{18,19} consumers value multiple product features beyond efficiency;²⁰ and that higher discount rates than assumed by DOE may be rational in the face of high sunk costs and uncertainty regarding future energy savings.²¹ Taking these properties into account would have a profound effect on the estimated benefits of the 26 rules issued by DOE's Office of Energy Efficiency and Renewable Energy in the Report.

¹⁶ Brian Mannix & Susan Dudley. "[The Limits of Irrationality as a Rationale for Regulation](#)." *Journal of Policy Analysis and Management*, Vol. 34, Issue 3 (Summer 2015).

¹⁷ Anderson, S. T., & Newell, R. G. (2004). Information programs for technology adoption: The case of energy-efficiency audits. *Resource and Energy Economics*, 26(1), 27–50.

¹⁸ Metcalf, G., & Hassett, K. A. (1999). Measuring the energy savings from home improvement investments: Evidence from monthly billing data. *Review of Economics and Statistics*, 81(3), 516–528. (<http://www.nber.org/papers/w6074.pdf>)

¹⁹ Heather Klemick, Elizabeth Kopits, and Ann Wolverton. (2017) "Potential Barriers to Improving Energy Efficiency in Commercial Buildings: The Case of Supermarket Refrigeration" *J. Benefit Cost Anal.* 2017; 8(1):115–145

²⁰ *Addendum to Public Interest Comment on the Department of Energy's Proposed Clothes Washer Efficiency Standards*. Docket No. EE-RM-94-403. Arlington, VA: Mercatus Center Regulatory Studies Program. 2000. (http://mercatus.org/sites/default/files/publication/Clothes_Washer_Standards.pdf)

²¹ Hassett, K. A., & Metcalf, G. E. (1993). Energy conservation investment: Do consumers discount the future correctly? *Energy Policy*, 21, 710–716.

Use balanced accounting for indirect affects

According to the report:

The consideration of co-benefits, including the co-benefits associated with reduction of particulate matter, is consistent with standard accounting practices and has long been required under OMB Circular A-4. We will continue to work with agencies to ensure that they clearly communicate when such co-benefits constitute a significant share of the monetized benefits of a rule.²²

But, agencies have begun to include implausibly large—sometimes dominant—co-benefits in their estimates of benefits and costs. Meanwhile, even the name suggests that co-benefits originate in a biased analysis. How often do agencies speak of co-costs, or co-harms, or collateral damage? Determining the proper scope of an analysis can be challenging, but it ought to be done with *both* eyes open. Agencies should not be permitted to search through all of the unintended consequences of a regulation and ignore the bad things, while claiming credit for any good things they can think of that might strengthen the case for regulation. OMB should recognize that often the predicted co-benefits, if they can be achieved at all, can be achieved at lower cost by a rule that addresses them directly. (Consumer’s Guide, Tip 7.2)

Benefits of reduced mortality should use changes in life expectancy, rather than “lives saved”

Environmental, health, and safety agencies will typically calculate the mortality benefits of their rules in terms of “lives saved”—a metric that is impossible to aggregate. A single life can be “saved” any number of times, and no one can say what the total “lives saved” in a society might be, nor what such a statistic might mean. Importantly, there is no way to measure it or determine whether it is rising or falling, so that there is no way to verify if the predicted regulatory benefits are actually being realized.

In contrast, the medical professions use life expectancy, rather than lives saved, to measure the benefit of reduced mortality. Changes in life expectancy—often measured in incremental life-years—can easily be observed and measured. Regulatory agencies should follow this standard practice. Benefits that take the form of predicted changes in life expectancy can be aggregated and can be compared to empirical observations about trends in the population.

Some international agencies use QALYs—Quality Adjusted Life Years—as a benefit metric. While there are some valid uses of such a statistic, we would not recommend that approach for measuring the benefits of regulation in the United States. Transparency requires that changes in

²² OMB Report, page 13.

the quality of life, whether because of morbidity or some other factor, be kept distinct from changes in mortality. We recommend using simple unadjusted life-years to indicate changes in life expectancy of an affected population.

This should not be controversial. Most people would expect environmental, health, and safety regulations to extend life expectancy. And if they were asked whether their preference would be to live a longer life, or to live a shorter life in which they were “saved” more times, most people would choose to live longer. It is time to start calculating mortality benefits in a way that is meaningful, both to statisticians and to the general public.

Conclusions and recommendations

We commend OMB’s continued emphasis on the analytical requirements of Executive Order 12866. Signed in 1993, E.O. 12866 provides a regulatory philosophy to underpin federal regulation and instructs agencies to conduct analysis of the costs and benefits of their significant regulations.²³ OMB’s report indicates that, while newer “EOs 13771 and 13777 govern regulatory reform efforts, cost-benefit analysis as required by EO 12866 remains the primary analytical tool to inform specific regulatory decisions.”²⁴

President Trump’s E.O.s 13771 and 13777 do not displace longstanding requirements, but add a new dimension to the regulatory process and, by emphasizing ongoing regulatory costs, can improve *ex-post* analysis of regulations, and ultimately improve regulatory outcomes.²⁵

Encourage more evidence-based estimates. OMB’s reported numbers reflect a compilation of agencies’ *ex-ante* estimates of regulatory impacts. OMB could take advantage of the retrospective reviews required by E.O. 13771 and the regulatory reform officers established by E.O. 13777 to develop more evidence-based estimates of the benefits and costs of the regulations included in these annual reports. New regulations should be designed using an evidence-based framework, as outlined above.

Work to reduce uncertainties. Some of the largest benefit estimates are based on the least reliable assumptions. At a minimum, OMB should be transparent about the impact of different reasonable assumptions on estimated impacts. It should also direct resources toward research that can reduce key uncertainties and improve the confidence in estimated benefits and costs.²⁵

Apply a more realistic filter. Some significant benefits appear disconnected from any plausible market failure or fall into categories that have questionable validity. In particular, estimates of

²³ E.O. 12866 §1(a)

²⁴ OMB p. 51

²⁵ OMB p. 7: “The implementation of Executive Orders 13771 and 13777, especially given the continued primacy of Executive Order 12866, requires [retrospective] analysis”

private consumer or company benefits that derive not from correcting market failures but from reducing choices demand greater support. OMB should also examine regulations that depend heavily on co-benefits. “Generally, one would expect that regulation targeted directly at a particular outcome can achieve it more cost-effectively than one that achieves it circuitously as a side effect (co-benefit) of an unrelated regulation, and a sound analysis must make a thorough inventory of both the harmful and the beneficial consequences of each alternative.”²⁶

Rely on measures that can be aggregated. Rather than a “lives saved” metric that cannot meaningfully be aggregated (since a single life can be “saved” an unlimited number of times), OMB’s reports should rely on predicted changes in life expectancy (measured in life-years). A lives-saved measure can be aggregated and readily compared to empirical observations about trends in the population.

Raise awareness of distributional impacts of regulations. Aggregate benefit and cost estimates cannot adequately describe transfer effects or distributional impacts. However, in both *ex ante* and retrospective reviews, OMB should encourage agencies to be more transparent about who bears regulatory benefits and costs.

²⁶ Consumer’s Guide, p. 13