Using Cost-Benefit Analysis To Craft Smart Regulation

A Primer and Key Considerations for Congress and Federal Agencies

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Business Roundtable℠

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JUST THE FACTS

Improving Cost-Benefit Analysis Is Key to Achieving Smarter Regulation

From *Using Cost-Benefit Analysis To Craft Smart Regulation: A Primer and Key Considerations for Congress and Federal Agencies,* December 2014

1) Cost-benefit analysis (CBA) is the best available tool to assess the tradeoffs that are inherent to most new major regulations.
2) Most federal agencies are required to assess the costs and benefits of new major regulations but often fail to conduct a full CBA.
3) Business Roundtable supports conducting CBA on all proposed major rules expected to impose new costs on U.S. consumers and businesses, along with other improvements to increase the quality and transparency of agency CBAs.

CODIFY & EXPAND CBA REQUIREMENTS

Congress should codify existing executive branch requirements related to CBA and apply them to all agencies (including independent regulatory agencies).

EMPHASIZE UNCERTAINTY ANALYSES

Office of Management and Budget (OMB) should ensure that agencies conduct robust sensitivity and uncertainty analyses on cost and benefit estimates that adequately reflect existing uncertainty in the underlying science, when relevant.

PROMOTE REPLICABILITY

Congress and OMB should promote third-party replicability of agency CBAs through increased transparency and well-documented methodologies.

INCREASE ROLE OF RETROSPECTIVE REVIEW

Congress and OMB should encourage agencies to focus retrospective reviews on rules that impose large socio-economic costs or that the public identifies as problematic.

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Using Cost-Benefit Analysis To Craft Smart Regulation

A Primer and Key Considerations for Congress and Federal Agencies

Dear Business Leaders, Policymakers and Other Stakeholders:

Federal regulation has a profound effect on U.S. businesses. Business Roundtable CEOs recognize that some regulations are essential and help ensure that the products we consume are safe; the environment in which we live is adequately protected; and the marketplaces in which our businesses operate are fair, open and competitive. However, regulations also impose significant costs on both businesses and consumers and can reduce employment and depress growth. It is therefore imperative that federal agencies carefully consider the positive and negative impacts of proposed rules.

Cost-benefit analysis is the best available tool to evaluate these tradeoffs. Most federal agencies are required by a series of executive orders and guidance to assess the costs and benefits of proposed regulations when they are expected to significantly affect the economy. Only regulations for which the benefits justify the costs are permitted. These requirements have enjoyed broad bipartisan support across presidential administrations for decades, as they help to ensure that the various tradeoffs inherent in any regulation are described, quantified and evaluated before regulations are finalized.

Despite these requirements, however, federal agencies often fall short when assessing the impacts of their proposed rules. For example:

- Not all agencies are subject to the executive branch's cost-benefit requirements. While these so-called independent regulatory agencies — including the Securities and Exchange Commission, the Federal Communications Commission, and the Federal Reserve — are encouraged to comply, they rarely do so.

- Agencies that are subject to the requirements still do not monetize or even quantify costs and benefits for many major rules, making it impossible to make apples-to-apples comparisons of the relevant tradeoffs. This problem has worsened in recent years; since 2009, agencies have developed monetized cost and benefit estimates less frequently, while simultaneously issuing substantially more major rules.

- When agencies do perform cost-benefit analysis, their analyses often cannot be reproduced by a qualified third party due to insufficient transparency and lack of data access. Given that the nature of a regulatory agency is to regulate, it is important for independent experts and the public to be able to re-create agency analyses or modify them using alternative assumptions and approaches.

- According to federal agency estimates, the overall benefits of federal regulation are largely driven by reductions in a single air pollutant: fine particulate matter. Indeed, rules issued by the Environmental Protection Agency (EPA) have accounted for up to 82 percent of the monetized benefits of all regulations promulgated across the federal government over the last decade — and most of these benefits stem from fewer emissions of fine particulate matter.

- Although dozens of new major regulations are issued each year, agencies rarely reassess and rescind older regulations that are no longer necessary or have proven to be more costly or less beneficial than anticipated.

Even if these shortcomings could be resolved by improving the frequency and quality of agency cost-benefit analysis, such improvements would not address the larger issues concerning federal regulation:

- **First and foremost, the overall regulatory burden on U.S. businesses has grown substantially in recent years.** The cumulative cost of federal regulation has reached a tipping point, and the consequences are taking a heavy toll on businesses, consumers and the broader economy — one that is not captured by standard cost-benefit analyses of individual regulations. As regulatory costs steadily increase, businesses are less able to invest in new ventures, new technologies and innovations, and new employees. Moreover, the cumulative regulatory burden has made it more difficult for American entrepreneurs to start new businesses and hire workers. While regulatory agencies often shoulder the blame, Congress is also culpable. Often, regulations are the byproduct of legislative mandates, and in some cases these mandates do not provide regulatory agencies with enough flexibility to promulgate regulations that are targeted, outcome based and cost effective.

- **Second, before monetizing a single cost or benefit, it is critical that agencies justify any regulatory action by demonstrating a compelling public need caused by a significant failure of private markets.** This demonstration of regulatory need is particularly important given the inherent uncertainty in developing cost and benefit estimates. Proposed regulations often look good on paper when compared to nonregulatory approaches because federal agencies typically cannot account for everything that could go wrong with their planned regulations (e.g., low compliance rates due to slower-than-expected technological progress or higher-than-expected compliance costs). Similarly, agencies often undervalue the positive effects of increased innovation and experimentation that typically accompany a more flexible, nonregulatory approach.

- **Finally, existing requirements for conducting cost-benefit analysis do not specify how to estimate job effects —** particularly during periods of continued high unemployment, as the United States has experienced over the last several years. The Government Accountability Office recently reported that EPA relies on decades-old data when estimating the likely employment effects of its regulations, reducing the reliability of its estimates.

Business Roundtable developed this paper to (1) shed light on the process by which federal agencies assess the costs and benefits of proposed regulations and (2) drive improvements in the quality and transparency of federal cost-benefit analyses — thereby enabling policymakers, stakeholders and the general public to be better informed of a regulation's likely effects. While not a panacea, cost-benefit analysis is the best tool we have to assess the tradeoffs inherent in most regulatory actions. As the U.S. regulatory burden grows, it is critical that agencies quantify and monetize the costs and benefits of proposed regulations whenever possible — including agencies not currently required to do so. The unavoidable tradeoffs of regulation do not simply disappear when agencies ignore them or assess them with insufficient rigor. Achieving smarter regulation hinges on the explicit acknowledgment that such tradeoffs exist and must be carefully considered in light of existing regulatory requirements.

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President, Chairman and Chief Executive Officer
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Executive Summary

Cost-benefit analysis (CBA) is a widely used framework for systematically assessing the tradeoffs associated with a proposed regulatory action. Conducting a sound CBA is an important part of the rulemaking process, and due to decades of congressional and executive action, most federal agencies are required to estimate the expected costs and benefits of their most impactful rules. To assist them in these efforts, the Office of Management and Budget (OMB) has issued extensive guidance regarding the process that agencies should follow when conducting such analysis.

Nevertheless, evidence suggests that federal agencies all too often fall short of what is both required and expected of them. For instance, although OMB requires most federal agencies to assess the costs and benefits of all major regulations, OMB data indicate that these agencies have conducted a full CBA for only 132 of 255 major nontransfer rules since Fiscal Year (FY) 2002. Other agencies, such as independent regulatory agencies, are not subject to this OMB requirement but are strongly encouraged via executive order to comply with it. Despite this encouragement, OMB data indicate that such agencies conducted a full CBA on only nine of 143 major rules since FY 2002. Given these numbers, clearly there are significant opportunities to improve the rulemaking process through the expanded application of CBA.

Importantly, simply conducting more CBAs will not necessarily produce smarter regulation. Even in instances in which a full CBA is completed, the conclusions can be misleading or incorrect if the analysis is poorly conducted; insufficiently transparent; reliant on faulty assumptions; or used to provide *post-hoc* justification for regulatory decisions that agencies have already made, rather than as a tool to inform rules as they are developed. To avoid these pitfalls, agencies should ensure that their analyses are based on the best available scientific information, use well-documented methodologies and generate results that can be reproduced by qualified third parties. Agencies can also use retrospective review and *ex-post* analysis to determine whether existing regulations are providing the level of societal benefits claimed in the original rulemaking and are justified by the costs they impose — particularly for regulations that generate large socio-economic costs or that the public identifies as problematic.

As the number of federal regulations continues to rise, CBA plays a vital role in helping policymakers strike the right balance between the need to regulate and the need to foster innovation and economic growth. Regulatory agencies should recognize that, despite the best of intentions, regulations impose substantial costs that are increasingly burdening U.S. businesses and consumers. Indeed, the overall regulatory burden on U.S. businesses has grown substantially in recent years, and the cumulative costs of this burden are taking a heavy toll on businesses, consumers and the broader economy by decreasing innovation, discouraging entrepreneurship and dampening employment growth. In light of these negative effects, OMB should redouble its efforts to promote and enforce transparency and robust economic analysis in major rulemakings, both through the regulatory impact analysis process and via retrospective review. Moreover, Congress can and should do more to ensure that *all* agencies incorporate sound CBAs in future rulemakings, including taking legislative action to require such analyses for all major rules.

Business Roundtable CEOs strongly support efforts to increase the efficiency and effectiveness of the federal regulatory system. By improving the prevalence and quality of federal CBAs and increasing the influence these analyses have on agencies' rulemaking efforts, the federal government can take an important step toward achieving smarter regulation — thereby serving the long-term interests of business, consumers and the U.S. economy.

Business Roundtable Recommendations for Policymakers Regarding CBA and Federal Regulation

The purpose of this paper is to provide a primer on CBA, analyze recent CBA trends and highlight potential areas of concern. Business Roundtable recommends several reforms to the federal regulatory process that are relevant to the issues discussed in this paper, including:

- Congress should codify key principles of Executive Order 12866 to establish the basic requirements for sound CBAs. These requirements (which, when codified, would be judicially enforceable) include identifying a compelling public need for new regulatory action; assessing the costs and benefits of a proposed regulatory action and reasonable alternatives using the best available scientific, technical and economic information (with quantification if feasible); and proceeding with a regulation only upon a reasoned determination that the benefits justify the costs. Codification could be accomplished in multiple ways, such as (1) including requirements in future authorizing statutes for agencies to follow these principles when proposing any major regulation issued under these statutes or (2) incorporating cost-benefit requirements into a more comprehensive regulatory reform bill.
- Congress should extend CBA and OMB review requirements to independent regulatory boards and commissions.
- OMB should require regulatory agencies to provide additional justification for major rules in which ancillary benefits comprise more than 50 percent of the expected benefits.
- OMB should ensure that regulatory agencies conduct sensitivity and uncertainty analyses to the extent they are required under Circular A-4.
- Congress and OMB should promote replicability of CBAs through increased transparency and well-documented methodologies, thereby enhancing the ability of qualified and credible third parties to review agency analyses and conduct their own analyses using alternative assumptions.
- Congress and OMB should encourage regulatory agencies to focus retrospective reviews on rules that impose large socio-economic costs or that stakeholders and the public identify as problematic.
- Congress should provide the Office of Information and Regulatory Affairs with additional staff resources.

I. Introduction

Regulations create a mix of societal costs and benefits, and policymakers have a responsibility to carefully weigh these consequences against each other. This task is complicated by a variety of factors, including the reality that costs and benefits are not always readily apparent, may accrue in different time periods and can be difficult to measure. Accordingly, it is important that regulators evaluate the likely impacts of regulations in a rigorous and systematic fashion, especially when regulations are expected to have a significant impact on the economy.

For decades, federal agencies have assessed the likely impacts of regulations using a framework known as cost-benefit analysis (CBA). CBA is a formal technique for monetizing and comparatively assessing the costs and benefits of an activity or project over a relevant time period.[1] With respect to federal regulation, CBA involves the systematic identification and analysis of all costs and benefits associated with a forthcoming rule.[2] To the extent possible, each cost and benefit is monetized and discounted to account for differences in timing and summed to determine whether the rule produces overall net benefits to society. CBA can also be used to account for nonmonetized, nonquantitative and indirect costs and benefits, as well as for how costs and benefits are distributed across societal groups and generations.[3]

A basic cost-benefit test can illustrate whether a regulation's benefits justify its costs, and when used properly CBA can guide the selection of regulatory alternatives by maximizing the present value of net benefits.[4] In practice, however, conducting a CBA is a complex undertaking that, if done incorrectly, can leave policymakers with a false impression of a proposed rule's likely economic impact. Given the importance of CBA in justifying major rulemakings, it is critical that policymakers understand the strengths and weaknesses of this evaluation tool, how to properly deploy it, and how to improve its use in the future.

This paper provides a primer on CBA and offers recommendations regarding how Congress and the Office of Management and Budget (OMB) can help federal agencies improve the quality of future rulemakings. Section II provides a historical overview of executive and congressional requirements to assess the costs and benefits of proposed regulations and analyzes OMB data on major regulations promulgated since 2002. Section III discusses several key policy issues related to CBA that are of particular concern to Business Roundtable members, including (1) the lack of requirements for independent regulatory agencies to use CBA; (2) the heavy reliance on ancillary benefits to justify proposed rules; (3) the importance of conducting retrospective review on a select set of previously implemented rules; (4) the extent to which agency CBAs are transparent and reproducible; and (5) the use of CBA to inform, rather than justify, a proposed rule. Section IV contains some brief concluding remarks, and Section V offers several recommendations related to CBA that would improve the regulatory process and enhance the quality of future federal regulations.

II. A Primer on CBA

Federal policymakers have long recognized the value of estimating a policy's likely economic effects before implementing it. This section provides a brief history of the use of CBA in the federal government, explains the circumstances in which a formal assessment of the expected costs and benefits of federal regulatory actions is required, outlines the process federal agencies use to develop these estimates, and analyzes recent trends using OMB data.

What Is the History of CBA in the Federal Rulemaking Process?

The art of CBA has been practiced for centuries. In 1772, Benjamin Franklin wrote that when faced with difficult decisions, he would develop a list of pros and cons and weigh each respective entry against the others to determine where the balance lies.[5] In 1844, French engineer and economist Jules Dupuit — who some consider to be the intellectual father of CBA — wrote *On the Measure of the Utility of Public Works,* in which he argued that the benefits of a public works project are not necessarily the same as the direct revenues the project generates.[6] Near the turn of the 20th century, British economist Alfred Marshall illustrated in his classic textbook *Principles of Economics* that efficient economic decisions occur when the marginal utility derived from a good is greater than its price — or in plainer terms, a policy is efficient if the benefits it generates are greater than the costs it imposes.[7] This simple concept is the linchpin of modern CBA.

In the United States, early use of CBA was focused primarily on water-related investment projects.[8] In particular, the Flood Control Act of 1936 proposed a feasibility test for flood control projects requiring that the benefits of a project exceed the costs.[9] The technique was applied more broadly to government policy after World War II, as the United States sought to invest public dollars more efficiently.[10] Over time, both the executive and legislative branches of government have taken steps to increase CBA's role in federal policymaking. Prominent examples of federal regulations for which CBAs demonstrated substantial net benefits include the phase-outs of lead-based gasoline and ozone-depleting chemicals, food labeling for trans-fat content, promotion of automatic defibrillators in the workplace, pollution restrictions for diesel engine exhaust, and fuel efficiency standards for cars and light trucks.[11]

CBA in Practice: A Hypothetical Example

CBA, when used correctly, can be an invaluable tool for identifying the most efficient level of regulation for a given societal problem. For example, in regulating a pollutant, policymakers can use CBA to quantify the likely health benefits that would result from the regulation (e.g., annual reductions in the number of premature deaths, nonfatal illnesses and hospitalizations, and lost work or school days), as well as other, nonhealth benefits (e.g., visibility improvements, reduced lake acidification or increased wildlife habitat).[12] Policymakers can estimate the costs that would be imposed on the U.S. economy in a similar fashion (e.g., loss of productivity, competition or income; negative employment effects; private-sector compliance costs; and government administrative costs).[13] Further, the regulators can use CBA to estimate the costs and benefits of different levels of regulation, as more stringent environmental standards may produce larger benefits but also impose higher costs. Important costs and benefits that are difficult or impossible to monetize (e.g., protection of privacy, equity or human dignity) also can be qualitatively assessed and incorporated into the CBA. By facilitating comparisons of the costs and benefits of regulatory alternatives, CBA can help policymakers select the level of regulation that is likely to produce the highest overall net benefit to society.

Executive action

Since the 1970s, every president has incorporated requirements to assess the costs and benefits of high-impact regulations through executive orders (E.O.) and related guidance. These efforts were initiated in 1971 by President Nixon through the Quality of Life Review program, which applied to environmental regulations and required agencies to consider alternatives and their costs before adopting a rule.[14,15] Shortly thereafter, President Ford issued E.O. 11821, which required agencies to estimate a rule's expected costs to consumers and businesses and its effect on productivity and competitiveness.[16] Expanding on these initiatives, President Carter institutionalized a regulatory review process for the most important regulations each year and also established guidelines for agencies to conduct a formal regulatory analysis for rules expected to have a major impact on the economy.[17]

In the 1980s and early 1990s, presidents Reagan and George H.W. Bush solidified and expanded the regulatory review process. Through E.O. 12291, the Reagan Administration required agencies to prepare a regulatory impact analysis (RIA) for major rules. These RIAs were to include, among other components, a description of the rule's potential costs and benefits and a determination of its net benefits.[18] The net benefits calculation was particularly important under E.O. 12291, as agencies were forbidden from issuing a major rule unless the net benefits were shown to be positive. OMB's Office of Information and Regulatory Affairs (OIRA) reviewed agency RIAs to ensure that the economic implications of new regulations were adequately considered.[19] President Bush generally maintained the requirements established under President Reagan and also established the Council on Competitiveness to review all federal regulations and eliminate those that inhibited U.S. competitiveness.[20]

Under the Clinton Administration, the role of CBA in the regulatory review process was reconfirmed through E.O. 12866 (still in effect today), which revoked the Reagan Administration's broader-reaching E.O. 12291 — including the requirement that finalized rules must have positive net benefits — but largely maintained the framework for reviewing major regulations. For example, E.O. 12866 requires agencies to prepare an RIA and assess the costs and benefits for "significant" rules, which in most cases are rules expected to produce annual economic impacts of $100 million or more. (See "How Is CBA Typically Performed in the Federal Government?" on page 8 for additional discussion on significant rules.) E.O. 12866 also limits the period during which OIRA can formally review a proposed rule to 90 days;[21] increases the transparency of the review process; and requires agencies to promote interagency coordination, simplification and harmonization when issuing regulations.[22] To assist agencies in implementing the requirements established in E.O. 12866, OIRA published "best practices" guidance in 1996. Importantly, the requirement set forth in E.O. 12866 to assess costs and benefits does not necessarily mean that agencies must prepare formal CBAs; agencies may also comply by using cost-effectiveness analysis or other related techniques.[23]

Since 2001, the George W. Bush and Obama administrations have largely maintained the requirements specified in E.O. 12866, with some minor modifications. For example, President Bush emphasized the importance of reducing the impact of proposed rules on small businesses and other entities.[24] The Bush Administration also published OMB Circular A-4 in 2003, which details the process by which most federal agencies should conduct regulatory analysis. President Obama, among other actions, issued two executive orders that (1) re-emphasized the importance of preparing regulatory review plans and conducting annual retrospective analysis to modify,

streamline, expand or repeal existing regulations where appropriate and (2) encouraged independent regulatory agencies ("noncovered agencies"), which are exempt from CBA requirements, to voluntarily comply with E.O. 12866 and perform economic analysis on major rules.[25] Under the Obama Administration, OIRA has developed additional guidance — including a primer, an agency checklist and answers to frequently asked questions — to improve the quality of agencies' RIAs.

Legislative action

While most CBA requirements have been implemented through executive orders and OMB circulars and guidance, Congress has also passed laws that require costs and benefits to be quantified in certain circumstances. For example, the Regulatory Flexibility Act (RFA) of 1980 requires all agencies to assess the impact of forthcoming regulations on small businesses and other similar entities — including costs associated with a rule's projected reporting, recordkeeping and other compliance requirements — and consider regulatory alternatives that accomplish the same objectives while minimizing adverse impacts on small entities.[26] However, the RFA's requirements apply only if (1) the rulemaking agency determines that a rule would have a "substantial economic impact" on a "large number of small entities" (concepts that are not defined in the statute) and (2) the final rule was preceded by a Notice of Proposed Rulemaking (NPRM), which occurs for only about half of all final rules.[27] As a result, agencies have substantial discretion on whether a proposed rule necessitates a regulatory flexibility analysis, and many agencies rarely conduct one.[28]

Another example of legislative action to encourage CBA is the 1995 Unfunded Mandates Reform Act (UMRA). UMRA requires Cabinet departments and their subagencies (e.g., Department of State, U.S. Agency for International Development) and independent agencies (e.g., Environmental Protection Agency [EPA]) — but not independent regulatory agencies, such as the Securities and Exchange Commission (SEC) — to both quantitatively and qualitatively assess the anticipated costs and benefits of major rules that generate annual private- or public-sector expenditures of $100 million or more. Under UMRA, these "covered" agencies are also required to estimate the proposed rule's effects on the national economy, including job creation and employment, productivity, and international competitiveness.[29] However, in practice, UMRA has had limited impact on agency rulemaking. For example, the law does not apply to most economically significant rules (e.g., it applies only to final rules that were preceded by an NPRM, and agencies can ignore certain requirements if they determine that developing estimates is not "reasonably feasible").[30] Moreover, when the law does apply, it allows agencies to satisfy their CBA requirements with analyses prepared for other purposes (e.g., complying with E.O. 12866).[31]

Under What Circumstances Are Federal Agencies Required To Assess the Costs and Benefits of Proposed Regulations?

Federal agencies issue thousands of regulations each year. For instance, between Fiscal Year (FY) 2004 and FY 2013, federal agencies published nearly 37,000 final rules.[32] Only a select few of these rules, however, are subject to federal requirements to develop an RIA and assess the costs and benefits associated with the rules. The sections below lay out the conditions under which a formal assessment of costs and benefits is required, either by law or executive decree.

Significant rules, major rules and the $1 billion threshold

In general, E.O. 12866 is the primary source for determining if an RIA is necessary. It specifies that Cabinet departments, their subagencies and independent agencies (e.g., EPA) should assess the costs and benefits of "significant regulatory actions." Notably, independent regulatory agencies — including the SEC, the Federal Communications Commission (FCC) and the Federal Reserve — are not required to develop RIAs or assess the costs and benefits of the major rules they propose. Additional detail on the extent to which these noncovered agencies use CBA to support their rulemaking activities is included in Section III.

Under E.O. 12866, a formal assessment of costs and benefits is required if the regulatory action may:

1. Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy or a sector of the economy; productivity, competition or jobs; the environment, public health or safety; or state, local or tribal governments or communities;
2. Create a serious inconsistency or otherwise interfere with another agency's actions;
3. Materially alter the budgetary impact of entitlements, grants, user fees or loan programs; or
4. Raise novel legal or policy issues.[33]

Rules that fall into the first category are often referred to as economically significant or major rules.[34] In addition, for rules with annual economic effects exceeding $1 billion, agencies are also required to submit to OMB a formal quantitative analysis of the uncertainties surrounding the rule's estimated costs and benefits using simulation models, expert judgments or other techniques.[35]

Legal exceptions to CBA requirements

Notwithstanding the executive and congressional requirements described on pages 8–11, several agencies are specifically forbidden by law from considering costs in certain regulatory decisions. For example, under the Clean Air Act, EPA is prohibited from considering the costs of implementing national ambient air quality standards for criteria pollutants; this prohibition was affirmed by the Supreme Court in 2001.[36] For this reason, E.O. 12866, E.O. 13563 and E.O. 13579 all include the caveat that agencies should assess the costs and benefits of proposed regulations unless prohibited by law from doing so.

How Is CBA Typically Performed in the Federal Government?

The process by which covered agencies prepare RIAs and assess the costs and benefits of proposed major regulations is established in E.O. 12866 and described in detail in Circular A-4 and related OMB guidance. This section provides a high-level summary of the steps involved in this process. In short, agencies are to:

1. Describe the compelling public need a proposed regulation is intended to address and develop alternatives for doing so;
2. Estimate the costs and benefits for each alternative;
3. Identify transfers;
4. Assess uncertainty;
5. Select an alternative; and
6. Submit the regulation to OIRA for formal review.

Describe the compelling public need and develop alternatives

The first step covered agencies should complete when proposing a major rule is to describe the compelling public need that the regulation is intended to address (e.g., a significant failure of private markets or public institutions to protect or improve the health and safety of the public, the environment, or the well-being of the American people) and state the agency's authority for proposing the regulation (e.g., statute or judicial order).[37] The agency should also consider a reasonable number of alternatives to address the problem, including nonfederal and nonregulatory alternatives that would achieve the same end.[38] Typically, agencies construct these regulatory alternatives by varying the rule's compliance dates, enforcement methods, stringency, or applicability to certain entities or geographies.[39] OMB also encourages agencies to use performance standards rather than design standards (i.e., requiring regulated entities to achieve a desired outcome, such as reducing emissions, rather than specifying the means to achieving this outcome, such as installing a specified technology) and to explore the use of market-oriented approaches in lieu of direct controls.[40]

Estimate costs and benefits

Next, agencies should quantify the net present value of relevant costs and benefits (i.e., the sum of all benefits and costs after discounting) that would result from each regulatory alternative relative to a baseline scenario. A baseline scenario represents the status quo state of affairs that would likely occur if the agency chose not to act. The costs and benefits of each regulatory alternative should be evaluated and reported separately, thereby facilitating an estimate for the net benefits that would stem from each alternative. Potential benefits that could arise from a regulatory action include improved public health and safety, enhanced protection of the natural environment, and elimination or reduction of discrimination or bias.[41] Potential costs include business compliance costs; government administration costs; and any additional adverse effects on productivity, employment, competitiveness, public health and safety, the natural environment, and the overall economy.[42] If the proposed regulation would generate costs or benefits in future years, agencies are directed to discount them using rates of 3 and 7 percent.[43]

In some cases, certain costs or benefits may be difficult or impossible to quantify or monetize. When such cases occur, agencies are encouraged to quantify what they can and exercise professional judgment in determining whether nonquantified factors (e.g., distributional effects, equity and privacy concerns, and human dignity) are significant enough to justify the regulation.[44] They may also use cost-effectiveness analysis to identify options that use the lowest amount of resources to achieve a particular outcome.

Agencies are encouraged to use several techniques to estimate costs and benefits, but some techniques produce more reliable estimates than others. These techniques are outlined in OMB Circular A-4 and include the following (in order of OMB's preference):

- **Revealed preference methods** estimate the value of goods and services based on actual market indicators. For example, economists use revealed preferences to determine how a home's individual characteristics (e.g., number of bedrooms and proximity to public transportation) affect its price or how the aspects of an occupation (e.g., travel requirements and risk of personal injury) affect its average wage. OMB recommends that, to the extent possible, agencies rely on revealed preference methods when estimating costs and benefits, as these methods are well grounded in economic theory and can provide accurate and reliable estimates.[45]

- **Stated preference methods** are a means of assigning value to a good or service by asking people directly how much they value it. Although typically not as reliable as revealed preference methods, stated preference methods can be used in cases where determining values using actual market data is not possible. The distinguishing feature of these methods is the use of surveys that employ hypothetical questions about the respondents' willingness to pay to protect, preserve or obtain certain resources, goods or services.[46] The agency uses the responses to these questions to estimate the costs and benefits of a proposed regulation. The design of these surveys is critical to ensuring that they produce reliable estimates. For example, the good or service being evaluated must be clearly explained, respondents must be presented with realistic budgetary constraints, and questions should be designed to probe beyond the "warm glow" effect and focus on the respondents' actual economic valuation of the good or service.[47]

- **Benefit transfer methods** estimate economic values for goods or services by identifying information on costs and benefits available from one or more indirectly related studies performed in a different location or context and transferring the results to the rule in question. Agencies may elect to use a benefit transfer method if they do not have the time or resources necessary to conduct a revealed preference or stated preference study. For example, an agency might use a study that estimates the economic value of a recreation area and apply it to another recreation area with similar attributes. Benefit transfer methods are typically less expensive than conducting a revealed preference or stated preference study, but they are also prone to greater uncertainty.[48] As a result, OMB discourages agencies from using benefit transfer methods without explicitly justifying the choice and encourages agencies to use them only as a last resort.[49]

Given that agencies publish thousands of new rules each year — including dozens of major rules expected to significantly affect the economy — the business community has increasingly raised concerns about the cumulative cost of federal regulation and the burden this cost imposes on businesses and the U.S. economy.

In part to respond to these concerns, OIRA published guidance in 2012 encouraging agencies to consider the cumulative effects of new and existing rules.[50] Specifically, OIRA directs agencies to carefully consider the relationship between new and existing regulations when conducting CBAs of proposed rules and also to consider the cumulative effect of regulation as part of the retrospective review process.[51] Additional information related to the cumulative regulatory burden and the role of retrospective review is discussed in "Use of CBA To Inform, Rather Than Justify, Proposed Rules" on page 26.

Additionally, when estimating costs and benefits, agencies are directed by OMB to look beyond the direct costs and benefits of a rule and consider other positive and negative impacts — termed "ancillary benefits" (or co-benefits) and "countervailing risks" — that are indirect consequences of the proposed rule.[52] An ancillary benefit is a favorable impact that is secondary to the rule's purpose (e.g., reduced refinery emissions due to more stringent automobile fuel economy standards), while a countervailing risk is an adverse economic, health, safety or environmental consequence that occurs as an indirect result of the rule (e.g., adverse safety impacts that could result from more stringent fuel economy standards).[53] These indirect impacts can have a substantial effect on the rule's estimated net benefits. Indeed, for some major rules — particularly EPA rules intended to improve air quality — ancillary benefits constitute a significant majority of expected benefits. The extent to which EPA and other agencies rely on ancillary benefits to justify major rules is discussed in more detail on page 18.

Identify transfers

In many cases, a rule may produce effects that cannot properly be classified as benefits or costs but rather represent a transfer from one entity to another. For example, a pollution reduction rule may require polluters to pay a user fee to the government to fund clean-up efforts. Such a user fee is a transfer from the polluting company to the government.[54] Unlike a benefit or cost, the user fee does not affect the total resources available to society or produce a net welfare gain or loss and, as such, should not be included in the net benefits calculation.[55] OMB directs agencies to identify and report transfers in their RIAs separately when discussing a rule's distributional effects, rather than in the section discussing costs and benefits.[56] OIRA has also issued guidance intended to assist agencies in accurately determining whether a projected impact is a societal cost (or benefit) or a transfer.[57]

Assess uncertainty

Estimating the likely effect of a proposed regulation is an inherently uncertain task, and agencies need to make assumptions about the relationships among key variables. Even if they are well designed, CBA studies often rely on evidence that contains some level of statistical variability and uncertainty.

Given this reality, OMB instructs agencies to analyze important uncertainties that are connected to regulatory decisions. For example, Circular A-4 directs agencies to perform analyses that characterize the probabilities of relevant uncertain outcomes and assign economic values accordingly. For some rules, OMB guidance allows

agencies to describe the main uncertainties in qualitative terms or by using numerical sensitivity analysis to determine whether the rule's expected net benefits hold up when assumptions are altered. For high-consequence rules that are expected to produce annual economic impacts of $1 billion or more, however, agencies are required to prepare a formal quantitative analysis of the probability distribution of the rule's costs and benefits (e.g., mean and median, ranges and variances, and percentile estimates). OMB also encourages agencies to use sophisticated sensitivity analysis techniques to determine the effects of changes in assumptions that underlie the rule — particularly for assumptions that could have a major effect on the rule's overall net benefits. To the extent that uncertain assumptions used in the CBA have a significant effect on the agency's final conclusion regarding benefits or costs, OMB encourages agencies to consider conducting additional research prior to finalizing a rule.

Select an alternative

After quantifying costs and benefits and assessing the uncertainties surrounding them, agencies should use this analysis to select an alternative. Current guidance calls for agencies to maximize net benefits — including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity — unless a statute requires another regulatory approach.[58] Agencies can also choose not to pursue a regulation based on its estimates of costs and benefits (unless required by statute to act) or defer regulatory action to the state or local level. OMB guidance states that, in some cases, "deferring to state or local regulation can encourage regulatory experimentation and innovation while also fostering learning and competition to establish the best regulatory policies."[59]

Importantly, an agency may select an alternative that does not maximize *quantified* net benefits if the agency believes that nonquantified factors are sufficiently important to justify its decision. According to OMB guidance, if unquantified benefits or costs affect a regulatory choice, the agency should clearly explain its rationale and include detailed information on the nature, timing, likelihood, location and distribution of these unquantified factors.[60]

Submit to OIRA for formal review

Once an agency completes an RIA for a major rule, it submits the rule to OIRA for a formal review. E.O. 12866 stipulates that OIRA should complete its formal review of major rules in 90 days (or 120 days if the OMB director requests an extension). OIRA's review can take longer, however, because the head of the submitting agency may request additional time for OIRA to review the rule.

After analyzing a rule, OIRA determines whether it is consistent with the principles set out in E.O. 12866 and applicable laws. OIRA also verifies that the rule does not conflict with the policies or actions taken by another agency. If the rule does not meet these standards, OIRA may return it to the agency for further consideration and, in some cases, additional analysis.[61] According to the Government Accountability Office (GAO), OIRA's review sometimes results in changes to the estimated costs and benefits of a rule. In 2003, GAO examined 85 major rules and found that 25 had been significantly affected as a result of OIRA's review process.[62]

How Frequently Do Covered Federal Agencies Perform CBA?

Most federal agencies are covered by E.O. 12866 and OMB Circular A-4 and, as such, are required to complete RIAs and assess the costs and benefits of major proposed regulations. In practice, however, agencies often develop RIAs that do not contain monetized estimates of a regulation's anticipated impacts.

According to data contained in OMB's annual reports to Congress on the costs and benefits of federal regulations, covered agencies issued 556 unique major rules from FY 2002 through FY 2013 (see Figure 1).[63]

- Of these, 255 rules were nontransfer rules that agencies expect to provide benefits to and/or impose costs on society. Agencies monetized both costs and benefits for 132 of these rules, monetized either benefits or costs (but not both) for 102 rules, and did not monetize benefits or costs for 21 rules.

- Agencies also issued 301 transfer rules that were not expected to provide significant benefits to or impose costs on society. For these transfer rules, agencies monetized the transfers for 188 rules and did not monetize the transfers for 113 rules.

Recent trends indicate that, compared to previous years, covered agencies are more likely to issue major nontransfer rules and less likely to monetize the expected impacts of these rules.

- For example, from FY 2005 through FY 2008, covered agencies monetized both costs and benefits for 45 of 70 major nontransfer rules (64 percent). From FY 2009 through FY 2013, covered agencies monetized both costs and benefits for 67 of 139 such rules (48 percent) (see Figure 3 on page 14).

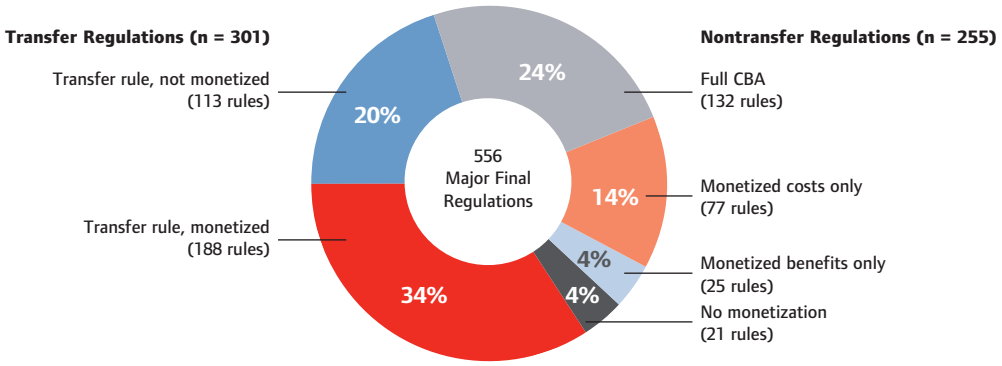
- Moreover, from FY 2009 through FY 2013, covered agencies did not monetize either costs or benefits for 10 percent of major nontransfer rules — more than twice as often as during the previous four years.

- These trends are troubling, particularly given that 139 major nontransfer rules have been issued since 2009 — an average of nearly 28 per year. That represents a substantial increase relative to the 70 major nontransfer rules issued in the preceding four years (17.5 rules per year).

For some rules, important costs and benefits — such as the protection of privacy, equity or human dignity — may be difficult or impossible to quantify or monetize. In such cases, OMB encourages agencies to quantify what they can, describe unquantifiable costs and benefits in qualitative terms, and incorporate these nonmonetized impacts into their decisionmaking when selecting a regulatory alternative.[64] However, most costs and benefits *can* be monetized, and those that cannot often are quantifiable in some fashion. It is critical that agencies monetize, or at least quantify, as many expected impacts as possible, as monetization and quantification allow policymakers to evaluate a rule's costs and benefits on equal footing.

Figure 1

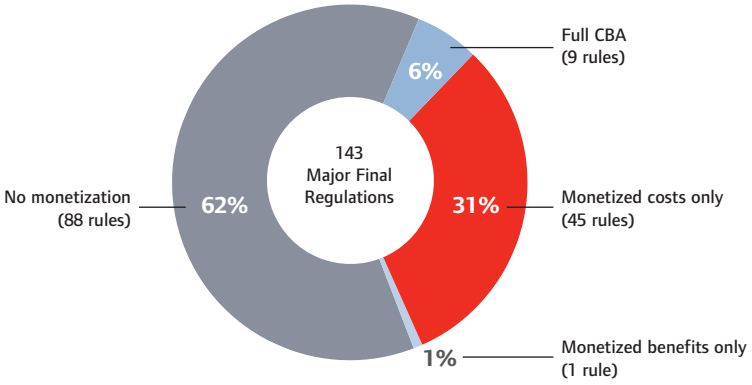
Total Major Final Regulations: Excludes Independent Regulatory Agencies, FY 2002–13



Source: OMB Annual Reports to Congress on Major Federal Regulations.

Figure 2

Total Major Final Regulations: Independent Regulatory Agencies Only, FY 2002–13



Source: OMB Annual Reports to Congress on Major Federal Regulations.

While covered agencies often fail to monetize both costs and benefits of major nontransfer rules, they have shown significant improvement in monetizing the effect of transfer rules. Agencies monetized the expected impact of transfer rules the majority of the time from FY 2002 through FY 2013, despite not reporting monetized impacts for a single transfer rule issued during the first four years of this period (see Figure 4). Over the last four years, agencies failed to monetize transfer payments for just three of the 114 major transfer rules issued (see Figure 4).

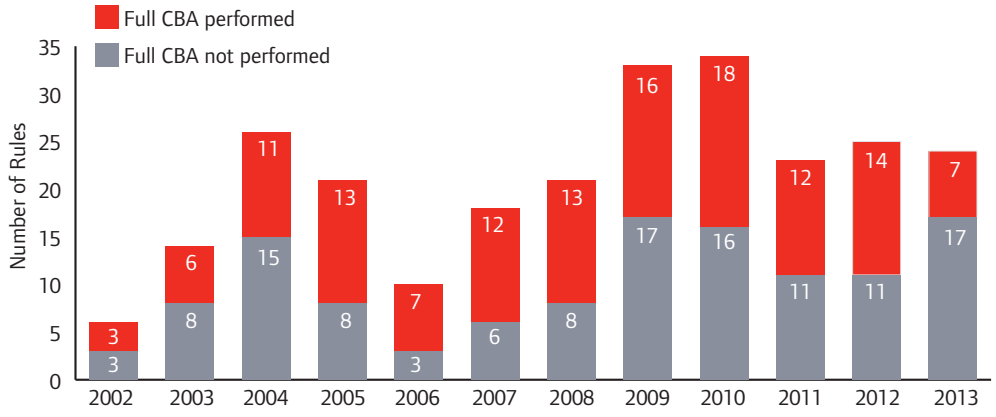
Roughly two dozen covered agencies were responsible for the 556 major rules issued from FY 2002 through FY 2013, but a few key agencies are responsible for the vast majority of major rules (see Figure 5). For example, the Department of Health and Human Services was by far the most prolific agency with respect to major rulemakings during this period, with 188 major rules issued (including joint rulemakings with other agencies). Other covered agencies that have published a significant number of major rules during this period include the Department of Agriculture (62 rules), EPA (50 rules) and the Department of Transportation (49 rules).

In recent years, certain agencies that have traditionally issued relatively few major regulations have been more active. For example, the Treasury Department issued 16 major rules from FY 2002 through FY 2013, 14 of which were developed since FY 2009 in response to the financial crisis. Other agencies that exhibit this trend include the Department of Energy (17 out of 20 major rules issued since FY 2009) and the Department of Education (22 out of 28 major rules issued since FY 2009).

Figure 3

Major Nontransfer Rules with Full CBA, FY 2002–13

(Excludes Independent Regulatory Agencies)

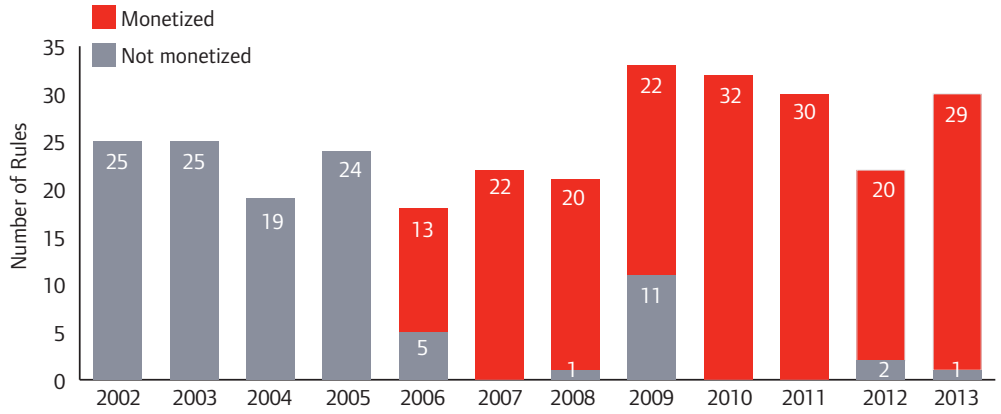


Source: OMB Annual Reports to Congress on Major Federal Regulations.

Figure 4

Major Transfer Rules with Monetization, FY 2002–13

(Excludes Independent Regulatory Agencies)

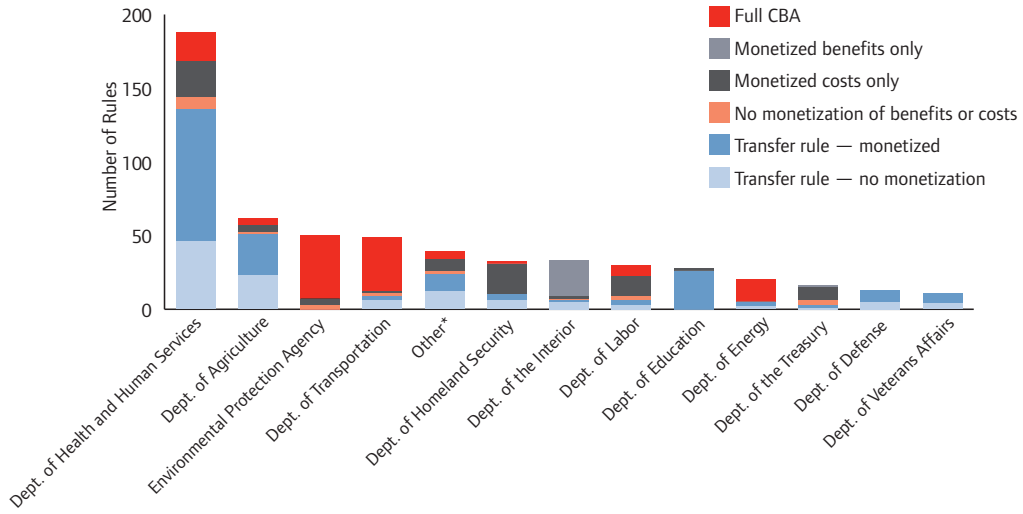


Source: OMB Annual Reports to Congress on Major Federal Regulations.

Figure 5

Major Regulations by Agency, FY 2002–13

(Excludes Independent Regulatory Agencies)



**Other agencies include Department of Commerce, Department of Justice, Department of Housing and Urban Development, Social Security Administration, Small Business Administration, Equal Employment Opportunity Committee, Federal Acquisition Regulation, Office of Management and Budget, Office of Personnel Management, and the State Department.*

Note: Joint regulations were included in each agency's total count.

Source: OMB Annual Reports to Congress on Major Federal Regulations. Includes unique final and interim final rules.

III. Policy Issues in Focus

Efforts to reform and improve the federal regulatory system focus on a variety of topics. Business Roundtable (BRT) presents five of the areas that are most important to its member companies below. These topics include:

1. The use of CBA by independent regulatory agencies;
2. The heavy reliance on ancillary benefits — particularly reductions in particulate matter — in justifying major regulations;
3. The general lack of retrospective review of existing regulations;
4. The importance of transparency and reproducibility in agencies' estimates of the costs and benefits of proposed regulations; and
5. Ensuring that CBAs are used to inform a proposed rule, rather than to justify an agency decision after the fact.

Use of CBA by Independent Regulatory Agencies

Independent regulatory agencies (e.g., SEC, FCC and the Federal Reserve) promulgated 143 major rules from FY 2002 through FY 2013 — representing 20 percent of all major rules during this period. These agencies are not required to assess the costs and benefits of these actions, but their voluntary compliance with executive branch requirements to develop RIAs for major rules is encouraged. For example, OMB's Circular A-4 urges noncovered agencies to quantify costs and benefits of major regulations whenever feasible. Further, President Obama's E.O. 13579 directs noncovered agencies to "promote … a regulatory system that protects public health, welfare, safety, and our environment while promoting economic growth, innovation, competiveness, and job creation."[65] E.O. 13579 also states that noncovered agencies should, to the extent permitted by law, comply with the provisions set forth in E.O. 13563. This statement is particularly important, given that E.O. 13563 reaffirms the Clinton-era requirement that covered agencies adopt regulations only upon a reasoned determination that the benefits justify the costs.[66]

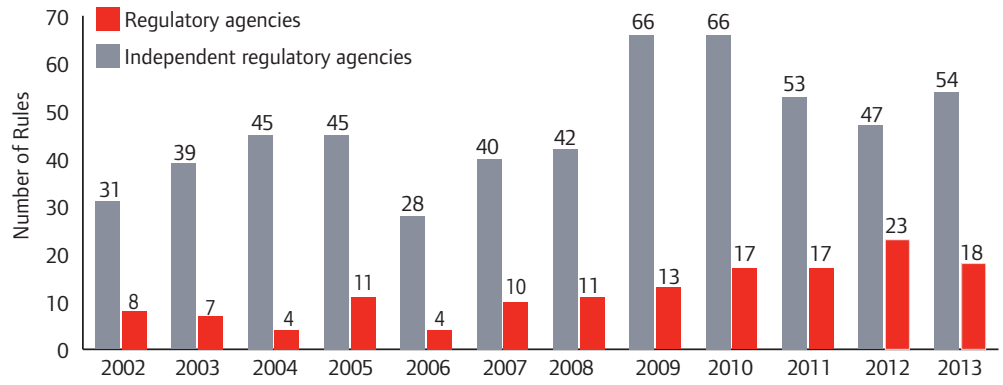
Additionally, certain statutes require that specified noncovered agencies consider the economic impact of their rulemakings. For example, the SEC, the Federal Deposit Insurance Corporation and the Commodity Futures Trading Commission (CFTC) are each required to consider the costs and benefits of certain regulations they propose under various statutes.[67] However, the requirements in these statutes are generally weaker than executive order requirements for covered agencies, as they do not require a detailed analysis of proposed rules or a demonstration that a rule's benefits justify the costs.[68]

Yet despite efforts by the executive branch and Congress to compel noncovered agencies to conduct CBAs on their proposed rules, they rarely do so. Indeed, of the 143 unique major regulations these agencies issued from FY 2002 through FY 2013, only nine were subject to a full CBA (seven of which were promulgated by the SEC).[69]

Moreover, independent agencies failed to monetize either costs or benefits for more than 60 percent of rules finalized during this time period.

Figure 6

Total Major Final Regulations, FY 2002–13



Source: OMB Annual Reports to Congress on Major Federal Regulations.

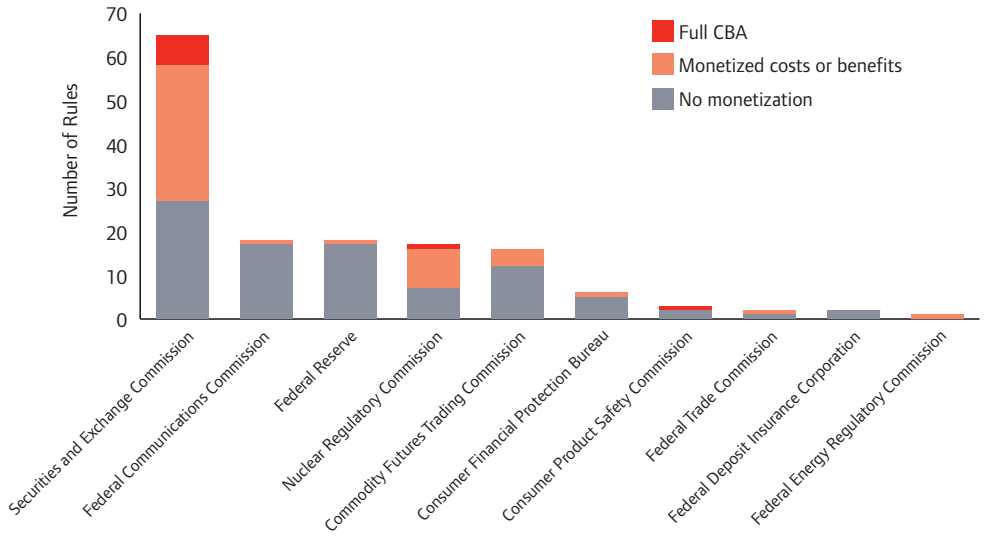
Recent trends are even more pronounced. For example, since FY 2009, 88 major regulations have been issued by noncovered agencies, and less than one-third included monetized estimates of costs or benefits — with just a single rule receiving a full CBA. Among noncovered agencies that have issued at least 10 major regulations since FY 2002, the agencies most likely to have quantified either benefits or (more commonly) costs are the Nuclear Regulatory Commission (59 percent), the SEC (58 percent) and the CFTC (25 percent) — while the agencies least likely to monetize costs or benefits are the FCC (6 percent) and the Federal Reserve (6 percent).

As Eric Posner and E. Glen Weyl recently argued, it is hard to imagine that the expected costs and benefits of regulations promulgated by noncovered agencies — which are largely tasked with regulating financial markets — cannot be monetized.[70] Indeed, unlike regulations that require agencies to monetize difficult-to-measure concepts like the value of life, health and a pristine environment, financial regulation is about easy-to-measure money.[71] A full list of regulations promulgated by independent regulatory agencies with no information about benefits or costs is included in Appendix A. A list of additional regulations issued by these agencies with information about benefits or costs, but no monetization, is included in Appendix B.

The general lack of transparency on the costs and benefits of major rulemakings undertaken by noncovered agencies has prompted some members of Congress to propose legislation that would impose on noncovered agencies the CBA requirements that covered agencies already face. These bills would codify E.O. 12866 and extend the requirement to assess costs and benefits to noncovered agencies, thereby strengthening existing self-imposed executive branch requirements with the force of a congressionally approved law.[72] Holding noncovered agencies to the same CBA standards as covered agencies is supported by the Administrative Conference of the United States, the National Academy of Public Administration and the American Bar Association.[73]

Figure 7

Finalized Regulations with Full CBA, by Independent Regulatory Agency, FY 2002–13



Note: Joint regulations were included in each agency's total count.

Source: OMB Annual Reports to Congress on Major Federal Regulations.

Role of Ancillary Benefits in Justifying Regulations

In theory, agencies should consider both ancillary benefits and countervailing risks when assessing the costs and benefits of major rules. In practice, however, ancillary benefits (or co-benefits) are far more prevalent in agency RIAs and have played a significant role in justifying the cost of regulatory action over the past decade.

By far the most influential ancillary benefit included in RIAs is the reduction in fine particulate matter ($PM_{2.5}$), which EPA and others have linked to a variety of negative health effects. EPA monetizes the health benefits of reduced $PM_{2.5}$ emissions by estimating the decrease in premature deaths and the increase in avoided illnesses and applying values per statistical life saved and illness avoided, which are common CBA techniques.[74] Ancillary benefits generated by reductions in $PM_{2.5}$ account for more than 50 percent of the *total* benefits produced by all major regulations across the federal government in 2008, 2010 and 2012.[75] One rule in particular, EPA's 2012 Mercury and Air Toxics Standards (MATS), relies on co-benefits for 99 percent of its upper-bound benefits estimate to justify the rule's projected $8.1 billion annual costs.[76] The vast majority of these co-benefits are generated by reductions in $PM_{2.5}$.[77]

To its credit, OMB acknowledges the outsized role $PM_{2.5}$ plays in justifying EPA's air regulations. In a recent report to Congress, OMB stated that EPA rules accounted for 63 to 82 percent of the monetized benefits of regulation from FY 2004 through FY 2013 and that these benefits are mostly attributable to reductions in $PM_{2.5}$.[78]

As shown in Figure 5 on page 15, EPA was among the agencies most likely to assess both the costs and benefits of major rulemakings. EPA's commitment to performing CBA is encouraging, but it also relies on ancillary benefits more than any other agency when developing benefits estimates. While including ancillary benefits in CBA assessments is valid (indeed, agencies are required to do so under Circular A-4), three main areas of concern relate to the outsized role these benefits play in justifying regulations. Given the importance of ancillary benefits in providing the economic justification for high-cost rules — particularly rules that rely heavily on benefits related to reductions in $PM_{2.5}$ — it is critical that EPA and other agencies address these concerns transparently.

Inefficiency of indirect approaches

First, when an agency relies heavily (or even entirely) on ancillary benefits to justify a proposed rule, the agency should consider whether an alternative regulatory approach would achieve the same benefits in a less costly and more efficient manner. For example, if a rule to reduce mercury emissions relies primarily on the ancillary benefits attained from reducing $PM_{2.5}$ (or some other ancillary benefit) for its economic justification, the agency promulgating the rule could choose to regulate directly the activity that produces the ancillary benefits, rather than achieving those benefits indirectly.

Potential for double-counting

Second, the use of ancillary benefits from reductions in $PM_{2.5}$ to justify multiple rules over the course of several years raises the possibility of double-counting these benefits. Double-counting is particularly problematic when multiple major rules are proposed that regulate different components of the same problem (e.g., air pollution) — thereby raising the possibility that the costs and benefits associated with each rule may overlap.[79] This scenario is not merely hypothetical; according to NERA Economic Consulting, in 2010, RIAs for six final rules related to reducing air pollution under the Clean Air Act were released, while at least seven additional RIAs were released for rules with related purposes.[80] Some of these RIAs were incorporated into the others' baseline scenarios, while some were not.[81]

To avoid the possibility of double-counting, agencies should develop proper baseline scenarios that incorporate the effects of other regulatory actions with overlapping benefits, including actions that are ongoing or are being challenged in the courts. OMB instructs agencies to construct a baseline that incorporates the agency's best forecast for how the world will change during a given time horizon, including changes in regulations promulgated by the agency or other government entities.[82] Moreover, OMB encourages agencies to use multiple baselines in certain situations, such as when agencies have reason to believe that regulatory uncertainty could significantly affect a proposed rule's costs and benefits.[83] For example, agencies could develop two baseline scenarios: one based solely on current standards, and another based on the agency's reasoned assumptions regarding the effect of all related pending regulations.

Transparency and uncertainty

Finally, given the central role ancillary benefits play in providing the economic justification for major regulations, it is critical that agencies make careful, appropriate and transparent assumptions regarding such benefits based on the best available evidence and characterize the uncertainty of those assumptions in achieving the estimated benefits. For example, one assumption that is particularly important to EPA's economic analyses for air quality regulations concerns the shape of the "impact function," or concentration-response function, used to calculate the benefits of reducing $PM_{2.5}$. Specifically, EPA assumes that this function is approximately linear within the range of pollution concentrations its rules consider.[84] This assumption of linearity effectively suggests that the health benefits stemming from reduced $PM_{2.5}$ concentrations will continue to accrue at a constant rate, irrespective of the amount of $PM_{2.5}$ in the air — even when $PM_{2.5}$ concentrations fall well below levels the agency considers acceptable.[85] Indeed, OMB asserts that a significant portion of the benefits EPA associates with its recent air quality regulations stem from potential health benefits that occur in regions that have already attained the agency's $PM_{2.5}$ standard (which is required by the Clean Air Act to protect public health with an adequate margin of safety).[86] Some researchers have raised concerns related to EPA's assumption of a linear impact function,[87] while a 2010 EPA guidance document summarizing expert opinions on this subject generally supports the agency's position.[88]

Another key assumption that drives EPA's ancillary benefits estimates is the extent to which the relationship between $PM_{2.5}$ reductions and health benefits is causal. EPA assumes that both short- and long-term exposure to $PM_{2.5}$ cause negative cardiovascular and mortality effects and likely cause negative respiratory effects.[89] While many researchers agree with this assumption, some have raised questions about the causal nature of the association.[90] Moreover, a recent article in *Science* co-authored by President Obama's former OIRA administrator argues that the traditional regression approach to inferring causal relationships between $PM_{2.5}$ and health impacts is highly sensitive to the choice of statistical model and is consequently unreliable in many settings.[91]

OMB reports that significant additional research is currently being conducted to clarify and resolve relevant scientific issues on the relationship between particulate matter and health benefits.[92] Given the outsized role of $PM_{2.5}$ reductions in agency CBAs to justify costly rules, this research may provide valuable information that could improve the quality and accuracy of agencies' CBAs. However, until such research is completed, it is important for agencies to consider the impact of uncertainty surrounding key assumptions, including the shape of the $PM_{2.5}$ impact function and the extent to which $PM_{2.5}$ exposure is causally associated with negative health effects. Additional information about these uncertainties and their potential effect on a rule's estimate of benefits would better inform policymakers and the public on the probability of achieving these benefits.

Retrospective Review of Existing Regulations

While effective regulation is a necessary part of a well-functioning government, the number of federal regulations in effect is staggering. As of March 2014, the Code of Federal Regulations contained 238 volumes consisting of more than 174,000 pages. Since 2000, more than 46,000 rules have been published in the Federal Register,[93] and each year, agencies publish 2,500–4,500 additional rules — including dozens of major rules that significantly affect the economy.[94] Given that most rules do not have a "sunset" clause, the effect is an ever-increasing

regulatory burden on consumers and businesses that discourages innovation and entrepreneurship and dampens employment growth. The continued expansion of federal regulation and its impact on the business community is reflected in a recent BRT survey, which found that regulatory costs were the biggest cost pressure facing member CEOs.[95]

The steady increase in the number of regulations on the books underscores the importance of retrospective review, in which agencies periodically review select regulations to determine if the problems these rules were intended to address have been solved or could be addressed more cost-effectively. Accordingly, every presidential administration in the last three decades has taken action to retrospectively review existing regulations. These efforts include President Reagan's Task Force on Regulatory Relief, President George H.W. Bush's Council on Competitiveness, President Clinton's National Performance Review framework and President George W. Bush's request for public nominations of problematic rules for OIRA review.

More recently, President Obama's E.O. 13563 requires covered agencies to submit retrospective review plans.[96] Another executive order issued by President Obama, E.O. 13610, requires agencies to prioritize regulatory look-back initiatives that produce significant and quantifiable monetary savings, reduce unjustified regulatory burdens, and simplify regulatory requirements imposed on small businesses.[97] According to OMB testimony, recent retrospective reviews have resulted in more than $10 billion in regulatory cost savings in the near term.[98] In particular, the National Highway Transportation Safety Administration (NHTSA) is a leading agency in conducting retrospective reviews, having conducted 92 separate evaluations of the costs and/or effectiveness of its regulatory program from FY 1973 through FY 2010.[99] Some experts, however, dispute the impact of retrospective reviews on regulatory cost; a 2014 analysis conducted by American Action Forum found that the latest round of governmentwide retrospective review resulted in an *increase* of $43.9 billion in total regulatory costs.[100]

Recent agency efforts to perform retrospective review of existing regulations are a step in the right direction, but much work remains. Notwithstanding NHTSA's efforts, most agencies rarely reassess existing regulations to determine whether they are still necessary and even more rarely amend or repeal rules. When agencies justify a major regulation using an *ex-ante* CBA that projects large societal net benefits, it should be standard practice to periodically analyze the actual costs and benefits (including employment effects) generated by the regulation using an *ex-post* analysis. Such analyses, although uncommon, often reveal that agencies overestimate both costs and benefits, although experts disagree about which category is more prone to overstatement.[101] Agencies should focus their retrospective reviews on major regulations based on input from the general public and independent reviewers, as agencies themselves may lack the resources and incentives to determine which regulations are in most need of such reviews.

Transparency and Reproducibility

When preparing RIAs for major rules, OMB directs covered agencies to ensure that their analyses are transparent by clearly describing the agencies' assumptions and methods and discussing any uncertainties associated with their estimates of costs and benefits.[102] Agencies are required to post their RIAs, along with all supporting documents, on the Internet so that the public can review them. Moreover, OMB instructs covered agencies that "your results must be reproducible" and that a qualified third party reading the RIA should be able to clearly determine how estimates and conclusions were developed.[103] Although agencies are not required to publicly

release all data or key elements of the analysis if compelling interests prevent such release (e.g., concerns over privacy, intellectual property rights or trade secrets),[104] OMB instructs agencies to include a high degree of transparency about data and methods when disseminating influential scientific, financial or statistical information to facilitate the reproducibility of such information by qualified third parties.[105]

However, critics contend that, in practice, agency assessments of costs and benefits contained in RIAs for major rules often are not sufficiently transparent.[106] For example, a recent GAO report concluded that RIAs developed by EPA do not always adhere to OMB guidance, particularly with respect to the clarity and transparency of the analysis.[107] As a result, replicating these analyses can be difficult, if not impossible. In response to these criticisms, BRT recently conducted a pilot study to assess the reproducibility and transparency of agency RIAs. Using OMB's annual reports to Congress on federal regulation from 2011 to 2013 and input from member companies, BRT first identified 28 major rules for which agencies developed monetized estimates of both costs and benefits. BRT then selected four rules for the pilot study based on their economic impact, inclusion in BRT's *Major Regulations of Concern* publication and other factors.[108] As shown in Figure 8, the four rules included in the analysis were (1) Positive Train Control Systems Amendments, (2) Energy Efficiency Standards for Residential Furnaces and Boilers, (3) Utility MACT, and (4) Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units.

BRT developed 10 evaluation criteria that, if satisfied, would likely enable a qualified third party to reproduce a significant portion of the analysis. These criteria cover four main categories: data, assumptions, methodology and sensitivity analysis (see Figure 9 on page 24). Each rule was evaluated against each criterion based on the extent to which sufficient detail was contained in the RIA. For each rule, BRT reviewed a variety of documents in addition to the RIA, including federal register notices, technical support documents, public comments, GAO summaries and analysis spreadsheets prepared by the issuing agency.

Importantly, BRT's study did not assess a large sample of rules, nor did it attempt to actually reproduce any of the four RIAs included in the analysis. As such, the study cannot be used to support generalizations about all RIAs. Nonetheless, the analysis revealed some common themes regarding the transparency and reproducibility of the four CBAs included in the study. These findings could inform efforts to improve the regulatory process. Specifically:

- None of the four rules BRT analyzed met all of OMB's standards for conducting a CBA. However, for three of the four rules (Positive Train Control Amendments, Energy Efficiency Standards and Greenhouse Gas Emissions), BRT concluded that a qualified third party could reproduce a significant amount of the analysis. The CBA for the Utility MACT rule, on the other hand, was less reproducible, primarily due to data availability concerns, insufficiently detailed assumptions and a less robust sensitivity analysis.

- The study revealed a few common strengths in the four CBAs. Specifically, agencies generally complied with OMB transparency guidelines related to establishing and summarizing the baseline scenario against which regulatory alternatives would be evaluated, clearly explaining the methodologies used in the CBA, and conducting basic sensitivity analyses on select assumptions.

Figure 8

Regulations Evaluated in BRT Reproducibility Study

Rule	Agency	Year Proposed	Description
Positive Train Control Systems Amendments (RIN 2130–AC27)	Federal Railroad Administration	2011	The rule amends a 2010 regulation regarding positive train control implementation for trains that do not carry poisonous-by-inhalation hazardous materials or passengers. The rule would exempt some track segments from having to install positive train control systems based on risk.
Energy Efficiency Standards for Residential Furnaces and Boilers (RIN 1904–AA78)	Department of Energy	2010	The rule amends the energy conservation standards for residential furnaces, air conditioners and heat pumps. As a result, more stringent energy conservation standards are required for these systems.
Utility MACT (RIN 2060–AP52)	Environmental Protection Agency	2011	The rule, also referred to as the Mercury and Air Toxics Standards (MATS), creates hazardous air pollutant emission standards for mercury and other pollutants emitted by power generating (among other actions).
Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources (RIN 2060–AQ91)	Environmental Protection Agency	2014	The rule proposes new carbon dioxide emission standards for new electric utility generating units and stationary combustion turbines. The Environmental Protection Agency originally proposed the rule in 2012 and modified it in 2014.

Figure 9

BRT Reproducibility Study Evaluation Criteria

Category	Criteria ID	Criteria Summary	Criteria Description
Data	1	Data are described and available	Data used to calculate costs and benefits are clearly described and publicly available.
Assumptions	2	Clear baseline is established	The analysis establishes a clear baseline scenario from which the proposed rule's impacts are assessed.
	3	Assumptions are documented and explained	All key assumptions that affect the results of the analysis are documented and explained.
Methodology	4	Methodology is clearly explained	The methodology is clearly explained.
	5	Benefits are reported incrementally	All benefits are reported incrementally before being discounted and aggregated into a total benefit estimate (including ancillary benefits).
	6	Costs are reported incrementally	All costs are reported incrementally before being discounted and aggregated into a total cost estimate (including countervailing risks).
	7	Transfer payments are described	All expected transfer payments are described, monetized and reported incrementally.
	8	Nonmonetized costs and benefits are described	All nonmonetized or nonquantified costs and benefits are clearly described, including how they were used to inform the rule.
Sensitivity Analysis	9	Sensitivity analysis is explained	The methodology of all sensitivity analyses performed is clearly explained, including what assumptions were modified to simulate alternative conditions.
	10	Information is provided to expand sensitivity analysis	Sufficient information is provided about key assumptions to enable an independent third party to perform additional sensitivity analysis.

The study also illustrated some common weaknesses that all four CBAs shared.

- Agencies generally did not include sufficient detail regarding transfers the rules would produce, making it difficult for a third party to replicate the transfer calculations.[109] OMB instructs agencies to quantify and describe transfers separately from costs and benefits when discussing a regulation's distributional effects.[110]

- The CBAs contained little information on nonmonetized and nonquantified costs and benefits and did not explain how, if at all, these factors informed the agencies' analyses. OMB guidance states that a complete regulatory analysis should include a discussion of nonquantified as well as quantified costs and benefits and should carefully evaluate these nonquantified costs and benefits so that readers can evaluate them.[111]

- The key assumptions that informed the CBA were not always sufficiently described, especially for rules that relied on agency analyses conducted for earlier rules (e.g., the Utility MACT rule). This conclusion is consistent with GAO's recent finding that EPA does not always provide a clear description of all of the information a reader might need to understand the agency's analysis.[112] OMB requires agencies to clearly set out the basic assumptions, methods and data underlying their analyses.[113]

- The formats agencies used to present the results of CBAs were inconsistent across rules, and information was often spread over several different documents in the regulatory docket — or in some cases, in other dockets for related regulations. This inconsistency inhibits a third party's ability to understand how the agency assessed costs and benefits and increases the difficulty of reproducing the analysis. Again, this weakness is consistent with GAO's research; specifically, GAO found that supporting information in the RIAs it reviewed was challenging to identify and locate and in some cases could be found only by searching through RIAs for related rules.[114] An increased emphasis on standardization across RIAs — either through an executive order, OMB guidance or congressional action — would make information more accessible and could significantly empower third parties to conduct their own analyses. Such standardization might also assist OMB and agencies by enabling OIRA to review rules more efficiently.

OIRA does an admirable job reviewing hundreds of regulations each year. But as with most federal agencies, OIRA faces significant and persistent resource constraints that limit the depth and breadth of its regulatory review process. In light of this fact, it is important for other credible, independent parties to be able to assess the costs and benefits of major proposed rules — or at a minimum, critique the CBAs performed by federal agencies. However, these independent stakeholders are less able to weigh in effectively when agencies are less than forthcoming about their methods, assumptions and calculations. As outlined in its 2011 *Achieving Smarter Regulation* publication, BRT continues to believe that increased transparency and reproducibility of RIAs will help facilitate greater involvement of independent third parties with expertise in CBA techniques — which in turn could result in more complete and objective agency analyses.[115]

Use of CBA To Inform, Rather Than Justify, Proposed Rules

According to OMB requirements, after demonstrating that a significant failure of private markets or public institutions has created a compelling public need for which new federal regulation is the most appropriate response, agencies should develop and evaluate a reasonable number of alternative approaches before promulgating a rule.[116] However, in practice, evidence suggests that for some rules, agencies decided on their preferred approach before officially proposing the rule, and they developed a CBA to justify the decision. For example, a 2008 survey of federal regulatory economists found that economic analysis frequently takes a backseat in regulatory decisions and that agency regulators often apply subtle pressure on their economists to make an RIA conform to a decision that has, for all intents and purposes, already been made.[117] Other studies have also concluded that economic analysis is often not the primary driver of rulemaking decisions. For example, economists at Resources for the Future found that some recent RIAs appear to have been designed for purposes other than policy analysis, such as to provide an agency "cover" in anticipation of future litigation or to provide information about the consequences of a regulatory decision that was made on grounds other than economic analysis.[118] Further, the report concludes that when RIAs do not include a sufficient number of reasonable alternative approaches, they are of little use in informing and guiding regulatory decisionmaking.[119]

The underlying purpose of developing RIAs and assessing the costs and benefits of a regulation is to help make better, more efficient regulatory decisions. Both E.O. 12866 and OMB Circular A-4 call on agencies to evaluate in good faith the economic impacts of several carefully developed regulatory approaches — including estimating the net effect these approaches would have on employment — as opposed to engaging in *post-hoc* rationalization of an agency's preferred option. While not all RIAs suffer from this defect, many recent RIAs fall short of the mark in providing information and analyses that are truly useful in estimating a rule's likely economic effect and improving regulatory efficiency.

IV. Conclusion

CBA is a key tool that helps agencies make informed tradeoffs and promulgate smart regulations. With a proven track record spanning decades across Democratic and Republican administrations, CBA can provide invaluable information regarding a rule's projected effects. As the United States regains its economic footing, it is critical that agencies regulate prudently and efficiently so as not to undercut the economic recovery.

Yet despite strong support from economists, public policy experts, Congress and the White House, federal agencies often do not perform CBA — even for major rules that are expected to have a significant impact on U.S. employment and the overall economy. Among agencies required to comply with OMB guidance on assessing regulatory costs and benefits, a full CBA is conducted for roughly half of nontransfer rules. Further, recent trends indicate that agencies are simultaneously issuing more major rules while performing fewer CBAs. Independent regulatory agencies are even less likely to assess the costs and benefits of major rules, even though they are subject to a recent executive order that explicitly encourages them to do so voluntarily.

When agencies *do* conduct CBA, the extent to which the results reflect the rule's true costs and benefits is often not clear. Some agencies rely heavily on ancillary benefits (e.g., reductions in $PM_{2.5}$) to justify high-cost rules — raising questions about the possibility of double-counting; the validity of the assumptions that underlie the rule; the nature and extent of the uncertainties; and whether there is a more direct, cost-effective way to achieve these ancillary benefits. In addition, for some rulemakings, agencies appear to use CBA to provide *post-hoc* justification for regulatory decisions they already made. Further, evidence suggests that some analyses may not be sufficiently transparent to be fully reproducible by a qualified third party, which limits the ability of independent experts to both critique the quality and methodological soundness of agency estimates and develop their own estimates using alternative reasonable assumptions. These weaknesses — coupled with the ever-increasing federal regulatory burden consumers, businesses and the U.S. economy must bear — underscore the importance of agencies conducting retrospective reviews of existing rules to determine whether the benefits of a regulation exceed the costs, including job losses. However, in practice, such analyses rarely occur.

Both Congress and the Obama Administration have taken steps to promote and expand CBA in federal rulemaking, but more work remains. Congress should impose stronger regulatory analysis requirements on both covered agencies and independent regulatory agencies and provide OMB with the staffing resources it needs, while OMB should redouble its efforts to promote transparency and sound economic analysis — both before and after major rules are finalized.

The CEOs of Business Roundtable strongly support efforts by both parties to increase the efficiency and effectiveness of the federal regulatory system. Expanding the use of CBA and improving the quality and utility of such analyses are critical steps to achieving this goal.

V. Recommendations

To improve the federal regulatory process and the quality of major regulations, Business Roundtable recommends the following actions:

1. **Congress should codify key principles of E.O. 12866** to establish the basic requirements for sound CBAs. These requirements (which, when codified, would be judicially enforceable) include identifying a compelling public need for new regulatory action; assessing the costs and benefits of a proposed regulatory action and reasonable alternatives using the best available scientific, technical and economic information (with quantification if feasible); and proceeding with a regulation only upon a reasoned determination that the benefits justify the costs. Codification could be accomplished in multiple ways, such as (1) including requirements in future authorizing statutes for agencies to follow these principles when proposing any major regulation issued under these statutes or (2) incorporating cost-benefit requirements into a more comprehensive regulatory reform bill.

2. **Congress should extend CBA and OMB review requirements to independent regulatory boards and commissions.** According to OMB data, just 6 percent of major rules issued by independent regulatory agencies have been subjected to a full CBA since FY 2002, while these agencies failed to monetize costs or benefits for more than 60 percent of major rules. Many of these rules were financial in nature, suggesting that, at a minimum, developing monetized cost estimates for these rules should be feasible.

3. **OMB should require regulatory agencies to provide additional justification for major rules in which ancillary benefits comprise more than 50 percent of the expected benefits.** For example, agencies should be required to demonstrate why they are choosing to regulate in a manner that achieves these benefits through indirect means, rather than directly.

4. **OMB should ensure that regulatory agencies conduct sensitivity and uncertainty analyses to the extent they are required under Circular A-4.** Additional information about key uncertainties and their potential effect on a rule's estimated benefits would better inform policymakers and the public on the probability of achieving these benefits.

5. **Congress and OMB should promote the replicability of CBAs through increased transparency** by requiring agencies to disclose all data, assumptions, methodologies and models used in regulatory impact analyses for major rules. Information should be sufficiently detailed to enable a qualified third party to re-create the analyses and explore alternative scenarios by altering key assumptions. Given the level of uncertainty present in many major CBAs and the importance of developing accurate estimates, increasing the ability of credible third parties to review agency CBAs for major proposed rules will lead to more reliable estimates and, in turn, smarter regulations.

6. **Congress and OMB should encourage regulatory agencies to focus retrospective reviews on rules that impose large socio-economic costs or that stakeholders and the public identify as problematic.** Retrospective reviews currently occur infrequently, and when they do, they are often not targeted at the costliest and most burdensome regulations. Given the inherent uncertainty surrounding agency cost and benefit estimates developed before rules are actually implemented, it is critical to periodically re-examine the real-world effects of select regulations to determine whether they should be modified or eliminated.

7. **Congress should provide OIRA with additional staff resources.** When OIRA was created in 1981, the office was authorized to maintain 90 full-time staff members. As of March 2014, staffing had fallen to 44. OIRA plays a key role in ensuring smart regulation, and it is important that this agency be provided with the resources it needs to fulfill its mission.

Appendix A: Major Regulations Issued by Independent Regulatory Agencies with No Information about Benefits or Costs

Fiscal Year	Federal Register Citation	Agency	Title
2002	NA	FCC	Broadcast Services; Digital Television
2002	NA	FCC	Ultra-Wideband Transmission Systems
2002	NA	FCC	Assessment and Collection of Regulatory Fees for Fiscal Year 2002
2002	NA	FCC	Order to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range; Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates; and in Re-Applications of Broadwave USA, PDC Broadband Corporation, and Satellite Receivers, Ltd. in the 12.2-12.7 GHz Band
2002	NA	NRC	Revision of Fee Schedules; Fee Recovery for FY 2002
2003	67 FR 76560	FRS	Transactions Between Member Banks and Their Affiliates
2005	69 FR 69325	FCC	Broadcast Services: Television Stations
2005	69 FR 77522	FCC	Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets
2005	69 FR 67823	FCC	Private Land Mobile Services; 800 MHz Public Safety Interference Proceeding
2005	69 FR 75144	FCC	Facilitating the Provision of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Telephone Companies to Provide Spectrum-Based Services
2005	70 FR 3110	FTC	Definitions and Implementation Under the CAN-SPAM Act
2006	70 FR 76414	FCC	Air-Ground Telecommunications Services
2006	71 FR 6214	FCC	Implementation of the Commercial Spectrum Enhancement Act and Modernization of the Commission's Competitive Bidding Rules and Procedures
2006	71 FR 30722	NRC	Revision of Fee Schedules; Fee Recovery for FY 2006
2007	72 FR 48814	FCC	Service Rules for the 698-806 MHz Band, Revision of the Commission's Rules Regarding Public Safety Spectrum Requirements, and a Declaratory Ruling on Reporting Requirement under the Commission's Anti-Collusion Rule
2007	72 FR 62123	FCC	Review of the Emergency Alert System
2007	72 FR 31402	NRC	Revision of Fee Schedules; Fee Recovery for FY 2007
2008	73 FR 1080	FCC	Exclusive Service Contracts for Provision of Video Services in Multiple Dwelling Units and Other Real Estate Developments
2008	73 FR 8617	FCC	Wireless E911 Location Accuracy Requirements
2008	73 FR 28361	FCC	Promoting Diversification of Ownership in the Broadcasting Services
2008	73 FR 33728	FCC	Public Safety and Homeland Security Bureau Establishes Post-Reconfiguration 800 MHz Band Plan for the US-Canada Border Regions
2009	74 FR 26077	FRS	Capital Adequacy Guidelines; Small Bank Holding Company Policy Statement: Treatment of Subordinated Securities Issued to the United States Treasury Under the Emergency Economic Stabilization Act of 2008
2009	73 FR 62851; 74 FR 26081	FRS	Capital Adequacy Guidelines: Treatment of Perpetual Preferred Stock Issued to the United States Treasury Under the Emergency Economic Stabilization Act of 2008

Fiscal Year	Federal Register Citation	Agency	Title
2009	74 FR 5244; 74 FR 36077	FRS	Truth in Lending
2010	75 FR 16580	FRS	Electronic Fund Transfers
2010	75 FR 31665	FRS	Electronic Fund Transfers
2010	75 FR 50683	FRS	Electronic Fund Transfers
2010	75 FR 37658	FRS	Truth in Lending
2010	75 FR 37526	FRS	Truth in Lending
2011	75 FR 81766	CPSC	Safety Standards for Full-Size Baby Cribs and Non-Full Sized Baby Cribs; Final Rule
2011	76 FR 43394	FRS	Debit Card Interchange Fees and Routing
2011	76 FR 43478	FRS	Debit Card Interchange Fees and Routing
2011	75 FR 50683	FRS	Electronic Fund Transfers
2011	76 FR 22948	FRS	Truth in Lending
2011	75 FR 68702	SEC	Regulation SHO
2012	77 FR 21278	CFTC	Customer clearing documentation, timing of acceptance for clearing, and clearing member risk management
2012	76 FR 69334	CFTC	Derivatives clearing organization general provisions and core principles
2012	77 FR 20128	CFTC	Swap dealer and major swap participant recordkeeping, reporting, and duties rules; futures commission merchant and introducing broker conflicts of interest rules; and chief compliance officer rules for swap dealers, major swap participants, and futures commission merchants
2012	77 FR 48208	CFTC/SEC	Further definition of "swap," "security-based swap," and "security-based swap agreement"; mixed swaps; security-based swap agreement recordkeeping
2012	76 FR 69482	CPSC	Testing and labeling pertaining to product certification
2012	77 FR 53060	Treas/ FRS/ FDIC	Risk-Based Capital Guidelines: Market Risk
2013	78 FR 21,750	CFTC	Clearing Exemption for Swaps Between Certain Affiliated Entities
2013	78 FR 2572	FCC	Special Access for Price Cap Local Exchange Carriers; AT&T Corporation Petition for Rulemaking To Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services
2013	78 FR 52,391	FRS	Supervision and Regulation Assessments for Bank Holding Companies and Savings and Loan Holding Companies With Total Consolidated Assets of $50 Billion or More and Nonbank Financial Companies Supervised by the Federal Reserve
2013	78 FR 13,097	NRC	Electric Power Research Institute; Seismic Evaluation Guidance
2013	78 FR 41,835	NRC	Inflation Adjustments to the Price-Anderson Act Financial Protection Regulations

Source: OMB Annual Reports to Congress on Major Federal Regulations.

Appendix B: Major Regulations Issued by Independent Regulatory Agencies with Information about Benefits or Costs but No Monetization

Fiscal Year	Federal Register Citation	Agency	Title
2003	68 FR 6006	SEC	Strengthening the Commission's Requirements Regarding Auditor Independence
2004	69 FR 47289	FRS	Availability of Funds and Collection of Checks
2007	71 FR 76580	SEC	Internal Control Over Financial Reporting in Exchange Act Periodic Reports of Non-Accelerated Filers and Newly Public Companies
2007	72 FR 35310	SEC	Amendments to the Rules Regarding Management's Report on Internal Control Over Financial Reporting
2008	72 FR 71546	SEC	Revisions to Rules 144 and 145
2008	73 FR 986	SEC	Acceptance from Foreign Private Issuers of Financial Statements Prepared in Accordance with International Financial Reporting Standards without Reconciliation to US GAAP
2008	73 FR 29045	SEC	Definition of Eligible Portfolio Company under the Investment Company Act of 1940
2008	73 FR 38094	SEC	Internal Control over Financial Reporting in Exchange Act Periodic Reports of Non-Accelerated Filers
2009	73 FR 61706	SEC	Amendments to Regulation SHO
2009	73 FR 60050	SEC	Commission Guidance and Revisions to the Cross-Border Tender Offer, Exchange Offer, Rights Offerings, and Business Combination Rules and Beneficial Ownership Reporting Rules for Certain Foreign Institutions
2009	73 FR 58300	SEC	Foreign Issuer Reporting Enhancements
2009	74 FR 6776	SEC	Interactive Data to Improve Financial Reporting
2010	74 FR 59,033	FRS	Electronic Fund Transfers
2010	75 FR 56,668	SEC	Facilitating Shareholder Director Nominations
2010	74 FR 53,628	SEC	Internal Control over Financial Reporting in Exchange Act Periodic Reports of Non-Accelerated Filers
2010	75 FR 10,060	SEC	Money Market Fund Reform
2011	76 FR 53172	CFTC	Whistleblower Incentives and Protection
2011	76 FR 4489	SEC	Disclosure for Asset-Backed Securities Required by Section 943 of the Dodd-Frank Wall Street Reform and Consumer Protection Act
2011	76 FR 4231	SEC	Issuer Review of Assets in Offerings of Asset-Backed Securities
2011	76 FR 42950	SEC	Rules Implementing Amendments to the Investment Advisers Act of 1940
2011	76 FR 34300	SEC	Whistleblowers Incentives and Protections
2012	77 FR 6194	CFPB	Electronic fund transfers (Regulation E)
2012	76 FR 79308	CFPB	Fair credit reporting (Regulation V)
2012	77 FR 9734	CFTC	Business conduct standards for swap dealers and major swap participants with counterparties
2012	76 FR 78776	CFTC	Investment of customer funds and funds held in an account for foreign futures and foreign options transactions

Fiscal Year	Federal Register Citation	Agency	Title
2012	77 FR 6336	CFTC	Protection of cleared swaps customer contracts and collateral; conforming amendments to the commodity broker bankruptcy provisions
2012	77 FR 1182	CFTC	Real-time public reporting of swap transaction data
2012	77 FR 2136	CFTC	Swap data recordkeeping and reporting requirements
2012	77 FR 35809	NRC	Revision of fee schedules; fee recovery for FY 2012
2012	77 FR 10358	SEC	Investment adviser performance compensation
2012	76 FR 81793	SEC	Net worth standard for accredited investors
2013	78 FR 6408	CFPB	Ability-to-Repay and Qualified Mortgage Standards Under the Truth in Lending Act (Regulation Z)
2013	78 FR 11280	CFPB	Loan Originator Compensation Requirements Under the Truth in Lending Act (Regulation Z)
2013	78 FR 10,696	CFPB	Mortgage Servicing Rules Under the Real Estate Settlement Procedures Act (Regulation X)
2013	78 FR 33,476	CFTC	Core Principles and Other Requirements for Swap Execution Facilities
2013	8 FR 55,340	FDIC	Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk-weighting Assets, Market Discipline and Disclosure Requirements, Advanced
2013	78 FR 39,462	NRC	Revision of Fee Schedules; Fee Recovery for Fiscal Year 2013
2013	78 FR 51,910	SEC	Broker-Dealer Reports
2013	78 FR 44,730	SEC	Disqualification of Felons and Other "Bad Actors" From Rule 506 Offerings
2013	78 FR 44,771	SEC	Eliminating the Prohibition Against General Solicitation and General Advertising in Rule 506 and Rule 144A Offerings
2013	78 FR 51,824	SEC	Financial Responsibility Rules for Broker-Dealers
2013	78 FR 67,468	SEC	Registration of Municipal Advisors

Source: OMB Annual Reports to Congress on Major Federal Regulations.

Endnotes

1. Moore, J. (1995). "Cost-Benefit Analysis: Issues in Its Use in Regulation." Congressional Research Service.
2. Copeland, C. (2011). "Cost-Benefit and Other Analysis Requirements in the Rulemaking Process." Congressional Research Service, Report R-41974: August 30, 2011.
3. *Ibid*.
4. *Ibid*.
5. *The Economist* (2009). "Cost-Benefit Analysis." September 15, 2009.
6. Kneese, A. (1985). "Methods Development for Environmental Control Benefits Assessment Volume I: Measuring the Benefits of Clean Air and Water." Resources for the Future.
7. Stabile, D. (2007). "Economics, Competition, and Academia: An Intellectual History of Sophism Versus Virtue." Chapter 6: Corporate Capitalism and the University as a Business. Edward Elgar Publishing: Northampton, MA.
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9. *Ibid*.
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11. Graham, J. (2008). "Saving Lives through Administrative Law and Economics." *University of Pennsylvania Law Review,* 157(2), December 2008.
12. "Regulatory Impact Analysis: A Primer." Supplement to Circular A-4. Published August 15, 2011.
13. *Ibid*.
14. Weidenbaum, M. (1997). "Regulatory Process Reform: From Ford to Clinton." Cato Institute.
15. Office of Management and Budget (1997). "Report to Congress on the Costs and Benefits of Federal Regulations."
16. Executive Order 11821: Inflation Impact Statements (1974).
17. Office of Management and Budget (1997).
18. Executive Order 12291: Federal Regulation (1981); Copeland (2011).
19. Weidenbaum (1997).
20. *Ibid*.
21. For some rules, the formal review period may last longer than 90 days. For example, the OMB director may request a 30-day extension, and the review process can be extended indefinitely at the request of the issuing agency. Moreover, the 90-day review period does not commence until the agency formally submits the regulation, but in some cases the agency may seek OIRA's comments informally to ensure that its analysis conducted to support the rule is sufficiently robust. Unlike the results of the formal review, informal reviews are generally not publicly available. Finally, there are no clear consequences if OIRA fails to meet a review deadline (e.g., the rule is not automatically enacted if OIRA is unable to complete its formal review in the allotted time), which can lead to lengthier review periods.
22. Executive Order 12866: Regulatory Planning and Review (1993). 58 FR 51735, 3 CFR.
23. Cost-effectiveness analysis is an appropriate tool when attempting to achieve a defined set of benefits at the lowest possible cost. The central difference between a CBA and a cost-effectiveness analysis is that in a CBA, policy alternatives typically produce varying levels of costs and benefits, whereas in a cost-effectiveness analysis, a benefits target is established and alternatives are evaluated based on the varying cost of achieving the target. See Tietenberg, T. (2000). "Environmental and Natural Resource Economics" (Fifth Edition). Addison-Wesley: Reading, MA.
24. Executive Order 13272: Proper Consideration of Small Entities in Agency Rulemaking (2002). 67 FR 53461, 3 CFR.
25. Executive Order 13563: Improving Regulation and Regulatory Review (2011). 76 FR 3821, 3 CFR; Executive Order 13579: Regulation and Independent Regulatory Agencies (2011). 76 FR 41587, 3 CFR.
26. Small Business Administration (2010). "The RFA in a Nutshell: A Condensed Guide to the Regulatory Flexibility Act."

27. Before issuing a final rule, agencies are generally required to publish an NPRM in the Federal Register, as specified in the Administrative Procedure Act (APA). However, there are exceptions to this requirement. For example, GAO notes that the "APA recognizes that there are circumstances, such as responding to an emergency situation like a natural disaster, when providing for notice and comment might not be appropriate before issuing a final rule, because expediting the rulemaking process is important to the efficiency and effectiveness of agencies' activities. Therefore, the APA allows agencies to issue final rules without the use of an NPRM in certain cases, including when the agency determines for 'good cause' that notice and comment procedures are 'impracticable, unnecessary, or contrary to the public interest.' Agencies often invoke 'good cause,' for example, when Congress prescribes the content of a rule by law, such that prior notice and public comment could not influence the agency's action and would serve no useful function." For more information, see GAO (2012). "Agencies Could Take Additional Steps to Respond to Public Comments." GAO-13-21.
28. Copeland (2011).
29. *Ibid.*
30. U.S. General Accounting Office (1998). "Unfunded Mandates: Reform Act Has Had Little Effect on Agencies' Rulemaking Actions." GAO/GGD-98-30.
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32. Office of Management and Budget (2014). "2014 Draft Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities."
33. Executive Order 12866.
34. The definition of an "economically significant" regulatory action contained in E.O. 12866 is very similar to the definition of a "major rule," although the two terms are derived from separate documents. Specifically, the Congressional Review Act defines a major rule as one that produces "(1) an annual effect on the economy of $100 million or more; (2) a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or (3) significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic and export markets." For more information, see Copeland (2011).
35. Office of Management and Budget (2003). "Circular A-4: Regulatory Analysis."
36. *Whitman v. American Trucking Associations* (2001). 531 U.S. 457 (2001).
37. Executive Order 12866; Office of Management and Budget (2003).
38. Office of Management and Budget (2003).
39. Copeland (2011).
40. Office of Management and Budget (2003).
41. Executive Order 12866.
42. *Ibid.*
43. For regulations that have intergenerational effects (e.g., climate change regulations), agencies may consider using a lower (but positive) discount for the purpose of sensitivity analysis, in addition to the 3 percent and 7 percent rates.
44. According to OMB guidance, the term "distributional effects" refers to the impact of a regulatory action across the population and economy, divided up in various ways (e.g., income groups, race, sex, industrial sector, geography).
45. Office of Management and Budget (2003).
46. *Ibid.*
47. *Ibid.*
48. *Ibid.*
49. *Ibid.*
50. Office of Management and Budget (2012). "Cumulative Effects of Regulations." Memorandum for the Heads of Executive Departments and Agencies. Issued March 20, 2012.

51. *Ibid*.

52. Office of Management and Budget (2003).

53. *Ibid*.

54. Other examples of transfer payments include scarcity rents and monopoly profits, insurance and Social Security payments, and indirect taxes and subsidies.

55. OMB Circular A-4 states that "a regulation that restricts the supply of a good, causing its price to rise, produces a transfer from buyers to sellers. The net reduction in the total surplus (consumer plus producer) is a real cost to society, but the transfer from buyers to sellers resulting from a higher price is not a real cost since the net reduction automatically accounts for the transfer from buyers to sellers."

56. Office of Management and Budget (2003).

57. Office of Management and Budget (2011). As OMB notes, "distinguishing between real costs and transfer payments is an important, but sometimes difficult, problem in cost estimation." To clarify these concepts, OMB provides the following example: "Consider a regulation that taxes an air pollutant that is harmful to human health and is a by-product of some manufacturing process. In response to the tax, firms modify their manufacturing process to reduce (but not eliminate) the pollutant. The benefits of the regulation are reductions in premature death, illness, and disability resulting from the decreased emission of the regulated pollutant, as well as benefits to ecosystems, improvements in visibility, and so on. The cost of the regulation is equal to the cost to firms of modifying their production process (e.g., purchasing abatement technology). The taxes paid on the pollutant by the firm to the government are a transfer and have no effect on the net benefits of the regulation."

58. Executive Order 12866.

59. Office of Management and Budget (2011).

60. Office of Management and Budget (2003).

61. Copeland, C. (2013). "Length of Rule Reviews by the Office of Information and Regulatory Affairs." Administrative Conference of the United States.

62. Government Accountability Office (2014). "Federal Regulation: Regulatory Review Processes Could Be Enhanced." Testimony before U.S. Senate Subcommittee on the Efficiency and Effectiveness of Federal Programs and the Federal Workforce, Committee on Homeland Security and Governmental Affairs. GAO-14-423T.

63. Each of OMB's annual reports to Congress on federal regulations contains information on every major rule the agency reviewed in the previous fiscal year, including the issuing agency; the rule title and unique identifier; whether the rule was a transfer rule or a nontransfer rule; the extent to which costs, benefits and transfers were quantified and monetized; and if available, the monetized estimates. Using these reports, BRT developed a comprehensive database of every major rule OMB reviewed in each fiscal year, including rules issued by noncovered agencies. This database is the basis for the figures and charts in this section.

64. Office of Management and Budget (2011).

65. Executive Order 13579.

66. *Ibid*.

67. Copeland (2011). These statutes include (but are not limited to) the Securities Exchange Act, the National Securities Market Improvement Act, the Riegle Act and the Commodities Exchange Act.

68. *Ibid*.

69. The SEC is obligated under the Exchange Act to consider the effect of a new rule on "efficiency, competition and capital formation." In 2011, the D.C. Court of Appeals ruled that "[SEC's] failure to apprise itself … of the economic consequences of a proposed regulation makes promulgation of rule arbitrary and capricious and not in accordance with law." See *Business Roundtable v. SEC* (U.S. Court of Appeals for the District of Columbia Circuit; July 2011). Following this decision, SEC issued internal guidance on conducting economic analysis for its rulemakings which, while not as robust as OMB Circular A-4, generally promotes CBA principles.

70. Posner, E., and Weyl, E.G. (2013). "The Case for Cost-Benefit Analysis of Financial Regulations." *Regulation*. Winter 2013–14 Issue.

71. *Ibid.*

72. For example, see the Regulatory Accountability Act (H.R. 2122 and S. 1029) and the Independent Agency Regulatory Analysis Act (S. 1173) of the 113th Congress.

73. See Administrative Conference of the United States, Recommendation 88-9, "Presidential Review of Agency Rulemaking," 54 Fed. Reg. 5207 (February 2, 1989), ¶ 2; National Academy of Public Administration, "Presidential Management of Rulemaking in Regulatory Agencies" (January 1987), American Bar Association, Recommendation 302 (August 7–8, 1990).

74. Dudley, S. (2013). "OMB's Reported Benefits of Regulation: Too Good to Be True?" *Regulation,* 36(2), Summer 2013.

75. *Ibid.*

76. *Ibid.*

77. Smith, A. (2011). "An Evaluation of the PM2.5 Health Benefits Estimates in Regulatory Impact Analyses for Recent Air Regulations." NERA Economic Consulting, December 2011.

78. Office of Management and Budget (2014).

79. For example, consider a scenario in which two proposed rules, A and B, would each enact tighter air quality standards by regulating a different type of pollution and both rely on ancillary $PM_{2.5}$ reductions as their primary source of benefits. If the regulatory impact analysis for Rule A fails to account for the effect of Rule B (or vice versa), then the combined $PM_{2.5}$-related benefits are likely to be overstated due to double-counting.

80. Smith (2011).

81. *Ibid.*

82. Office of Management and Budget (2003).

83. *Ibid.*

84. Office of Management and Budget (2014).

85. Dudley (2013).

86. Office of Management and Budget (2014).

87. See, for example, Fraas, A., and Lutter, R. (2013). "Uncertain Benefits Estimates for Reductions in Fine Particle Concentrations." *Risk Analysis,* 33(3); and Smith (2011).

88. Environmental Protection Agency (2010). "Technical Support Document: Summary of Expert Opinions on the Existence of a Threshold in the Concentration-Response Function for $PM_{2.5}$-Related Mortality." June 2010.

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101. In 2005, OMB employed a methodology developed by Harrington, Morgenstern and Nelson to compare *ex-ante* and *ex-post* estimates of the costs and benefits of 47 rules and found that, while agencies tend to overestimate both costs and benefits in their RIAs, the benefit overestimates are larger than the cost overestimates — thereby causing agencies to overstate cost-benefit ratios for these rules. In a similar follow-up study, Harrington agreed with OMB that agencies tend to overestimate both costs and benefits but did not find evidence of a systematic bias in cost-benefit ratios. See Office of Management and Budget (2005). "Validating Regulatory Analysis: 2005 Report to Congress on the Costs and Benefits of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities"; and Harrington, W. (2006). "Grading Estimates of the Costs and Benefits of Federal Regulation: A Review of Reviews." Resources for the Future, RFF DP 06-39, September 2006.

102. Office of Management and Budget (2003).

103. *Ibid*.

104. *Ibid*.

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108. Business Roundtable (2013). "Major Regulations of Concern." Published November 19, 2013. Available at http://businessroundtable.org/issues/smart-regulation/major-regulations-concern. Other factors BRT considered in selecting rules for inclusion in the study include diversity of authoring agencies (i.e., avoiding a sample consisting of a single agency), the regulation's scope (i.e., national vs. regional), the extent to which cost and benefit ranges overlap, and a preliminary assessment of the CBA's transparency.

109. None of the four rules were classified as transfer rules, but OMB requires covered agencies to monetize transfer payments even for nontransfer rules.

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111. *Ibid*.

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