



*From the Desk of Richard A. Williams, Ph.D.*

June 11, 2012

Mr. Cass Sunstein,  
Office of Information and Regulatory Affairs,  
Office of Management and Budget, Attn: Mabel Echols,  
NEOB, Room 10202,  
725 17th Street NW., Washington, DC 20503.

Dear Mr. Sunstein,

The Regulatory Studies Program of the Mercatus Center at George Mason University is dedicated to advancing knowledge of the impact of regulation on society. As part of its mission, the Regulatory Studies Program conducts careful and independent analyses employing contemporary economic scholarship to assess rulemaking proposals and reports from the perspective of the public interest.

We appreciate the invitation to comment on the Draft 2012 Report to Congress on the Cost and Benefits of Federal Regulations and hope that our comments will be useful to the Office of Management and Budget.

Sincerely,

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The Office of Management and Budget (OMB) has requested comment on the 2012 Draft Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local and Tribal Entities (hereafter referred to as “the OMB report”).<sup>1</sup> This comment has been produced by Richard A. Williams, Ph.D., of the Mercatus Center at George Mason University, an education, research, and outreach organization that works with scholars, policy experts, and government officials to bridge academic theory and real-world practice.

The principal finding of the OMB report is that:

The estimated annual benefits of major Federal regulations reviewed by OMB from October 1, 2001, to September 30, 2011, for which agencies estimated and monetized both benefits and costs, are in the aggregate between \$141 billion and \$700 billion, while the estimated annual costs are in the aggregate between \$43.3 billion and \$67.3 billion. These ranges reflect uncertainty in the benefits and costs of each rule at the time that it was evaluated.<sup>2</sup>

OMB maintains that “Aggregating benefit and cost estimates of individual regulations . . . provides potentially valuable information about the effects of regulations” although the “resulting estimates are neither precise nor complete.”<sup>3</sup> However, OMB has not reported the full range of uncertainty for the total costs and benefits of the 2011 regulatory program. OMB should consider including a separate section on the substantial uncertainties associated with estimates of costs and benefits that go beyond the uncertainties reported by the agencies themselves.

In announcing the most recent economic Executive Order, the White House states, “The Executive Order emphasizes the importance of quantification, and it does so with greater clarity and firmness than has been done before.”<sup>4</sup> In the OMB report, the administration claims that the net benefits of rules issued in the first two years have been over \$35 billion. This reflects, as shown in a chart in the OMB report, that

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<sup>1</sup> Office of Management and Budget, *Draft 2012 Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities* (Washington, DC: OMB, 2012), [http://www.whitehouse.gov/sites/default/files/omb/oira/draft\\_2012\\_cost\\_benefit\\_report.pdf](http://www.whitehouse.gov/sites/default/files/omb/oira/draft_2012_cost_benefit_report.pdf).

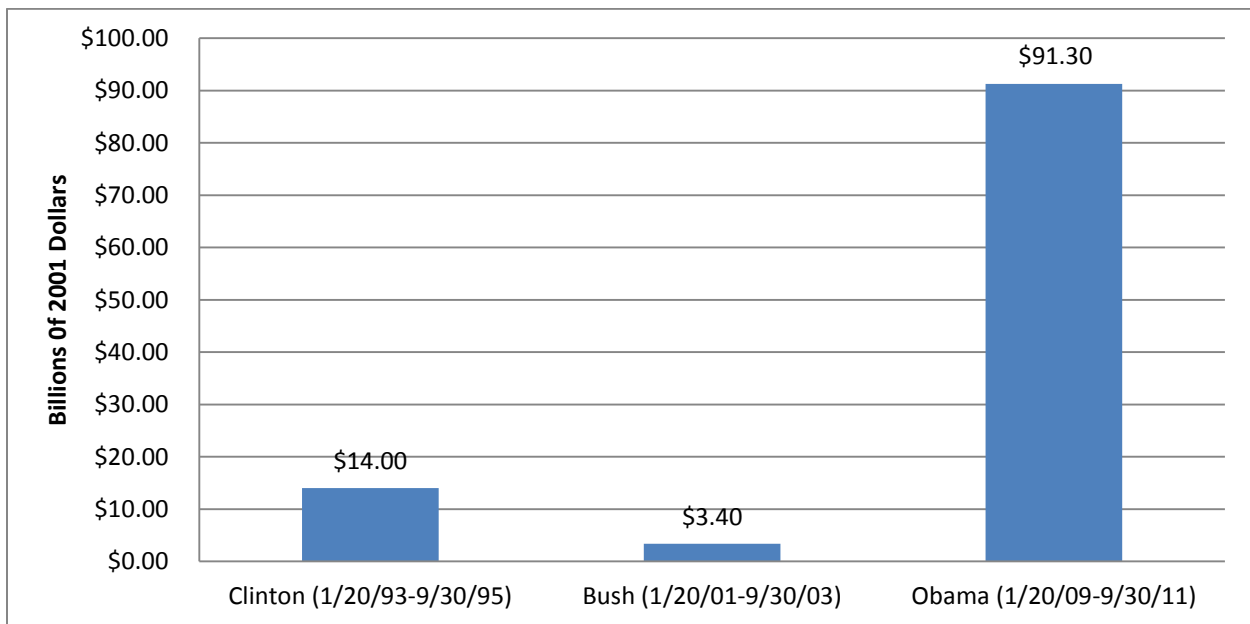
<sup>2</sup> *Ibid*, 3.

<sup>3</sup> *Ibid*, 9.

<sup>4</sup> Cass R. Sunstein, *Eliminating Red Tape through International Regulatory Cooperation*, U.S. Chamber of Commerce, 112th Cong., 2d sess., May 1, 2012.

the net benefits are three times those in the first two years of the Clinton administration and over ten times the first two years of the Bush Administration (see the chart below). Even more, the administration claims, “Under the President’s direction, we have issued rules, in our first three years, with over \$91 billion in net benefits – over 25 times the corresponding figure in the first three years of the Bush Administration, and over six times the corresponding figure in the first three years of the Clinton Administration.<sup>5</sup> This is an extraordinary achievement if true—but it is conveniently difficult to verify. Figure 1, taken from the OMB report, demonstrates the administration’s claim for this year.

Figure 1: Total Net Benefits of Major Rules through the Third Fiscal Year of an Administration



Source: OMB, *Draft 2012 Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities*, 54.

OMB acknowledges what it believes to be problems with this aggregation as:

1. Inconsistencies between agencies.
2. Unquantified benefits and costs
3. Under- and overestimates of benefits or costs.

<sup>5</sup> Sunstein, Cass, “Regulation: Looking Backward, Looking Forward,” speech delivered to the Administration Law Section of the American Bar Association,” Capital Hilton, Washington D.C., May 10, 2012.

4. Unquantified values such as equity, human dignity, fairness and distributive impacts.<sup>6</sup>

Although there is a brief discussion of each of these factors, OMB does not retreat from its assertion of a superior regulatory program with benefits vastly exceeding costs. Others have picked up this particular claim and highlighted the administration's achievements. For example, former Office of Information and Regulatory Affairs (OIRA) administrator Sally Katzen stated in congressional testimony that "the total estimated benefits of the rules issued during the first three years of the Obama Administration was significantly greater than the costs of those rules, leading to substantial net societal benefits from the rules issued during the Obama administration."<sup>7</sup> In fact, reporting these aggregated numbers, particularly to describe the "success" of this administration's regulatory program relative to other administrations' provides more opacity than clarity. As OMB Watch notes, "The aggregate numbers in the annual reports are unreliable measures because of the wide range of assumptions and methodologies employed by agencies in measuring costs and benefits. Aggregating those estimates as OMB does for these reports exacerbates that unreliability."<sup>8</sup> Although issued prior to this report, this statement should be applicable to this latest report.

That is, OMB Watch's general criticism about the unreliability of aggregated estimates is correct as OMB has relied on partial quantification of the benefits and costs of regulations by the agencies and for those that are quantified, there are serious errors in describing the uncertainties. Part of this problem is due to OMB's exclusive reliance on agency estimates (which often ignore key academic research and stakeholder comments). It is particularly troubling that OMB does so while acknowledging:

While we have generally relied on agency estimates in monetizing benefits and costs, and while those estimates have generally been subject both to public and to interagency review, our reliance on those estimates in this Report should not necessarily be taken as an OMB endorsement of all the varied methodologies used by agencies to estimate benefits and costs.<sup>9</sup>

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<sup>6</sup> OMB, *Draft 2012 Report*, 9–10.

<sup>7</sup> House Committee of the Judiciary, Subcommittee on Courts, Commercial and Administrative Law, *The Office of Information and Regulatory Affairs: Federal Regulations and Regulatory Reform under the Obama Administration* (Sally Katzen), 112th Cong., 2d sess., March 21, 2012.

<sup>8</sup> "Annual Cost-Benefit Report Gives Clues to Regulatory Changes," OMB Watch, February 12, 2010, <http://www.ombwatch.org/node/10763>.

<sup>9</sup> OMB, *Draft 2012 Report*, 18.

If OMB disagrees with the monetized estimates (that is, fails to endorse them), the organization should make those methodologies and estimates with which they disagree transparent in the report. In addition, it should be noted that allowing the public to view and comment on these analyses (regulatory impact analyses [RIAs] in regulations) should not be confused with public review. Throughout my federal career I have found that it is possible for agencies to dismiss comments from the public that do not align with the agency's position. Of course, aside from simply commenting on proposed rules, stakeholders may try to challenge agency data through the Information Quality Act (IQA).<sup>10</sup> However, and not surprisingly, agencies have generally not been responsive to these challenges. For example, the Environmental Protection Agency's (EPA's) average response time to a request for correction since the law passed, up to September 30, 2010 (the date of the study), was 316 days.<sup>11</sup> In addition, most challenges end up being dismissed—just as often happens with stakeholder comments in final regulations. There is no legally allowed challenge of IQA challenges outside of the executive branch and, in particular, no judicial review.<sup>12</sup>

OMB is supposed to be the “watchdog” over agencies and should be the agency to highlight issues such as disagreements with science and economics, resulting in uncertainty. OMB requires (to the extent guidance is a requirement) agencies to do uncertainty analysis. OMB Circular A-4 states, “A good analysis provides specific references to all sources of data, appendices with documentation of models (where necessary), and the results of formal sensitivity and other uncertainty analyses.”<sup>13</sup> OMB would be well advised to incorporate this guidance in its own report on the benefits and costs of regulation.

Whether valid critiques of rules by stakeholders or from OMB's own experts, these disagreements represent uncertainties. An important part of OMB's role should be to identify disagreements with agencies' science and economics, whether from OIRA, the public, or the scientific community. In fact, M. Granger Morgan et al. identify disagreement as one of the seven empirical quantities of uncertainty,

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<sup>10</sup> “Information Quality Act,” *Consolidated Appropriations Act*, Public Law 106-554, 2001, section 515.

<sup>11</sup> Richard B. Belzer, “Risk Assessment and Information Quality: An Empirical Study of Federal Agency Performance, 2010 Update” (paper, presented at Society for Risk Analysis 2010 Annual Meeting, Salt Lake City, UT, 2010).

<sup>12</sup> Arguably, a comment that is dismissed because the comment is “wrong” could be subjected to the “arbitrary and capricious” standard.

<sup>13</sup> OMB, “Circular A-4: Regulatory Analysis,” September 17, 2003, [http://www.whitehouse.gov/omb/circulars\\_a004\\_a-4](http://www.whitehouse.gov/omb/circulars_a004_a-4).

along with statistical variation, subjective judgment, linguistic imprecision, variability, inherent randomness, and approximation.<sup>14</sup>

### Uncertain Aggregate Benefits and Costs

The uncertainty present in the administration's current claims about total benefits and costs arises from incomplete and poor-quality analysis, an insufficient number of regulations with monetized benefits and costs, and substantial uncertainties about benefit calculations that are not acknowledged.

#### 1. Incomplete and Poor-Quality Analysis

The estimates used in OMB's report are prepared by the agencies themselves, which means that the agencies are analyzing their own decisions. Research shows that agencies often make decisions early in the regulatory process and agency economists are pressured to make their analyses support those decisions.<sup>15</sup> In fact, agencies do a poor job overall of preparing economic analysis for new rules. Since 2008, the Mercatus Center at George Mason University has conducted a project known as the Mercatus Regulatory Report Card (Report Card) that evaluates federal agencies' economic analyses (RIAs), for economically significant rulemakings.<sup>16</sup> To date, over 125 rules have been evaluated.

RIAs evaluated by the OMB Report Card receive a score ranging from 0 (no useful content) to 5 (comprehensive analysis content with potential best practices) on each of 12 criteria based on requirements imposed under Executive Order 12866, as well as RIA guidelines expressed in the OMB's *Circular A-4*.<sup>17</sup> The result is a total score for each RIA ranging from 0 to 60.

The OMB Report Card findings consistently demonstrate that the analysis supporting rules is poor. The average Report Card score was 28 out of a total of 60 points for the period 2008–10.<sup>18</sup> That is an "F." In

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<sup>14</sup>M. Granger Morgan, Max Henrion, and Mitchell Small, *Uncertainty: A Guide to Dealing with Uncertainty in Quantitative Risk and Policy Analysis* (New York: Cambridge University Press, 1990), 56.

<sup>15</sup> Richard Williams, "The Influence of Regulatory Economists in Federal Health and Safety Agencies" (working paper, Mercatus Center at George Mason University, Arlington, VA, 2008).

<sup>16</sup> See "Regulatory Report Card," Mercatus Center at George Mason University, <http://www.mercatus.org/reportcard>.

<sup>17</sup> See Executive Order no. 12866, *Federal Register* 58, no. 190 (October 4, 1993): 51,735–44; and OMB, *Circular A-4*.

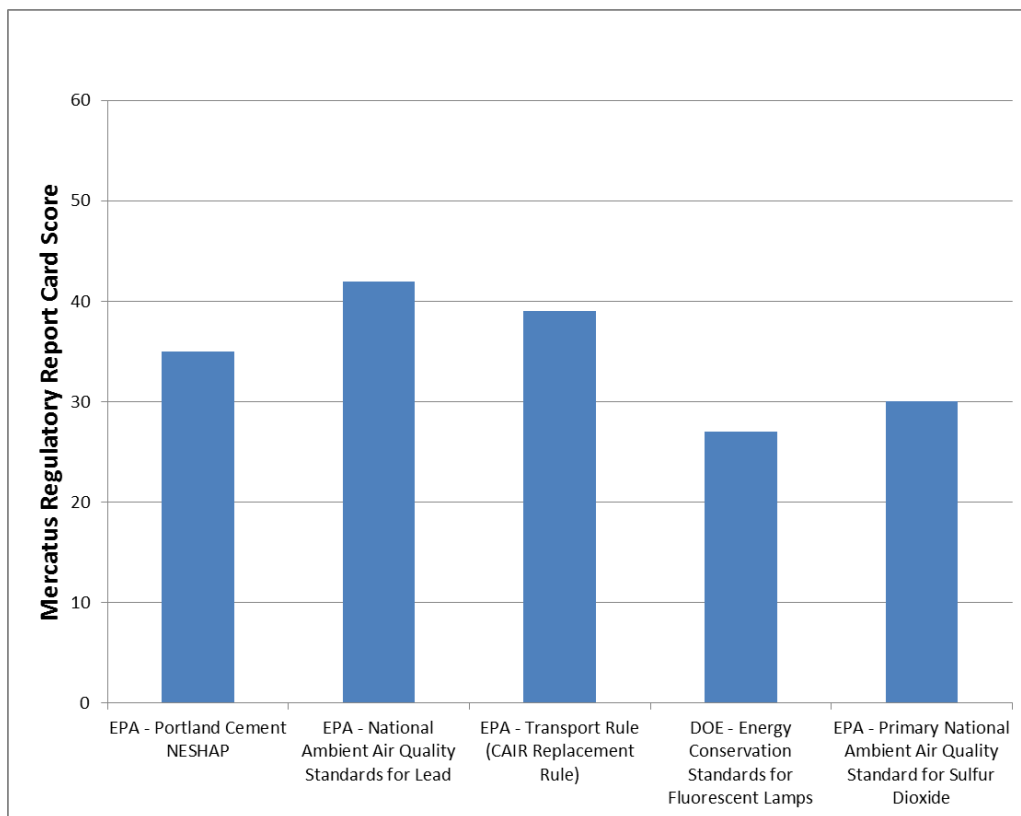
<sup>18</sup> Jerry Ellig and John Morrall, "Assessing the Quality of Regulatory Analysis" (working paper, Mercatus Center at George Mason University, Arlington, VA, 2010).

2011, the average score is a disappointing 29.<sup>19</sup> Analysis by other researchers in the past confirms the poor quality of federal RIAs.<sup>20</sup>

This research also indicates there are no significant differences in the quality of economic analysis across administrations, suggesting the problem is institutional rather than just a case of poor executive management by any particular administration.<sup>21</sup>

Figure 2 shows the grades for the most significant rules driving the largest claimed benefits by this administration.

Figure 2. Rules with Greatest Estimated Benefits, 2008–10



<sup>19</sup> This excludes several reviews not yet completed.

<sup>20</sup> See, for example, Winston Harrington, “Grading Estimates of the Benefits and Costs of Federal Regulation: A Review of Reviews” (RFF Discussion Paper No. 06-39, Resources for the Future, Washington, DC, September 1, 2006); and Robert W. Hahn and Paul C. Tetlock, “Has Economic Analysis Improved Regulatory Decisions?” *Journal of Economic Perspectives* 22, no. 1 (Winter): 67–84.

<sup>21</sup> Jerry Ellig and P. McLaughlin, “The Quality and Use of Regulatory Analysis” *Risk Analysis*, November 2011; and Ellig and Morrall, “Assessing the Quality of Regulatory Analysis.”

Source: Data taken from Mercatus Center Regulatory Report Card

<http://www.mercatus.org/reportcard>

As figure 2 shows, the scores for the rules with the greatest estimated benefits from OMB are, on average, somewhat higher than the average scores for all regulatory report cards, although none receive a grade above 45 (on a scale of 1 to 100, this would be a 75 or a “C”).

Some of the most problematic areas the OMB Report Card data identify are a failure to define the systemic problem or market failure the agency sought to solve through regulation, a lack of consideration of serious alternatives to the regulation being proposed, and a failure to set forth procedures to track results of the regulation once it has been implemented.<sup>22</sup> In other words, the agencies are failing at the most basic principles of sound regulatory decision making.

## 2. Insufficient Number of Observations

As OMB correctly noted, there is a disparity between the total number of rules (final) and the number of rules with monetized benefits and costs. The disparity is that number of rules with monetized benefits and costs is small relative to the total number of economically significant rules and quite small relative to the total number of all rules for FY 2011.

This is always the case. For the past 15 years, the OMB has provided Congress with reports on the combined annual benefits and costs of federal agency regulatory programs. All have reported benefits exceeding costs, but since so few RIAs actually monetize the benefits and costs of rules, it is impossible to tell whether that is actually true.

For example, in fiscal year 2010 report there were more than 3,000 final rules, and only 18 of them had quantified benefits and costs. However, RIAs are only required only for economically significant rules, those with impacts greater than \$100 million in any given year. But agencies aren’t even complying with that requirement. According to the Government Accountability Office, in fiscal year 2010 there were 104 major (economically significant) rules finalized; 66 of which are discussed in that year’s OMB report to Congress and only 18 received a full analysis of benefits and costs. In FY 2011, the OMB report notes

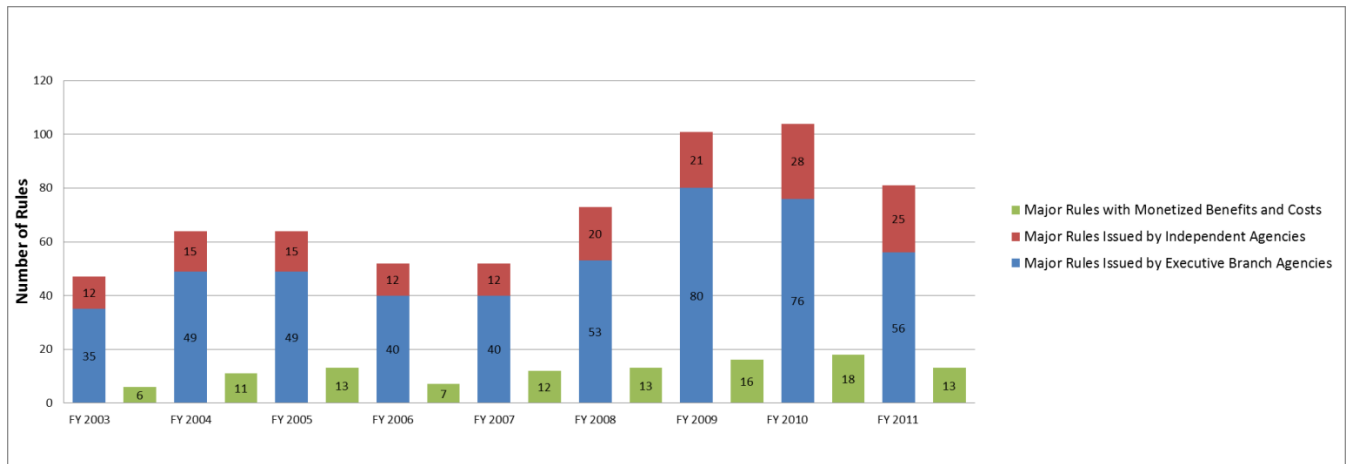
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<sup>22</sup> See, for example, James Broughel and Jerry Ellig, “Regulatory Alternatives: Best and Worst Practices,” Mercatus on Policy, Mercatus Center at George Mason University, 2012; and Jerry Ellig and J. Broughel, “Regulation, What’s the Problem?” Mercatus on Policy, Mercatus Center at George Mason University, 2011.



that there were 54 major rules. This is out of a total of 3,716 rules finalized that year, and only 13 had both quantified benefits and costs.<sup>23</sup> Figure 3 illustrates this.

Figure 3. Comparison of Final Rules with Monetized Benefits and Costs



Note: The number of major rules is dwarfed by the total number of final rules issued in each fiscal year. In most years, this number exceeded 3,000 final rules.

Source: Data are taken from Government Accountability Office Congressional Review Act reports at <http://gao.gov/legal/congressact/fedrule.html>, except for the number of major rules with monetized costs and benefits. That is taken from the OMB report to Congress relevant to the fiscal year. Major rules issued by executive agencies were calculated by taking the total number of major rules for all agencies and subtracting the number of rules from independent agencies and government corporations.

The paucity of fully quantified benefits and costs shown in figure 3 should be a concern. For benefits in particular, some of the claims OMB makes about why some benefits are not quantified should be revisited. For example, OMB states that “it may not be possible to quantify the benefits of certain disclosure statements.”<sup>24</sup> However, there are a wide variety of cases for which disclosure statements have been valued, for example, the valuation done for the regulations implementing the Nutrition Labeling and Education Act.<sup>25</sup> The model for valuing disclosures is fairly simple: examine how a particular

<sup>23</sup> Many of the economically significant rules are from “transfer” rules, which receive much less scrutiny from OIRA and so generally have poor or missing analyses. They often implement only precise congressional direction. However, these rules can have significant resource-allocation effects.

<sup>24</sup> OMB, *Draft 2012 Report*, 4.

<sup>25</sup> U.S. National Archives and Records Administration, “Regulatory Impact Analysis of the Final Rules to Amend the Food Labeling Regulations,” *Federal Register* 58, no. 3 (January 1993): 2,927.

disclosure is likely to impact behavior and estimate the benefits and costs of those changes in behavior.<sup>26</sup>

### 3. Wider Ranges of Uncertainty for Benefits

Many RIAs contain benefit estimates subject to a much wider range of uncertainty than the agency acknowledges. A broader range reflects more uncertainty in the calculations. When the estimates are presented with more certainty (for example, narrower ranges of values or use of exact numbers such as “4,807 deaths prevented”), they misinform decision makers as to what is really known and not known.

Why are uncertainties important? First, they are important because decision makers should have the best possible information about what is known and what is not known. Decision makers must be able to accurately compare the costs of a policy option with the benefits. When there is uncertainty in one or both measures, the ranges may overlap (for example, upper-bound costs may exceed lower-bound benefits) and that may affect the decision about which policy option to choose. Making decisions in the presence of uncertainty is an exercise in value judgment. It is not science; it is policy. Failure to reveal the full extent of uncertainty usurps the policymaker’s role, which makes it more difficult to hold agencies accountable.

In the current report to Congress, the benefits of rules are taken from agency estimates whose ranges sometimes appear to be too narrow. In this comment, two examples are given representing a set of regulations that calculate benefits based on correcting presumed bad energy choices by consumers and benefits associated with improving air quality for which the lower bound of benefits may be much lower than reported.

#### Irrational Consumer Behavior

In the draft report, there are four final rules that have been promulgated that purportedly use the results of findings from behavioral economics to quantify benefits but actually substitute arbitrary (government) preferences in place of demonstrated consumer preferences asserting that consumers and producers are irrational. These four rules contribute substantially to the administration’s claim of superior benefits. These rules include:

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<sup>26</sup> See for example, George J. Benston, “An Appraisal of the Costs and Benefits of Government-Required Disclosure: SEC and FTC Requirements,” *Law and Contemporary Problems* 41., no. 3 (Summer 1977): 30–62.

1. Energy Efficiency Standards for Clothes Dryers and Room Air Conditioners: Department of Energy (DOE). Costs: \$132 million (\$129–\$182) / Benefits: \$191 million (\$169–\$310).
2. Energy Efficiency Standards for Residential Furnaces, Central Air Conditioners, and Heat Pumps, DOE. Costs: \$538 million (\$475–\$724)/ Benefits: \$940 million (\$719–\$1,766).
3. Energy Efficiency Standards for Residential Refrigerators, Refrigerator-Freezers, and Freezers, DOE. Costs: \$84 billion (\$803–\$1.281) / Benefits: \$1.837 billion (\$1.660–\$3.034).
4. Commercial Medium and Heavy Duty on Highway Vehicles and Work Truck Fuel Efficiency and Greenhouse Gas Emissions Standards, EPA/Department of Transportation. Costs: \$496 million (\$331–\$496) / Benefits: \$2.654 billion (\$2.150–\$2.564).

A forthcoming paper from Mercatus contributing authors Kip Viscusi and Ted Gayer examines the benefits from these types of regulations. They find the following:

1. The vast majority of the benefits are derived by agencies claiming that energy-efficiency standards prevent consumers from inflicting self-harm by buying inefficient products (that is, private benefits to the individual, not society). The primary benefits are not social benefits, such as reductions in pollutant emissions, but energy savings to consumers—benefits consumers have chosen to forgo in favor of other revealed preferences.<sup>27</sup> The private benefits are derived by agencies' assuming the choices made by consumers are irrational and regulators are better able to decide what is in consumers' best interest.
2. Other attributes of the product choices that consumers may value—such as safety, durability, performance, and style—are ignored in the RIAs.
3. There is virtually no empirical evidence in the RIAs demonstrating consumer irrationality for the regulated products. In fact, there is no systemic evidence of behavioral biases leading consumers to harm themselves. Therefore, agency-

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<sup>27</sup> There are benefits from pollution reduction, but they are relatively small.

imposed preferences for efficiency over other attributes constitute a net cost for consumers.

4. Beyond federal mandates to alter the products to increase energy efficiency, few regulatory options (such as information provision) are seriously considered to address the assumed consumer irrationality.<sup>28</sup>

The only way these rules pass a benefit-cost test is to assume, contrary to economic theory, that restricting consumers' choices is actually beneficial to consumers. In this case however, not only are there no benefits to rules that restrict choices, but the restrictions actually impose a cost on consumers that should be reflected in the RIAs. Given the absence of a demonstrated market failure, it is not clear that these efficiency standards should be promulgated, let alone be counted among the benefits of regulation. Viscusi and Gayer note that OMB had similar misgivings in 2003: "These fuel savings will normally accrue to the engine purchasers, who also bear the costs of the technologies. There is no apparent market failure with regard to the market value of fuel saved because one would expect that consumers would be willing to pay for increased fuel economy that exceeded the cost of providing it."<sup>29</sup>

OMB's comments reflect that in this case fuel savings are well known to consumers and their values will be reflected in their choices. If they value fuel economy more than it costs, whether in the price of the product or because of the other attributes of the product they would have to give up, it will be evident in their choices. This means there is no failure of the market and there are no economic benefits to be derived from regulations. Energy choices also involve environmental effects, which may create genuine externalities, but this is not the claim made regarding the sizeable benefits attributed to these regulations. The agencies' RIAs estimate that the environmental benefits of these regulations are a small fraction of total benefits and well below the costs of these regulations.

In addition to problems associated with these particular energy rules, another rule included in the benefit totals is the Cross State Air Pollution Rule (CAIR Replacement Rule). This clean-air rule accounts

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<sup>28</sup> Ted Gayer and W. Kip Viscusi, "Overriding Consumer Preferences with Energy Regulations" (working paper, Mercatus Center at George Mason University, Arlington, VA, forthcoming).

<sup>29</sup> Office of Management and Budget (OMB). 2003. *Circular A-4*.

for over 60 percent of all claimed benefits in the OMB report. Because of the claim of a superior regulatory program and because there is considerable controversy surrounding the risk estimates associated with progressively more stringent risk levels for the criteria pollutants, the benefits should be carefully examined. This is particularly the case in light of EPA's policy for risk estimation. EPA has a policy that their risk estimates will "not [be] knowingly underestimated or grossly overestimated."<sup>30</sup> It is not clear whether they have been underestimated in this instance. This is important because the benefits of reducing allowable levels for pollutants are based on the risk assessment estimates. The risk assessment estimates both an upper- and a lower-bound decrease in risk. These estimates are then translated in the benefits assessment to monetized health savings for consumers. In this case, the concern is whether the lower bound of the benefits, based on the risk assessment associated with this rule, objectively defines the true lower bound. Recent reports on risk assessments from the National Academy of Sciences suggest there are recurring methodological errors in risk assessments, particularly at EPA:

Overall, the committee noted some recurring methodologic problems in the draft IRIS [integrated risk information system] assessment of formaldehyde. Many of the problems are similar to those that have been reported over the last decade by other NRC [National Research Council] committees tasked with reviewing EPA's IRIS assessments for other chemicals. Problems with clarity and transparency of the methods appear to be a repeating theme over the years, even though the documents appear to have grown considerably in length.<sup>31</sup>

A particular problem arises when risk estimates are biased upwards: those risk estimates are said to be "conservative." As stated above, EPA's policy is not to report risks objectively which would be to neither knowingly under or overestimate risk (which is different from ensuring that they do not knowingly underestimate or grossly overestimate risks). It has been known for over 25 years that agencies tend to produce "conservative" estimates of risk.<sup>32</sup> OMB acknowledged as much in 1990: "Unfortunately, risk

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<sup>30</sup> EPA, Office of the Science Advisor, 2004, 13.

<sup>31</sup> National Research Council, Review of the Environmental Protection Agency's Draft IRIS Assessment of Formaldehyde. (Washington, DC: National Academies Press, 2011), 4.

<sup>32</sup> For example, see Albert L. Nichols and Richard J. Zeckhauser, "The Perils of Prudence: How Conservative Risk Assessments Distort Regulation," *Regulatory Toxicology and Pharmacology* 8 (1988).

assessment practices continue to rely on conservative models and assumptions.”<sup>33</sup> This practice continues. If the risk estimates are conservative, then the benefit estimates will be overstated. Given that benefit estimates must be compared to cost estimates, overstating benefits makes this comparison impossible. In addition, it means the OMB reports are not accurate. Most of the total annual benefits (over 60 percent) in this OMB report are associated with the CAIR Replacement Rule, and within that rule, most of the benefits are from reducing what is known as fine particulate matter (PM<sub>2.5</sub>). Although most of the benefits come from reducing PM<sub>2.5</sub>, this pollutant is not the actual target of the rule. It is what EPA calls a “co-benefit” that just happens to be reduced when other National Ambient Air Quality standards are addressed, accounting for 90 percent of the benefits in most cases.<sup>34</sup>

OMB has apparently disagreed with EPA over these benefits for at least 14 years. In its 1998 report, OMB noted (what they apparently considered to be a supportable claim) that the EPA report on the success of the Clean Air Act implied that “the average citizen was willing to pay over 25 percent of her personal income per year to attain the monetized benefits of the Clean Air Act.”<sup>35</sup>

For the 1997 National Ambient Air Quality rules on PM<sub>2.5</sub>, OMB noted, “In this area, as in others, the academic literature offers a number of methodologies and underlying studies to quantify the benefits. There remain considerable uncertainties with each of these approaches.”<sup>36</sup> At the time, one commenter on the OMB report suggested that “OMB set to zero the value of agency benefits estimates that are not based on sound science (such as those for EPA’s particulate matter rule).”<sup>37</sup> OMB stated that this was beyond its resource capabilities. Given that OMB’s resources have been shrinking since then, it may still be beyond their resource capabilities). However, if it is for rules that represent a large proportion of costs and benefits, perhaps this calls for reallocating some resources within OMB.

Currently, it appears not much has changed with respect to reporting the uncertainty associated with PM<sub>2.5</sub> benefits. For example, Art Fraas finds that “EPA’s basic approach to presenting the uncertainty in its health benefits analysis remains largely unchanged eight years after the 2002 NRC report” that

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<sup>33</sup> OMB, *Current Regulatory Issues in Risk Assessment and Risk Management*, (Regulatory Program of the United States, Washington, DC, April 1, 1990–March 31, 1991), 13–26.

<sup>34</sup> Art Fraas, “The Treatment of Uncertainty in EPA’s Benefit Analysis of Air Pollution Rules: A Status Report,” *Journal of Benefit Cost Analysis*, forthcoming.

<sup>35</sup> OMB, *Report to Congress on the Costs and Benefits of Federal Regulations*, OIRA, 1998, 26.

<sup>36</sup> *Ibid.*, 72.

<sup>37</sup> Robert R. Gasaway, Kirkland and Ellis, “Comment to the 1998 Report,” Business Round Table, Washington, DC, 2005.

criticized EPA's presentation of uncertainty.<sup>38</sup> Louis Anthony Cox Jr. also questions EPA's reporting of uncertainty, noting that the relationship between particulate matter and mortality "might be wrong."<sup>39</sup> He goes on to say that even if there is a cause-and-effect relationship between inhaling particulate matter and death, there may be an amount of particulate matter that is safe to inhale, that is, a threshold level below which there is no harm.<sup>40</sup> Similarly, Anne Smith argues that EPA's estimates of benefits are measured from levels of PM<sub>2.5</sub> for which EPA has data, their benefit estimates are "fraught with uncertainties," and EPA has calculated benefits well below levels for which there is any concentration response data for PM<sub>2.5</sub> showing harm.<sup>41</sup> This most recent change, modeling "benefits in the vast swath of the U.S. that has PM<sub>2.5</sub> concentrations below 10 µg/m<sup>3</sup>; [resulted in] small changes in modeled PM<sub>2.5</sub> in these areas [which] used to contribute nothing to the total estimated benefits of a regulation, but they now contribute as much as 70% of the co-benefits estimates."<sup>42</sup> In 2009, EPA decided that there are no thresholds for PM<sub>2.5</sub> and calculates most of the benefits from levels beneath the measured area of human harm.<sup>43</sup>

Perhaps more importantly, the National Academy of Sciences weighed in on EPA's reporting of uncertainty as early as 2002, "The committee agrees with the agency's judgment that its current practice produces health benefits probability distributions that give 'a misleading picture about the overall uncertainty in the estimates.' . . . In particular, the distributions suggest that there is less uncertainty, perhaps much less, than is actually present."<sup>44</sup> The report continued, "By growing wider, the health benefits probability distributions would more accurately depict the uncertainty and lack of precision in the analyses. As difficult and uncertain as these specifications are, they are preferable to

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<sup>38</sup> Fraas, "The Treatment of uncertainty in EPA's Benefit Analysis of Air Pollution Rules."

<sup>39</sup> Louis Anthony Cox Jr., "Reassessing the Human Health Benefits from Cleaner Air," *Risk Analysis* 32, no. 5 (May 2012).

<sup>40</sup> This debate continues between Cox and EPA with Cox noting that "fewer than 4% of the [city-specific data sources] exhibit a significant positive PM<sub>2.5</sub> mortality association." Fann et al. (EPA) respond that an expert consensus exists between PM<sub>2.5</sub> and mortality, in Cost, Louis A. and Fann, Neal et. al., "Letters to the Editor," *Risk Analysis* 52, no. 5 (May 2012).

<sup>41</sup> Anne Smith, "An Evaluation of the PM<sub>2.5</sub> Health Benefits Estimates in Regulatory Impact Analyses for Recent Air Regulations," NERA Economic Consulting, December 2011.

<sup>42</sup> Anne E. Smith, "NERA Testimony on the Quality Science for Quality Air," NERA Economic Consulting, October 2011, 8.

<sup>43</sup> This is not the only change that has been made. Other changes include an adjustment to the Value of Statistical Life (VSL), adoption of a new concentration-response model, and changes to the exposed population and medical baselines.

<sup>44</sup> National Research Council, *Estimating the Public Health Benefits of Proposed Air Pollution Regulations* (Washington, DC: National Academies Press, 2002), 133.

EPA's current practice of treating important and highly uncertain model components as though they were certain."<sup>45</sup> The National Academy of Sciences committee also found that EPA had tools at its command that could have allowed them to do a better job: "The committee finds that [such] formal incorporation of EPA's expert judgments about the plausibility of thresholds into its primary analysis would have been an improvement."<sup>46</sup>

In the OMB report, OMB cites some of the assumptions used to estimate the benefit bounds and states, "The wide range of benefits estimates for particle control does not capture the full extent of the scientific uncertainty in measuring the health effects associated with exposure to fine particulate matter and its constituent elements."<sup>47</sup> Stating this in a footnote and reporting the benefit ranges reported by EPA in the OMB report does not appropriately underscore the importance of this uncertainty.

#### Effects on Benefits Estimates of Expanded Lower Bounds

If OMB were to reflect the uncertainty in the estimates given in table 1-5 of the OMB Report for all of the rules that had both quantified benefits and costs, the totals would look quite different. In particular, the CAIR Replacement Rule, for which the benefits are almost entirely dependent on further reductions in PM<sub>2.5</sub>, would change, particularly to reflect the possibilities that: (1) causality may be absent; (2) as EPA assumed prior to 2009, there is a threshold below which there are no health improvements from further reductions; or (3) the types of particulate matter addressed are not those that cause harm. For the energy-efficiency standards, there is considerable question as to whether forcing consumers to change their purchases has the reported benefits. This means the Energy Efficiency Standards for Clothes Dryers and Room Air Conditioners; Energy Efficiency Standards for Residential Refrigerators, Refrigerator-Freezers, and Freezers; the Energy Efficiency Standards for Residential Furnaces, Central Air Conditioners and Heat Pumps; and the Commercial Medium- and Heavy-Duty On-Highway Vehicles and Work Truck Fuel Efficiency Standards all would have an upper bound of costs that would exceed the OMB's reported upper bound of the benefits.<sup>48</sup>

A full discussion of the uncertainty contained in the benefit estimates of the PM<sub>2.5</sub> rules and the costs of the energy-efficiency rules is likely to result in much higher bounds for costs and much lower bounds for

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<sup>45</sup> Ibid, 134.

<sup>46</sup> Ibid, 136.

<sup>47</sup> Office of Management and Budget, *2011 Report to Congress*, 16, fn. 19. Similar statements can be found in earlier reports.

<sup>48</sup> One way to think about this is, if there is no market failure, there must be only costs and no benefits.



benefits. It is entirely possible that the picture this administration has painted in the annual report with respect to the 2011 regulatory programs would be significantly altered. It is even possible that the lower-bound benefits could be exceeded by the upper-bound costs. If this is the case, it raises the possibility that the regulatory program did more harm than good. More importantly, this may be the case for many, if not most, of these reports.

As Hahn and Sunstein have written, “When the costs are high and the benefits low or nonexistent, something seems seriously amiss, especially because an absence of significant benefits signals a likely absence of significant savings in terms of health, safety, or the environment.”<sup>49</sup> If this is the problem with OMB reports to Congress, it is an institutional problem that cuts across administrations. As noted by former OIRA administrator under President Clinton, Sally Katzen writes, these reports to Congress “cannot be dismissed as a partisan report by the current administration, because OMB issued reports with similar results [benefits greatly exceeding costs] throughout the George W. Bush Administration” (for example, for FY 1998–2008, major regulations cost between \$51 and \$60 billion, with benefits estimated to be \$126 to \$663 billion dollars).<sup>50</sup>

Given that it is an institutional problem, we should expect to continue to see such claims from this and future administrations. To address this problem, we need a change in the institutions (better checks and balances) that govern the regulatory process. Given the strong demand by the public as well as a necessity for Congress to monitor agency rules, leaving RIAs solely to the executive branch creates a problem both in terms of enforcement (depending on the preferences of the executive) and emphasis.<sup>51</sup> While OMB must continue to play a role, a system of checks and balances applied through one or both of the other branches of government might better ensure that the full uncertainty of these actions is reported and taken into account.

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<sup>49</sup> Robert Hahn and Cass Sunstein, “A New Executive Order for Improving Federal Regulation? Deeper and Wider Cost-Benefit Analysis” (working paper, John M. Olin Law and Economics Center 150 2D Series, University of Chicago Law School, Chicago, IL, 2002), 1, [http://www.law.uchicago.edu/files/files/150.CRS\\_.Cost-Benefit.pdf](http://www.law.uchicago.edu/files/files/150.CRS_.Cost-Benefit.pdf).

<sup>50</sup> Subcommittee on Courts, Commercial, and Administrative Law of the House Committee on the Judiciary, *Cost Justifying Regulations: Protecting Jobs and the Economy by Presidential and Judicial Review of Costs and Benefits* (Sally Katzen), 112<sup>th</sup> Cong., 1<sup>st</sup> sess., May 4, 2011.

<sup>51</sup> Sally Katzen makes the point that “different presidents have chosen to emphasize different things—e.g., costs and the effects on the economy, openness and transparency, market failures as a basis for regulating, public participation, and so forth.” See Sally Katzen, “Why Congress Should Not Codify Cost-Benefit Analysis Requirements,” Penn RegBlog, June 7, 2011, <http://www.law.upenn.edu/blogs/regblog/2011/06/why-congress-should-not-codify-requirements-for-economic-analysis-of-new-regulations.html>.

To prevent the sort of mischaracterization of benefits and costs of regulation like those in the current report, OMB should consider including a section titled “Significant Uncertainties in Benefit and Cost Estimates” in this and future reports. In particular, such a section should highlight where there may be substantive disagreements and uncertainty in estimates of benefits or costs. As this is OMB’s report, it should not rely on the agencies for this information. Instead, it should highlight where the academic literature, the public, or OIRA disagree with agency estimates and characterize those disagreements as uncertainty. This is precisely the kind of information that can inform Congress and, more generally, a national debate about existing statutes and regulations as well as their future directions. This is true transparency, and would represent a more objective reporting system. However, if the executive branch cannot report on the full range of uncertainties, this task should fall to another branch of government.