

**2015 Draft Report to Congress on the Benefits
and Costs of Federal Regulations and Agency
Compliance with the Unfunded Mandates
Reform Act**



2015

OFFICE OF MANAGEMENT AND BUDGET
OFFICE OF INFORMATION AND REGULATORY AFFAIRS

**2015 DRAFT REPORT TO CONGRESS
ON THE BENEFITS AND COSTS OF FEDERAL REGULATIONS AND
AGENCY COMPLIANCE WITH THE UNFUNDED MANDATES REFORM ACT**

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EXECUTIVE SUMMARY

The Regulatory Right-to-Know Act calls for the Office of Management and Budget (OMB) to submit to Congress each year “an accounting statement and associated report” including:

- (A) an estimate of the total annual benefits and costs (including quantifiable and nonquantifiable effects) of Federal rules and paperwork, to the extent feasible:
 - (1) in the aggregate;
 - (2) by agency and agency program; and
 - (3) by major rule;
- (B) an analysis of impacts of Federal regulation on State, local, and tribal government, small business, wages, and economic growth; and
- (C) recommendations for reform.

The Regulatory Right-to-Know Act does not define “major rule.” For the purposes of this Report, we define major rules to include all final rules promulgated by an Executive Branch agency that meet any one of the following three conditions:

- Rules designated as major under 5 U.S.C. § 804(2);¹
- Rules designated as meeting the analysis threshold under the Unfunded Mandates Reform Act of 1995 (UMRA);² or
- Rules designated as “economically significant” under section 3(f)(1) of Executive Order 12866.³

This report covers cost and benefits through FY 2014. The principal findings of this Report are as follows.

- The estimated annual benefits of major Federal regulations reviewed by OMB from October 1, 2004, to September 30, 2014,⁴ for which agencies estimated and

¹A major rule is defined in Subtitle E of the Small Business Regulatory Enforcement Fairness Act of 1996 as a rule that is likely to result in: "(A) an annual effect on the economy of \$100,000,000 or more; (B) a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or (C) 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." P.L. 104-121 Sec. 804, 5 U.S.C. § 804(2). In order for a rule to take effect, agencies must submit a report to each House of Congress and GAO and make available “a complete copy of any cost-benefit analysis of the rule.”

²A written statement containing a qualitative and quantitative assessment of the anticipated benefits and costs of the Federal mandate is required under the Section 202(a) of the Unfunded Mandates Reform Act of 1995 for all rules that may result in: "the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100,000,000 or more (adjusted annually for inflation) in any one year." 2 U.S.C. § 1532(a).

³A regulatory action is considered “economically significant” under Executive Order 12866 § 3(f)(1) if it is likely to result in a rule that may have: "an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities."

⁴We explain later in the Report that OMB chose a ten-year period for aggregation because pre-regulation estimates prepared for rules adopted more than ten years ago are of questionable relevance today.

monetized both benefits and costs⁵, are in the aggregate between \$216 billion and \$812 billion, while the estimated annual costs are in the aggregate between \$57 billion and \$85 billion. These ranges are reported in 2001 dollars and reflect uncertainty in the benefits and costs of each rule at the time that it was evaluated.

- Some rules are anticipated to produce far higher net benefits than others. Moreover, there is substantial variation across agencies in the total net benefits expected from rules. A significant majority of rules have net benefits, but over the last decade, a few rules have had net costs. These rules are typically the result of legal requirements.
- During fiscal year 2014 (FY 2014), executive agencies promulgated 54 major rules, of which 35 were “transfer” rules – rules that primarily caused income transfers. Most transfer rules implement Federal budgetary programs as required or authorized by Congress, such as rules associated with the Medicare Program and the Federal Pell Grant Program. More information about these 54 major rules follows:

For thirteen rules, the issuing agencies quantified and monetized both benefits and costs. Those thirteen rules were estimated to result in a total of \$8.1 billion to \$18.9 billion in annual benefits and \$2.5 billion to \$3.7 billion in annual costs.

For two rules, the issuing agency was able to quantify and monetize only benefits.

For three rules, the issuing agencies were able to quantify and monetize only costs, in two cases only partially.

For one rule, the issuing agencies were able to quantify and monetize neither costs nor benefits.

For the 35 transfer rules, in 32 cases the issuing agencies quantified and monetized the transfer amounts. (The transfer amounts reflect the principal economic consequences of such rules.)

- The independent regulatory agencies, whose regulations are not subject to OMB review under Executive Orders 12866 and 13563, issued 17 major final rules in FY 2014. The majority of rules were issued to regulate the financial sector.
- The estimated annual net benefits of major Federal regulations reviewed by OMB from January 21, 2009, to September 30, 2014 (this Administration), for which agencies estimated and monetized both benefits and costs, is approximately \$215 billion.

⁵ There are two rules for which OMB has monetized quantified agency estimates: EPA’s Clean Air Visibility Rule (2006 Report) and Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (2007 Report). Please see Table I-4 in both reports for details about specific adjustments.

It is important to emphasize that the estimates used here have significant limitations. In some cases, quantification or monetization is not feasible. When agencies have not quantified or monetized the primary benefits or costs of regulations, it is generally because of conceptual and empirical challenges, including an absence of relevant information. Many rules have benefits or costs that cannot be quantified or monetized with existing information, and the aggregate estimates presented here do not capture those non-monetized benefits and costs. In some cases, quantification of various effects is highly speculative. For example, it may not be possible to quantify the benefits of certain disclosure requirements, even if those benefits are likely to be large, simply because the impact of some of these requirements cannot be specified in advance. In other cases, monetization of particular categories of benefits (such as protection of homeland security or personal privacy) can present significant challenges. As Executive Order 13563 recognizes, some rules produce benefits that cannot be adequately captured in monetary equivalents. In fulfilling their statutory mandates, agencies must sometimes act in the face of substantial uncertainty about the likely consequences.

OMB emphasizes that careful consideration of costs and benefits is best understood as a pragmatic way of helping to ensure that regulations will improve social welfare, above all by informing the design and consideration of various options so as (1) to determine whether additional regulation is appropriate and (2) to identify the opportunities for minimizing the costs of achieving a social goal (cost-effectiveness) and maximizing net social benefits (efficiency). Executive Order 13563 states that to the extent permitted by law, each agency must “propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs (recognizing that some benefits and costs are difficult to quantify)” and that agencies “select, in choosing among alternative regulatory approaches, those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity).” These requirements, like all others in the Executive Order, apply only to the extent permitted by law; many regulations are issued as a result of statutory requirements or court order, which may sharply limit agency discretion.

Chapter I summarizes the benefits and costs of major regulations issued between October 1, 2004 and September 30, 2014 and examines in more detail the benefits and costs of major Federal regulations issued in fiscal year 2014. It also discusses regulatory impacts on State, local, and tribal governments, small business, wages, and economic growth. Chapter II provides discusses recommendations for reform.

This Report is being issued along with OMB’s Eighteenth Annual Report to Congress on Agency Compliance with the Unfunded Mandates Reform Act (UMRA) (Pub. L. No. 104-4, 2 U.S.C. § 1538). OMB reports on agency compliance with Title II of UMRA, which requires that each agency conduct a cost-benefit analysis and select the least costly, most cost-effective, or least burdensome alternative before promulgating any proposed or final rule that may result in expenditures of more than \$100 million (adjusted for inflation) in any one year by State, local, and tribal governments, or by the private sector. Each agency must also seek input from State, local, and tribal governments.

Upon publication of this draft report at www.whitehouse.gov/omb/inforeg_regpol_reports_congress/, OMB will request public comment via a *Federal Register* notice and will seek input from peer reviewers with expertise in areas

related to regulatory policy or cost-benefit analysis. The final version of this report will include revisions made in response to public and peer reviewer comments, and will—like the draft report—be posted on the White House website.

**PART I: 2015 REPORT TO CONGRESS
ON THE BENEFITS AND COSTS OF
FEDERAL REGULATIONS**

Chapter I: The Benefits and Costs of Federal Regulations

This chapter consists of two parts: (A) the accounting statement and (B) a brief report on regulatory impacts on State, local, and tribal governments, small business, and wages. Part A revises the benefit-cost estimates in last year's Report by updating the estimates to the end of FY 2014 (September 30, 2014). As in previous Reports, this chapter uses a ten-year lookback. Estimates are based on the major regulations (for which the regulatory agency monetized both benefits and costs) that were reviewed by OMB from October 1, 2004 to September 30, 2014.⁶ For this reason, nine rules reviewed from October 1, 2003 to September 30, 2004 (fiscal year 2004) were included in the totals for the 2014 Report but are not included in this Report. A list of these fiscal year 2004 (FY 2004) rules can be found in Appendix B (see Table B-1). The removal of the nine FY 2004 rules from the ten-year window is accompanied by the addition of thirteen FY 2014 rules.

As has been the practice for many years, all estimates presented in this chapter are agency estimates of benefits and costs, or minor modifications of agency information performed by OMB.⁷ This chapter also includes a discussion of major rules issued by independent regulatory agencies, although OMB does not review these rules under Executive Orders 13563 and 12866.⁸ This discussion is based solely on data provided by these agencies to the Government Accountability Office (GAO) under the Congressional Review Act.

In the past, we have adjusted estimates to 2001 dollars, the requested format in OMB Circular A-4. Starting last year, we began reporting most of the numbers in this chapter in both 2010 and 2001 dollars, in order to provide estimates that are close to current year dollars.

Aggregating benefit and cost estimates of individual regulations produces results that are neither precise nor complete, nor, in some cases, conceptually sound. Six points deserve emphasis.

1. Individual regulatory impact analyses vary in rigor and may rely on different assumptions, including baseline scenarios, methods including models, and data. Summing across estimates involves the aggregation of analytical results that are not comparable. While important inconsistencies across agencies have been reduced over

⁶All previous Reports are available at: http://www.whitehouse.gov/omb/inforeg_regpol_reports_congress/.

⁷ OMB used agency estimates where available. We note that those estimates were typically subject to internal review (through the process required by Executive Order 12866) and external review (through the public comment process). The benefit and cost ranges represent lowest and highest agency estimates among all the estimates using both 3 and 7 percent discount rates. When agencies do not provide central estimates but do provide ranges for benefit and cost estimates, we take the mean of the lowest and the highest values irrespective of the discount rates. Historically, if an agency quantified but did not monetize estimates, we used standard assumptions to monetize them, as explained in Appendix A. All amortizations are performed using discount rates of 3 and 7 percent, unless the agency has already presented annualized, monetized results using a different explicit discount rate. OMB did not independently estimate benefits or costs when agencies did not provide quantified estimates. The estimates presented here rely on the state of the science at the time the Regulatory Impact Analyses (RIAs) were published. We do not update or recalculate benefit and cost numbers based on current understanding of science and economics.

⁸Section 3(b) of Executive Order 12866 excludes "independent regulatory agencies as defined in 44 U.S.C. 3502(10)" from OMB's regulatory review purview.

time, OMB continues to investigate possible inconsistencies and seeks to identify and to promote best practices. Executive Order 13563 emphasizes the importance of such practices and of quantification, directing agencies to “use the best available techniques to quantify anticipated present and future benefits and costs as accurately as possible.” For example, all agencies draw on the existing economic literature for valuation of reductions in mortality and morbidity, but the technical literature has not converged on uniform figures, and consistent with the lack of uniformity in that literature, such valuations vary somewhat (though not dramatically) across agencies. Some agencies provide information on the stream of effects whereas other agencies provide information at specific points in time. Later in this document we provide additional discussion of the uncertainty inherent in quantifying the value of a statistical life.

2. For comparisons or aggregations to be meaningful, benefit and cost estimates should correctly account for all substantial effects of regulatory actions including implementation periods, some of which may not be reflected in the available data. In addition to unquantified benefits and costs, agency estimates reflect the uncertainties associated with the agency’s assumptions and other analytic choices.
3. As we have noted, it is not always possible to quantify or to monetize relevant benefits or costs of rules in light of limits in existing information. For purposes of policy, non-monetized benefits and costs may be important. Some regulations have significant non-quantified or non-monetized benefits (such as protection of privacy, human dignity, and equity) and costs (such as opportunity costs associated with reduction in product choices or product bans) that are relevant under governing statutes and that may serve as a key factor in an agency’s decision to promulgate a particular rule.
4. Prospective analyses may overestimate or underestimate both benefits and costs; retrospective analysis can be important as a corrective mechanism.⁹ Executive Orders 13563 and 13610 specifically call for such analysis, with the goal of improving relevant regulations through modification, streamlining, expansion, or repeal. The result should be a greatly improved understanding of the accuracy of prospective analyses, as well as corrections to rules as a result of ex post evaluations. A large priority is the development of methods (perhaps including not merely before-and-after accounts but also randomized trials, to the extent feasible and consistent with law) to obtain a clear sense of the effects of rules. In addition, and importantly, rules should be written and designed, in advance, so as to facilitate retrospective analysis of their effects, including consideration of the data that will be needed for future evaluation of the rules’ ex post costs and benefits.
5. While emphasizing the importance of quantification, Executive Order 13563 also refers to “values that are difficult or impossible to quantify, including equity, human dignity, fairness, and distributive impacts.” As Executive Order 13563 recognizes, such values may be appropriately considered under relevant law. Using examples from the recent past, if a rule would prevent the denial of health insurance to children with preexisting conditions, or allow wheelchair-bound workers to have access to

⁹ See Greenstone (2009).

- bathrooms, a consideration of dignity is involved, and relevant law may require or authorize agencies to take that consideration into account. If a regulation would disproportionately help or hurt those at the bottom of the economic ladder, or those who are suffering from some kind of acute condition or extreme deprivation, relevant law may require or authorize agencies to take that fact into account. So far as we are aware, there is only limited analysis of the distributional effects of regulation in general or in significant domains;¹⁰ such analysis could prove illuminating.
6. The most fundamental purpose of a regulatory impact analysis is to inform policy options at the time a regulatory decision is being made; however, analytic approaches that serve this purpose may not readily lend themselves to aggregation, especially in cases where regulations interact with each other or with non-regulatory policy actions. For example, in areas where regulatory authority is divided amongst multiple agencies (e.g., food safety between the Department of Agriculture and the Food and Drug Administration, or worker safety among the Occupational Safety and Health Administration, the Mine Safety and Health Administration, and others), Agency A might craft a rule for its realm of authority that refers to, rather than simply equals, a standard set for some other realm by Agency B. In analyzing such a rule, Agency A should estimate impacts that would result from various substantive and timing-related possibilities for future changes by B of its policy; to do otherwise would give the misleading impression that A's codification of a reference to B's standard is an identical policy choice—as regards costs, benefits and other impacts that could be experienced in the course of time—to setting a standard that equals B's at the time of A's rulemaking activity and will remain at that level regardless of B's actions. If Agency B later revises its regulatory standard, B would appropriately assess impacts resulting from compliance activities by entities or individuals regulated by Agency A; to do otherwise would provide an incorrect summary of the difference between the state of the world in the presence and in the absence of B's rulemaking. Although impact analyses that follow these approaches would be appropriately informative at the time of decision-making for Agencies A and B, summing the results would yield double-counting of certain effects and thus would provide a misleading assessment of the rules' cumulative impact.

A. Estimates of the Aggregated Annual Benefits and Costs of Regulations Reviewed by OMB over the Last Ten Years

1. In General

From fiscal year 2005 (FY 2005) through FY 2014, Federal agencies published 36,457 final rules in the *Federal Register*.¹¹ OMB reviewed 2,851 of these final rules under Executive

¹⁰ See, e.g., Kahn (2001); Adler (2011) offers relevant theoretical discussion.

¹¹ This count includes all final and interim final rules from all Federal agencies (including independent agencies).

Orders 12866 and 13563.¹² Of these OMB-reviewed rules, 549 are considered major rules, primarily as a result of their anticipated impact on the economy (i.e., an impact of \$100 million in at least one year). It is important to emphasize that many major rules are budgetary transfer rules,¹³ and may not impose significant regulatory costs on the private sector.

The class of “economically significant” rules is broader than the class of rules that impose \$100 million or more in costs on the private sector. We include in our 10-year aggregate of annualized benefits and costs of regulations rules that meet two conditions:¹⁴ (1) each rule was estimated to generate benefits or costs of approximately \$100 million, or more, in at least one year; and (2) a substantial portion of its benefits and costs were quantified and monetized by the agency or, in some cases, monetized by OMB. The estimates are therefore not a complete accounting of all the benefits and costs of all regulations issued by the Federal Government during this period.¹⁵ Table 1-1 presents estimates of the total annualized benefits and costs of 120 regulations reviewed by OMB over the ten-year period from October 1, 2004, to September 30, 2014, broken down by issuing agency.

As discussed in previous Reports, OMB chose a ten-year period for aggregation because pre-regulation estimates prepared for rules adopted more than ten years ago are of questionable relevance today. The estimates of the benefits and costs of Federal regulations over the period October 1, 2004, to September 30, 2014, are based on agency analyses conducted prior to issuance of the regulation and subjected to public notice, comments, and OMB review under Executive Orders 12866 and 13563.

In assembling these tables of estimated benefits and costs, OMB applied a uniform format for the presentation to make agency estimates more closely comparable with each other (for example, annualizing benefit and cost estimates). OMB monetized quantitative estimates where the agency did not do so. For example, for a few rulemakings within the ten-year window of this Report, we have converted agency projections of quantified benefits, such as estimated

¹² Counts of OMB reviewed rules are available through the “review counts” and “search” tools on OIRA’s regulatory information website (www.reginfo.gov). In addition, the underlying data for these counts are available for download in XML format on the website.

¹³ Budgetary transfer rules are rules that primarily cause income transfers usually from taxpayers to program beneficiaries.

¹⁴ OMB discusses, in this Report and in previous Reports, the difficulty of estimating and aggregating the benefits and costs of different regulations over long time periods and across many agencies using different methodologies for quantification and monetization as well as for addressing uncertainty. Any aggregation involves the assemblage of benefit and cost estimates that are not strictly comparable. In part to address this issue, the 2003 Report included OMB’s new regulatory analysis guidance, OMB Circular A-4, which took effect on January 1, 2004 for proposed rules and January 1, 2005 for final rules. The guidance recommends what OMB defines as “best practices” in regulatory analysis, with a goal of strengthening the role of science, engineering, and economics in rulemaking. The overall goal of this guidance is a more transparent, accountable, and credible regulatory process and a more consistent regulatory environment. OMB continues to work with the agencies in applying this guidance to their impact analyses.

¹⁵ In many instances, agencies were unable to quantify all benefits and costs. We have included information about these unquantified effects on a rule-by-rule basis in the columns titled “Other Information” in Appendix A of this report. The monetized estimates we present necessarily exclude these unquantified effects.

injuries avoided per year or tons of pollutant reductions per year, to dollars using the valuation estimates discussed in Appendix B of our 2006 Report.¹⁶

Table 1-1: Estimates of the Total Annual Benefits and Costs of Major Federal Rules by Agency, October 1, 2004 - September 30, 2014 (billions of 2001 or 2010 dollars)¹⁷

Agency	Number of Rules	Benefits		Costs	
		2001\$	2010\$	2001\$	2010\$
Department of Agriculture	4	\$0.9 to \$1.2	\$1.0 to \$1.4	\$0.8 to \$1.2	\$1.0 to \$1.4
Department of Energy	20	\$13.6 to \$24.0	\$16.4 to \$29.0	\$5.2 to \$7.5	\$6.3 to \$9.0
Department of Health and Human Services	16	\$14.6 to \$29.7	\$17.7 to \$35.9	\$1.0 to \$4.1	\$1.2 to \$4.9
Department of Homeland Security	2	\$0 to \$0.5	\$0 to \$0.6	\$0.1 to \$0.3	\$0.1 to \$0.3
Department of Housing and Urban Development	1	\$2.3	\$2.8	\$0.9	\$1.1
Department of Justice	4	\$1.8 to \$4.0	\$2.1 to \$4.8	\$0.8 to \$1.0	\$1.0 to \$1.3
Department of Labor	8	\$7.3 to \$21.4	\$8.9 to \$25.8	\$2.3 to \$5.1	\$2.7 to \$6.2
Department of Transportation (DOT) ¹⁸	28	\$15.4 to \$27.2	\$18.7 to \$32.9	\$7.0 to \$13.5	\$8.5 to \$16.3
Environmental Protection Agency (EPA) ¹⁹	32	\$132.5 to \$651.8	\$160.2 to \$787.7	\$31.1 to \$37.5	\$37.6 to \$45.4

¹⁶ The 2006 Report is available at http://www.whitehouse.gov/omb/inforeg_regpol_reports_congress/. For example, the emission reductions associated with EPA's Clean Air Visibility Rule and Standards of Performance for Stationary Compression Ignition Internal Combustion Engines were monetized using the valuation estimates discussed in the 2006 Report. We note that there are discussions regarding the scientific assumptions underlying the benefits per ton numbers that we use to monetize benefits that were not monetized. If, for instance, assumptions similar to those described at <http://www.epa.gov/air/benmap/bpt.html> were used, these estimates would be higher.

¹⁷ Benefit and cost values were converted from 2001 dollars to 2010 dollars using Gross Domestic Product implicit price deflators from the Bureau of Economic Analysis.

¹⁸ This total excludes FMCSA's 2010 Electronic On-Board Recorders for Hours-of-Service Compliance rule. The rule was vacated on Aug. 26, 2011, by the U.S. Court of Appeals for the Seventh Circuit. To avoid double counting, this total also excludes FMCSA's 2009 Hours of Service rule, which finalized the provisions of the 2005 final rule included in the final count of rules.

¹⁹ This total includes the impacts of EPA's 2005 Clean Air Interstate Rule (CAIR). CAIR was initially vacated by the U.S. Court of Appeals for the District of Columbia Circuit, see *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008) (per curiam), but in a later decision on rehearing the court modified the remedy to remand without vacatur, thus allowing EPA to continue to administer CAIR pending further rulemaking, see *North Carolina v. EPA*, 550 F.3d 1176 (D.C. Cir. 2008) (per curiam). On July 6, 2011, EPA finalized the Cross-State Air Pollution Rule (CSAPR), which responded to the remand in *North Carolina* and was designed to replace CAIR. On August 21,

Agency	Number of Rules	Benefits		Costs	
		2001\$	2010\$	2001\$	2010\$
Joint DOT and EPA	3	\$27.3 to \$49.6	\$33.0 to \$59.9	\$7.3 to \$14.0	\$8.9 to \$16.9
Total	120	\$215.9 to \$811.7	\$260.9 to \$981.0	\$56.6 to \$85.1	\$68.4 to \$102.9

2012, a divided panel of the D.C. Circuit vacated CSAPR while again keeping CAIR in place pending further EPA action. See *EME Homer City Generation, L.P. v. EPA*, 696 F.3d 7 (D.C. Cir. 2012). On April 29, 2014, The U.S. Supreme Court reversed the DC Circuit opinion vacating CSAPR. On June 26, 2014, the U.S. Supreme Court filed a motion with the U.S. Court of Appeals for the D.C. Circuit to lift the stay on CSAPR. On Oct 23, 2014, the U.S. Court of Appeal for the D.C. Circuit ordered that EPA’s motion to lift the stay of CSAPR be granted. The U.S. Supreme Court recently sent the case back to the D.C. Circuit to entertain arguments that had not been decided earlier. The U.S. Court of Appeals for the D.C. Circuit issued its opinion on the remaining issues raised with respect to CSAPR on July 28, 2015. EPA is currently reviewing this decision and will determine further agency action. The CSAPR Phase 1 implementation is now scheduled for 2015, with Phase 2 beginning in 2017, following the lift of the stay.

We recognize that the attribution and accounting raises some complex questions, and that on one view, not taken here, our approach greatly understates the net benefits of CSAPR – on that view, it does so by tens of billions of dollars. For the purposes of this Report, we have attributed the benefits and costs of the two rules on an incremental basis. A certain amount of equipment has been installed under CAIR, and we attributed both the costs and benefits due to those controls to CAIR. For CSAPR, which is about 30% more stringent than CAIR, we attributed its costs and benefits only due to the additional equipment required over and above the requirements of CAIR.

This total also excludes EPA’s 2004 “National Emission Standards for Hazardous Air Pollutants: Industrial/Commercial/Institutional Boilers and Process Heaters.” On June 19, 2007, the United States Court of Appeals for the District of Columbia Circuit vacated and remanded this rule to EPA. EPA finalized the 2011 National Emission Standards for Hazardous Air Pollutants for Major and Area Sources of Industrial, Commercial, and Institutional Boilers and Process Heaters and the Commercial and Industrial Solid Waste Incineration Units, but announced a delay notice, staying the effective date of these rules. In January 9, 2012, the United States District Court for the District of Columbia vacated the delay notice and remanded the notice for further proceedings. EPA subsequently published the final versions of these rules, on January 31 and February 1, 2013. The report includes EPA’s 2013 “National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters; Proposed Reconsiderations.

This total also excludes EPA’s 2005 “Clean Air Mercury Rule.” On February 8, 2008, the D.C. Circuit vacated EPA’s rule removing power plants from the Clean Air Act list of sources of hazardous air pollutants. At the same time, the court vacated the Clean Air Mercury Rule.

Finally, this total also excludes EPA’s 2004 rule—“Establishing Location, Design, Construction, and Capacity Standards for Cooling Water Intake Structures at Large Existing Power Plants.” On January 25, 2007, the Second Circuit remanded this rule back to EPA for revisions and EPA suspended the provisions of the rule. On April 1, 2009 the Supreme Court reversed one part of the Second Circuit ruling related to the use of cost-benefit analysis and remanded the rule to the lower court, which returned the rule to EPA for further consideration at the agency’s request. The final Phase IV rule, “National Pollutant Discharge Elimination System—Final Regulations to Establish Requirements for Cooling Water Intake Structures at Existing Facilities and Amend Requirements at Phase I Facilities,” was signed by the EPA Administrator on May 19, 2014, and published in the Federal Register on August 15, 2014.

The estimated aggregate benefits and costs reported in Table 1-1 are about the same as those presented in last year's final Report. As with previous Reports, the reported monetized benefits continue to be significantly higher than the monetized costs. Two agencies--the Department of Transportation and the Environmental Protection Agency--issued a majority of total rules — 63 of 120. In addition, the Environmental Protection Agency and the Department of Transportation are responsible for a majority of both total benefits and total costs.

Table 1-2 provides additional information on estimated aggregate benefits and costs for specific agency program offices. In order for a program to be included in Table 1-2, the program office must have finalized three or more major rules in the last ten years with monetized benefits and costs. Two of the program offices included--Department of Transportation's National Highway Traffic Safety Administration and the Environmental Protection Agency's Office of Air-- finalized three overlapping sets of rules pertaining to vehicle fuel economy, and these are listed separately.

Table 1-2: Estimates of Annual Benefits and Costs of Major Federal Rules: Selected Program Offices and Agencies, October 1, 2004 - September 30, 2014 (billions of 2001 or 2010 dollars)

Agency	Number of Rules	Benefits		Costs	
		2001\$	2010\$	2001\$	2010\$
Department of Agriculture					
Animal and Plant Health Inspection Service	3	\$0.9 to \$1.2	\$1.0 to \$1.4	\$0.7 to \$0.9	\$0.9 to \$1.1
Department of Energy					
Energy Efficiency and Renewable Energy	20	\$13.6 to \$24.0	\$16.4 to \$229.0	\$5.2 to \$7.5	\$6.3 to \$9.0
Department of Health and Human Services					
Food and Drug Administration	5	\$0.3 to \$11.6	\$0.4 to \$14.0	\$0.2 to \$0.4	\$0.2 to \$0.5
Center for Medicare and Medicaid Services	10	\$14.2 to \$18.0	\$17.2 to \$21.7	\$0.7 to \$3.5	\$0.9 to \$4.2
Department of Labor					
Occupational Safety and Health Administration	5	\$0.9 to \$3.1	\$1.1 to \$3.8	\$0.6	\$0.7 to \$0.8
Employee Benefits Security Administration	3	\$6.6 to \$18.4	\$7.9 to \$22.2	\$1.7 to \$4.5	\$2.1 to \$5.4
Department of Transportation					
National Highway Traffic Safety Administration	12	\$13.1 to \$22.7	\$15.8 to \$27.4	\$5.5 to \$10.7	\$6.6 to \$13.0
Federal Aviation Administration	6	\$0.4 to \$1.3	\$0.4 to \$1.6	\$0.4 to \$0.9	\$0.5 to \$1.1
Federal Motor Carriers Safety Administration	4	\$0.7 to \$1.8	\$0.9 to \$2.2	\$0.2 to \$0.3	\$0.3

Agency	Number of Rules	Benefits		Costs	
		2001\$	2010\$	2001\$	2010\$
Federal Railroad Administration	3	\$0.9 to \$1.0	\$1.1 to \$1.2	\$0.7 to \$1.4	\$0.7 to \$1.7
Environmental Protection Agency					
Office of Air	22	\$130.2 to \$643.6	\$157.4 to \$777.9	\$30.3 to \$36.5	\$36.6 to \$44.1
Office of Solid Waste and Emergency Response	4	\$0 to \$0.3	0 to \$0.3	-\$0.3	-\$0.3 to -\$0.4
Office of Water	4	\$0.9 to \$3.3	\$1.1 to \$4.0	\$0.5 to \$0.6	\$0.6 to \$0.7
Department of Transportation/Environmental Protection Agency					
National Highway Traffic Safety Administration/Office of Air	3	\$27.3 to \$49.6	\$33.0 to \$60.0	\$7.3 to \$14.0	\$8.9 to \$16.9

The ranges of benefits and costs reported in Tables 1-1 and 1-2 were calculated by adding the lower bounds of agencies' estimates for each of the underlying rules to generate an aggregate lower bound, and similarly adding the upper bounds of agencies' estimates to generate an aggregate upper bound.²⁰ The range reported by the agency for each rule reflects a portion of the agency's uncertainty about the likely impact of the rule. In some cases, this range is a confidence interval based on a formal integration of the statistical uncertainty. Such analyses, however, rarely provide an integrated estimate that includes model and parameter uncertainty. Rather, when agencies do attempt to quantify such sources of uncertainty, they often conduct a component-by-component exploration of the impact of alternative assumptions and parameters. In generating this table, most entries are ranges, based on agency analyses in which input parameters were varied across a plausible range.

More generally, the ranges of benefits and costs presented in Tables 1-1 and 1-2 should be treated with some caution. Because different rules treat uncertainties differently, if at all, the ranges above should not be understood to embody significant underlying uncertainties. If the reasons for uncertainty differ across individual rules, aggregating high and low-end estimates can result in totals that may be misleading. The benefits and costs presented in Tables 1-1 and 1-2 are not necessarily correlated. In other words, when interpreting the meaning of these ranges, the reader should not assume that when benefits are in fact on the low end of their range, costs will also tend to be on the low end of their range. This is because, for some rules, there are factors that affect costs that have little correlation with factors that affect benefits (and vice-versa). Accordingly, to calculate the range of net benefits (i.e., benefits minus costs), one should not simply subtract the lower bound of the benefits range from the lower bound of the cost range and similarly for the upper bound. It is possible that the true benefits are at the higher bound and that

²⁰ To the extent that the estimates quantitatively incorporated uncertainty, this approach of adding ranges may overstate the uncertainty in the total benefits and costs for each agency.

the true costs are at the lower bound, as well as vice-versa. Thus, for example, it is possible that the net benefits of Department of Labor rules taken together could range from about \$2.3 billion to \$19.2 billion per year (in 2001\$).

2. EPA Air Rules

Across the Federal government, the rules with the highest estimated benefits as well as the highest estimated costs, by far, come from the Environmental Protection Agency and in particular its Office of Air and Radiation. Specifically, EPA rules account for 61 to 80 percent of the monetized benefits and 44 to 55 percent of the monetized costs.²¹ Of these, rules that have as either a primary or significant aim to improve air quality account for 98 to 99 percent of the benefits of EPA rules. As such, we provide additional information on the estimates associated with these rules.

Of the EPA's 22 air rules, the highest estimated benefits are for the Clean Air Fine Particle Implementation Rule issued in 2007, with benefits estimates ranging from \$19 billion to \$167 billion per year; the Clean Air Interstate Rule issued in 2005, with benefits estimates ranging from \$12 to \$152 billion; and the National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units ("Utility MACT"²²) issued in 2011, with benefits estimates ranging from \$28 billion to \$77 billion (2001\$). While the benefits of these rules far exceed the costs, they are also among the costliest rules. The Utility MACT rule, which is estimated to be the costliest of the EPA rules, has annualized costs of about \$8.2 billion (2001\$).

Importantly, the large estimated benefits of EPA rules issued pursuant to the Clean Air Act are mostly attributable to the reduction in public exposure to fine particulate matter (referred to henceforth as PM). While some of these rules monetize the estimated benefits of emissions controls designed specifically to limit particulate matter or its precursors, other rules monetize the benefits associated with the ancillary reductions in PM that come from reducing emission of hazardous air pollutants which are difficult to quantify and monetize caused by data limitations. For example, in the case of the Utility MACT, PM "co-benefits,"²³ make up the majority of the monetized benefits, even though the regulation is designed to limit emissions of mercury and other hazardous air pollutants. The consideration of co-benefits, including the co-benefits associated with reduction of particulate matter, is consistent with standard accounting practices and has long been required under OMB Circular A-4. We will continue to work with agencies to ensure that they clearly communicate when such co-benefits constitute a significant share of the monetized benefits of a rule. We note also that EPA's 2006 National Ambient Air Quality Standards (NAAQS) for PM, with estimated benefits ranging from \$4 billion to \$40 billion per year and estimated costs of \$3 billion per year (2001\$), is excluded from the 10-year aggregate estimates or the year-by-year estimates. The reason for the exclusion is to prevent double-counting: EPA finalized implementing rules, such as the Cross-State Air Pollution Rule, that will achieve emission reductions and impose costs that account for a major portion of the benefit and

²¹These estimates do not include the joint EPA/DOT CAFE rules as "EPA" rules.

²² A National Emission Standard for Hazardous Air Pollutant (NESHAP) based on Maximum Achievable Control Technology (MACT) is called a MACT standard.

²³ Co-benefits are benefits that are ancillary to the primary objectives of regulation. In estimating co-benefits, agencies are encouraged to carefully construct baselines so that double-counting of benefits is minimized.

cost estimates associated with this NAAQS rule. The benefit and cost estimates for lead NAAQS, SO₂ NAAQS, and 2008 Ozone NAAQS may also be dropped in the future reports to avoid double counting to the extent that EPA publishes implementing regulations that would be designed to achieve the emissions reductions required by these NAAQS.

3. *Assumptions and Uncertainties*

The largest benefits are associated with regulations that reduce risks to life, as such this section provides additional information on the assumptions underlying such quantification and valuation. While agency practice is rooted in empirical research and is not widely variable, agencies have adopted somewhat different methodologies—for example, different monetized values for effects (such as mortality and morbidity), different baselines in terms of the regulations and controls already in place, different rates of time preference, and different treatments of uncertainty. These differences are reflected in the estimates provided in Tables 1-1 and 1-2, above. And while we have generally relied on agency estimates in monetizing benefits and costs, and those estimates have generally been subject both to public and to interagency review, our reliance on those estimates in this Report should not necessarily be taken as an OMB endorsement of all the varied methodologies used by agencies to estimate benefits and costs.

An important source of uncertainty in the case of health and safety regulations is how to value the regulations' expected reduction in risks to life. Agencies vary in how they estimate the value of a statistical life (VSL), which is best understood not as the “valuation of life,” but as the valuation of *statistical mortality risks*. For example, the average person in a population of 50,000 may value a reduction in mortality risk of 1/50,000 at \$150. The value of reducing the risk of 1 *statistical* (as opposed to a known or identified) fatality in this population would be \$7.5 million, representing the aggregation of the willingness to pay values held by everyone in the population. Building on an extensive literature, OMB Circular A-4 provides background and discussion of the theory and practice of calculating VSL. It concludes that a substantial majority of the studies of VSL indicate a value that varies “from roughly \$1 million to \$10 million per statistical life.” Circular A-4 generally reports values in 2001 dollars; if we update these values to 2010 dollars the range would be \$1.2-\$12.2 million. In practice, agencies have tended to use a value above the mid-point of this range (i.e., greater than \$6.7 million in 2010 dollars).²⁴ To

²⁴ Two agencies, EPA and DOT, have developed official guidance on VSL. In its 2013 update, DOT adopted a value of \$9.1 million (\$2012) adjusted for income growth in later years, and requires all the components of the Department to use that value in their RIAs. See Department of Transportation (2013). EPA uses a VSL of \$6.3 million (\$2000) and adjusts this value for real income growth to later years. In its final rule reviewing the National Ambient Air Quality Standards for particulate matter, for example, EPA adjusted this VSL to account for a different currency year (\$2010) and for income growth to 2020, which yields a VSL of \$9.6 million. EPA stated in this RIA, however, that it is continuing its efforts to update this guidance, and that it anticipated preparing draft guidelines in response to recommendations received from its Science Advisory Board. In April of 2014 the Department of Homeland Security adopted DOT's VSL of \$9.1 million.

Other regulatory agencies that have used a VSL in individual rulemakings include DOL's Occupational Safety and Health Administration (OSHA) and HHS' Food and Drug Administration (FDA). In OSHA's Electric Power final rule, OSHA used a VSL of \$8.7 million (2009\$). The FDA has used values of \$7.9 million (2009\$) or \$9.1 million (2013\$) in several of its rulemakings to monetize mortality risks, but it has been increasingly moving toward

account for the uncertainty in the appropriate value for the reduction of risk to life, agencies often use a range of plausible VSL values to construct a range of estimated benefits for rules.

A second source of uncertainty is the assumptions used in projecting the health impact of reducing PM. These projections are based on a series of models that take into account emissions changes, resulting distributions of changes in ambient air quality, the estimated reductions in health effects from changes in exposure, and the composition of the population that will benefit from the reduced exposure. Each component includes assumptions, each with varying degrees of uncertainty. A 2002 study by the National Research Council/National Academy of Sciences entitled *Estimating the Public Health Benefits of Proposed Air Pollution Regulations* (2002) highlighted the uncertainty in the reduction of premature deaths associated with reduction in PM.

The six key assumptions underpinning the PM benefits estimates are as follows:

1. Inhalation of fine particles is causally associated with premature death at concentrations near those experienced by most Americans on a daily basis.

EPA, with the endorsement of its Clean Air Scientific Advisory Committee (CASAC), has determined that the weight of available epidemiological evidence indicates that exposure to fine particles is causally related to premature death. The agency further concludes that potential biological mechanisms for this effect, while not completely understood, are also supportive of a causal determination. Although discussed qualitatively in EPA's regulatory impact analyses, this assumption carries with it uncertainty that is not accounted for in the analysis presented in EPA's benefits estimates.

2. The concentration-response function for fine particles and premature mortality is approximately linear, even for concentrations below the levels established by the National Ambient Air Quality Standard (NAAQS), which reflect the level determined by EPA to be protective of public health with an adequate margin of safety, taking into consideration effects on susceptible subpopulations.

Although CASAC²⁵ concluded that the evidence supports the use of a no-threshold log-linear model, they specifically recognize the uncertainty about the

monetizing value of the remaining life-years using a "Value of a Statistical Life Year" or VSLY. (See Circular A-4 for discussion.)

²⁵ U.S. Environmental Protection Agency - Science Advisory Board (U.S. EPA-SAB). 2009. Consultation on EPA's Particulate Matter National Ambient Air Quality Standards: Scope and Methods Plan for Health Risk and Exposure Assessment. EPA-COUNCIL-09-009. May. Available on the Internet at <[http://yosemite.epa.gov/sab/SABPRODUCT.NSF/81e39f4c09954fcb85256ead006be86e/723FE644C5D758DF852575BD00763A32/\\$File/EPA-CASAC-09-009-unsigned.pdf](http://yosemite.epa.gov/sab/SABPRODUCT.NSF/81e39f4c09954fcb85256ead006be86e/723FE644C5D758DF852575BD00763A32/$File/EPA-CASAC-09-009-unsigned.pdf)> and U.S. Environmental Protection Agency - Science Advisory Board (U.S. EPA-SAB). 2009. Review of EPA's Integrated Science Assessment for Particulate Matter (First External Review Draft, December 2008). EPA-COUNCIL-09-008. May. Available on the Internet at

exact shape of the concentration-response function. EPA's *Policy Assessment*²⁶ for the most recent fine PM NAAQS concludes that the range from the 25th to the 10th percentile is a reasonable range of the air quality distribution below which we start to have appreciably less confidence in the magnitude of the associations observed in the epidemiological studies. This is consistent with the toxicological perspective on fine PM concentration-response functions. Two of the twelve particulate matter science experts who were included in an expert elicitation in 2006 specifically highlighted the uncertainty associated with the fine PM – premature mortality relationship at low levels.

In setting the 2012 PM NAAQS, EPA has determined that there is no level below which it can be concluded with confidence that PM effects do not occur and that the NAAQS are not zero-risk standards.²⁷ However, the possibility of a de-minimis population effect at concentrations lower than the NAAQS could be consistent with the criteria for setting the NAAQS. This becomes important for understanding the extent of the uncertainty in the PM benefits estimates if a significant portion of the benefits associated with more recent rules are from projected exposure reductions in areas that are already in attainment with both the 24-hour and annual NAAQS for fine particles. For example, in the Utility MACT, a majority of the benefits accrue to populations who live in areas that are projected meet the annual fine particulate standards.

In assessing the comparability of estimates over time, it is worth noting that between FY 2006 and midway through FY 2009, all EPA's primary benefits estimates explicitly included an assumption of a threshold for premature mortality effects at lower levels—that is, health benefits were not assumed for exposure reductions below a hypothetical threshold of 10 $\mu\text{g}/\text{m}^3$ (although sensitivity analyses explored alternative models. Since mid-2009, EPA's primary benefits estimates reflect a no-threshold assumption.

<[http://yosemite.epa.gov/sab/SABPRODUCT.NSF/81e39f4c09954fcb85256ead006be86e/73ACCA834AB44A10852575BD0064346B/\\$File/EPA-CASAC-09-008-unsigned.pdf](http://yosemite.epa.gov/sab/SABPRODUCT.NSF/81e39f4c09954fcb85256ead006be86e/73ACCA834AB44A10852575BD0064346B/$File/EPA-CASAC-09-008-unsigned.pdf)>.

²⁶ U.S. Environmental Protection Agency (U.S. EPA). 2011. Policy Assessment for the Review of the Particulate Matter National Ambient Air Quality Standards. EPA-452/D-11-003. April. Available on the Internet at <http://www.epa.gov/ttnnaqs/standards/pm/s_pm_2007_pa.html>.

²⁷ 78 FR 3098: “However, evidence- and risk-based approaches using information from epidemiological studies to inform decisions on PM_{2.5} standards are complicated by the recognition that no population threshold, below which it can be concluded with confidence that PM_{2.5}-related effects do not occur, can be discerned from the available evidence. As a result, any general approach to reaching decisions on what standards are appropriate necessarily requires judgments about how to translate the information available from epidemiological studies into a basis for appropriate standards. This includes consideration of how to weigh the uncertainties in the reported associations across the distributions of PM_{2.5} concentrations in the studies and the uncertainties in quantitative estimates of risk, in the context of the entire body of evidence before the Agency. Such approaches are consistent with setting standards that are either more or less stringent than necessary, recognizing that a zero-risk standard is not required by the CAA.”

3. All fine particles, regardless of their chemical composition, are equally potent in causing premature mortality.

Although some scientific experiments have found differential toxicity among species of PM, EPA, with CASAC's endorsement, has concluded that the scientific evidence is not yet sufficient to allow differentiation of benefits estimates by particle type²⁸. However, some agencies and stakeholders have suggested that this research provides insight regarding potential differential toxicity among species of PM. This assumption of equal toxicity contributes to the uncertainty associated with PM benefits estimates because fine particles vary considerably in composition across sources. For instance, PM indirectly produced via transported precursors emitted from electrical generating utilities (EGUs) may differ significantly in composition from direct PM released by other industrial sources. Similarly, gasoline and diesel engine emissions differ. As such, when a given rule controls a broad range of sources, there is likely less uncertainty in the benefits estimate than if the rule controls a single type of source.

4. The forecasts for future emissions and associated air quality modeling accurately predict both the baseline (state of the world absent a rule) and the air quality impacts of the rule being analyzed.

The models used are based on up-to-date assessment tools and scientific literature that has been peer-reviewed; however, as in all models the results are driven by a series of assumptions. Inherent uncertainties in the overall enterprise must be recognized, even if the results are critical to projecting the benefits of air quality regulations.

5. National dollar benefit-per-ton estimates of the benefits of reducing directly emitted fine particulates and PM_{2.5} precursors are applied, as a less modeling intensive estimation technique, in some rules that control emissions from specific source categories.

Because these benefit-per-ton estimates are based on national-level analysis that may not reflect local variability in population density, meteorology, exposure, baseline health incidence rates, or other local factors, depending on the analysis and the location, they may not provide an accurate representation of the geographic distribution of benefits, and thus either over-estimate or under-estimate the aggregate benefits of reducing fine particulate emissions at specific locations.

6. The value of mortality risk reduction, which is taken largely from studies of the

²⁸ “[M]any constituents of PM_{2.5} can be linked with multiple health effects, and the evidence is not yet sufficient to allow differentiation of those constituents or sources that are more closely related to specific outcomes”. U.S. Environmental Protection Agency (U.S. EPA). 2009. Integrated Science Assessment for Particulate Matter (Final Report). EPA-600-R-08-139F. National Center for Environmental Assessment—RTP Division. December. Available on the Internet at <<http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546>>.

willingness to accept risk in the labor market is an accurate reflection of what people would be willing to pay for incremental reductions in mortality risk from air pollution exposure and these values are uniform for people in different stages of life or with differing health status.

As discussed above, there is considerable uncertainty about how to value reductions in risk to life. Agencies generally assume a uniform VSL; however, some studies indicate that willingness to pay for reductions in risk may change with age. (See Krupnick (2007) for a survey of the literature.) If VSLs do change with age, it would have an important impact on the size of the benefits associated with premature mortality because EPA's analysis shows that the median age of individuals experiencing reduced mortality is around 75 years old. However it is also worth noting that slightly more than half of the avoided life years occur in populations age <65 due to the fact that the younger populations would lose more life years per death than older population.²⁹

To the extent that any of these assumptions are incorrect, the benefit ranges in the tables above might be significantly different. We understand that significant additional research is currently being conducted that should help to improve our understanding in each of these areas. In addition, we continue to work with EPA to consider the implications of such reports as Miller, et al (2006), National Research Council (2008), and Environmental Protection Agency (2010).

4. Quantification

We have also noted that many of these major rules have important non-quantified benefits and costs that may have been a key factor in an agency's decision to select a particular approach. In important cases, agencies have been unable to quantify the benefits of rules, simply because existing information does not permit reliable estimates. These qualitative issues are discussed in Table A-1 of Appendix A, agency rulemaking documents, and previous editions of this Report.

Finally, because these estimates exclude non-major rules and rules adopted more than ten years ago, the total benefits and costs of all Federal rules now in effect are likely to be significantly larger than the sum of the benefits and costs reported in Table 1-1. More research would be necessary to produce current estimates of total benefits and costs for all agencies and programs, though some agencies have developed valuable assessments of the benefits and costs of their programs. And as noted, it is important to consider retrospective, as opposed to *ex ante*, estimates of both benefits and costs.

²⁹ Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter, U.S. Environmental Protection Agency, 2012. [Pages 5-75 and 5-76, Chapter 5, Benefits]. <http://www.epa.gov/ttnecas1/regdata/RIAs/finalria.pdf>. See OMB Circular A-4 for further discussion on effectiveness metrics for public health and safety rulemakings such as "equivalent lives" (ELs) and "quality-adjusted life years" (QALYs).

5. Other Safety and Health Rules

Although rules that reduce public exposure to fine particulate matter, as well as other environmental regulations from EPA dominate the monetized benefits and costs of federal regulation over the last ten years, other agencies have contributed to safety, health and financial well-being in the U.S. Table 1-3 identifies the number of rules, areas of impact, and associated estimated benefits and costs.

International trade-related environmental and safety regulation attempts to reduce risks associated with pests and disease (e.g., mad cow disease) that may be carried by goods imported to the U.S. USDA and FDA have also issued non-trade rules that reduce foodborne illnesses and encourage better health, resulting in estimated net benefits of \$109 million to \$11,413 million (2001\$). Patient safety rules have dealt with: good manufacturing practices and adulteration in producing dietary supplements, reducing medical errors, and safety requirements for long term care facilities. Consumer protection rules govern the residential mortgage process and fees associated with retirement funds. Transportation related safety rules attempt to reduce the risk of injury and death associated with vehicles, airplanes, and trains.

Table 1-3: Estimates of Annual Benefits and Costs of Non-Environmental Related Health and Safety Rules: October 1, 2004 - September 30, 2014
(billions of 2001 and 2010 dollars)

Area of Safety and Health Regulation	Number of Rules	Estimated Benefits		Estimated Costs	
		2001\$	2010\$	2001\$	2010\$
Safety rules to govern international trade	3	\$0.9 to \$1.2	\$1.0 to \$1.4	\$0.7 to \$0.9	\$0.9 to \$1.1
Food safety	4	\$0.2 to \$8.9	\$0.3 to \$10.8	\$0.2 to \$0.6	\$0.3 to \$0.8
Patient safety	6	\$11.4 to \$14.3	\$13.8 to \$17.6	\$0.3 to \$0.5	\$0.3 to \$0.6
Consumer protection	3	\$8.9 to \$20.7	\$10.7 to \$25.0	\$2.7 to \$5.5	\$3.2 to \$6.6
Worker safety	7	\$0.9 to \$3.2	\$1.1 to \$3.8	\$0.6 to \$0.7	\$0.8
Transportation safety	24	\$13.6 to \$23.3	\$16.4 to \$28.1	\$5.5 to \$10.3	\$6.6 to \$12.5

B. Trends in Annual Benefits and Costs of Regulations Reviewed by OMB over the Last Ten Years

Table 1-4 reports the total benefits and costs of rules issued from October 1, 2004 to September 30, 2014 by fiscal year for which reasonably complete monetized estimates of both

benefits and costs are available.³⁰ Figure 1-1 provides similar information to Table 1-4 in graphical form. The bars in this figure presents the annual sums of primary estimates (or midpoints of ranges if primary estimates are not available) for costs and benefits. The accompanying error bars represent the ranges in values between low and high estimates for costs and benefits. As the figures show, the monetized additional costs of private mandates tend to be around or below \$10 billion per year. The costs for FY2013 and FY2014 are well below this level.

**Table 1-4: Total Annual Benefits and Costs of Major Rules by Fiscal Year
(billions of 2001 and 2010 dollars)**

Fiscal Year	Number of Rules	Benefits		Costs	
		2001\$	2010\$	2001\$	2010\$
2005	12 ³¹	\$27.9 to \$178.1	\$33.7 to \$215.1	\$3.8 to \$6.1	\$4.6 to \$7.4
2006	6 ³²	\$2.5 to \$5.0	\$3.0 to \$6.0	\$1.1 to \$1.4	\$1.4 to \$1.7
2007	12	\$28.6 to \$184.2	\$34.5 to \$222.5	\$9.4 to \$10.7	\$11.4 to \$12.9
2008	12	\$8.6 to \$39.4	\$10.3 to \$47.6	\$7.9 to \$9.2	\$9.5 to \$11.1
2009	15 ³³	\$8.5 to \$28.9	\$10.4 to \$35.0	\$3.7 to \$9.5	\$4.5 to \$11.5
2010	17 ³⁴	\$18.6 to \$85.9	\$22.5 to \$103.8	\$6.4 to \$12.4	\$7.7 to \$14.9
2011	12	\$34.3 to \$89.5	\$41.5 to \$108.1	\$5.0 to \$10.1	\$6.1 to \$12.2
2012	14	\$53.2 to \$114.6	\$64.3 to \$138.5	\$14.8 to \$19.5	\$17.8 to \$23.6

³⁰ This table includes all rules reported in Table 1-1. The ranges will not necessarily match previously reported estimates for a fiscal year in past reports as rules have been dropped over time as described in this and past reports. See Appendix A for a complete list of rules included in these totals. In addition, and unlike previous years, the costs attributable to rules that did not have monetized benefits are relatively large when compared to the costs of rules that had both benefits and costs monetized. In order to maintain the convention we have used over many years of presenting in this table and accompanying chart only estimates of rules for which both costs and benefits were monetized, we have not included the costs here, but we do expressly request comment on this convention. There are also rules that only had benefits monetized; however, their inclusion in this year's totals would have only a small impact on the overall benefits estimate. The executive summary of this report includes a discussion of all of these additional rules, and they are listed and summarized in more detail in Table 1-6(b) below.

³¹ This total does not include EPA's 2005 Clean Air Mercury Rule which was vacated in 2008.

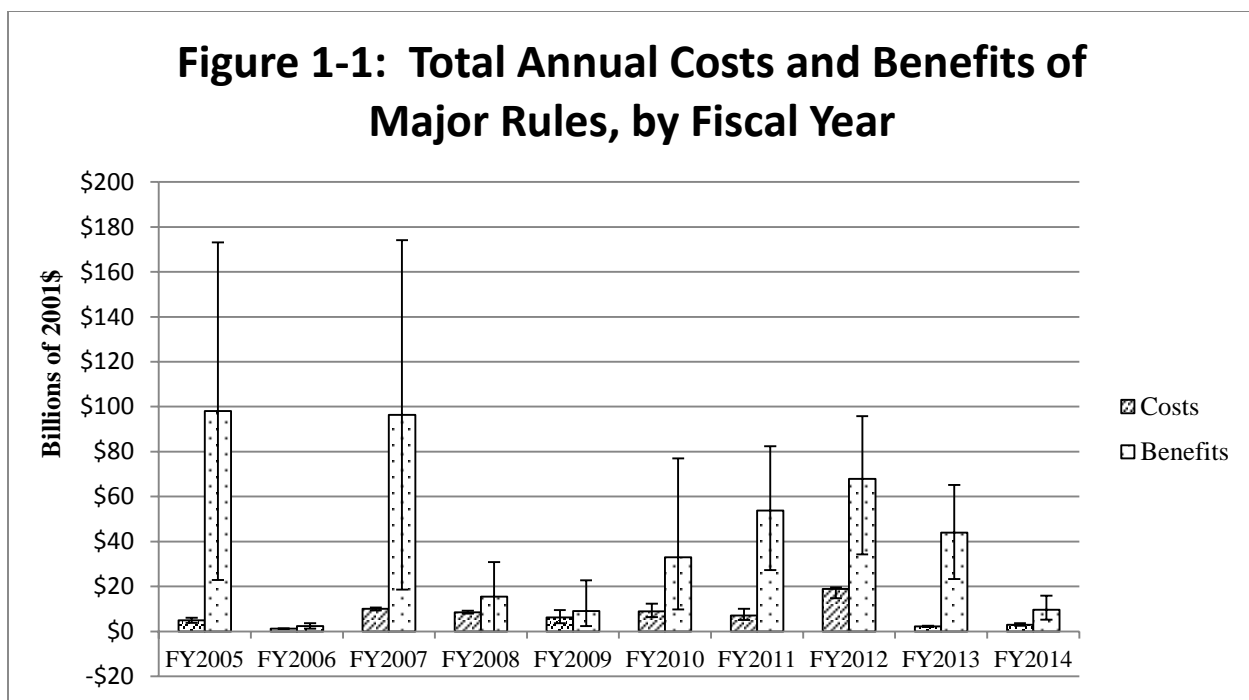
³² This total does not include the impacts of EPA's 2006 PM NAAQS rule. Consistent with past practices, the benefit and cost estimates of the NAAQS rulemaking was only included until the implementing regulations were finalized.

³³ This total excludes DOT's 2008 Hours of Service rule which finalized provisions included for an interim final rule included in the 2005 totals.

³⁴ This total excludes the impacts of DOT's 2010 Electronic On-Board Recorders for Hours-of-Service Compliance rule. This rule was vacated by the U.S. Court of Appeals for the Seventh Circuit on August 26, 2011.

Fiscal Year	Number of Rules	Benefits		Costs	
		2001\$	2010\$	2001\$	2010\$
2013	7	\$25.6 to \$67.3	\$30.9 to \$81.4	\$2.0 to \$2.5	\$2.4 to \$3.0
2014	13	\$8.1 to \$18.9	\$9.8 to \$22.8	\$2.5 to \$3.7	\$3.0 to \$4.4

As demonstrated by Figure 1-1, the estimated variability in benefit estimates across fiscal years is greater than in cost estimates, but there still is considerable uncertainty in the estimation of costs. Many assumptions invoked in cost estimations remain unexamined for their uncertainty. Note that the benefits exceed the costs in every fiscal year and that, in terms of the midpoint of the range of estimates, over the previous 10 fiscal years the highest benefit year was 2007 and the highest cost year was 2012.



The estimates we report here are prospective estimates made by agencies during the rulemaking process adjusted for vacated or superseded rules. As we have emphasized, it is possible that retrospective studies will show (as they sometimes have³⁵) that the benefits and costs were either overestimated or underestimated. As discussed elsewhere in this Report (see Appendix A) as well as previous Reports, the aggregate estimates of benefits and costs derived from estimates by different agencies and over different time periods are subject to some methodological variations

³⁵ See Harrington, Morgenstern and Nelson (2000).

and differing assumptions.³⁶ In addition, the groundwork for the regulations issued by one administration is often begun in a previous administration.³⁷ Nonetheless, the methodological variations and differing assumptions are usually not dramatic, and we believe that comparative information remains meaningful.

C. Estimates of the Benefits and Costs of Major Rules Issued in Fiscal Year 2014

1. Major Rules Issued by Executive Departments and Agencies

In this section, we examine in more detail the estimated benefits and costs of the 54 major final rules for which OMB concluded review during the 12-month period beginning October 1, 2013, and ending September 30, 2014.³⁸ (Note that 34 of the 54 rules are transfer rules.) Major rules represent approximately 31 percent of the 174 final rules reviewed by OMB.³⁹ OMB believes, however, that the benefits and costs of major rules, which have the largest economic effects, account for the majority of the total benefits and costs of all rules subject to OMB review.⁴⁰

The monetized costs and benefits estimates of thirteen FY2014 rules, aggregated by agency in Table 1-5 and listed in Table 1-6(a), are included in the ten-year aggregates in Tables 1-1, 1-2, and 1-4.⁴¹

³⁶ This is particularly true for EPA's air pollution regulations. Caution should be used in comparing benefits and costs over time in light of several factors, including new scientific evidence regarding the relationship between pollutants and health endpoints; changes in the EPA's choice of assumptions when uncertainty remains (e.g., regarding the shape of the concentration – response function at low levels); and differences in techniques for monetizing benefits (including changes to the value assigned to a statistical life). Aggregate estimates in the report reflect differences in approaches and assumptions over time to reflect more recent scientific evidence. Summing across time does not reflect how EPA would calculate the costs and benefits of prior rules today.

³⁷ For example, FDA's trans-fat rule was proposed by the Clinton administration and issued by the Bush Administration, while the groundwork for EPA's 2004 non-road diesel engine rule was set by the NAAQS rules issued in 1997. Also, NHTSA's Corporate Average Fuel Economy rule for Model Year 2011 was proposed during the Bush Administration, but finalized in the first year of the Obama Administration.

³⁸ This count excludes rules that were withdrawn from OMB review or rules that were rescinded, stayed, or vacated after publication. It also counts joint rules as a single rule, even if they were submitted to OMB separately for review.

³⁹ Counts of OMB-reviewed rules are available through the "review counts" and "search" tools on OIRA's regulatory information website (www.reginfo.gov).

⁴⁰ We discussed the relative contribution of major rules to the total impact of Federal regulation in detail in the "response-to-comments" section on pages 26-27 of the 2004 Report. In summary, our evaluation of a few representative agencies found that major rules represented the vast majority of the benefits and costs of all rules promulgated by these agencies and reviewed by OMB.

⁴¹ As noted in previous Reports, we include rules that provide both the benefit and cost estimates to the ten-year aggregation so that "apples-to-apples" comparison can be preserved.

**Table 1-5: Estimates, by Agency, of the Total Annual Benefits and Costs of Major Rules:
October 1, 2013 - September 30, 2014
(billions of 2001 or 2010 dollars)**

Agency	Number of Rules	Benefits		Costs	
		2001\$	2010\$	2001\$	2010\$
Department of Energy	6	\$4.5 to \$7.4	\$5.4 to \$8.9	\$1.3 to \$1.7	\$1.6 to \$2.0
Department of Health and Human Services	1	\$0	\$0	-\$0.2 to -\$0.6	-0.2 to - \$0.8
Department of Labor	2	\$0.2	\$0.2	\$0.1	\$0.1
Department of Transportation	2	0.2 to \$0.6	\$0.3 to \$0.8	\$0.5 to \$0.8	\$0.6 to \$1.0
Environmental Protection Agency	2	\$3.2 to \$10.7	\$29.8 to \$79.5	\$1.3	\$1.6
Total	13	\$8.1 to \$18.9	\$9.8 to \$22.8	\$2.5 to \$3.7	\$3.0 to \$4.4

Thirty-five of the rules were “transfer rules”— rules that primarily caused income transfers, usually from taxpayers to program beneficiaries. Most of these implement Federal budgetary programs as required or authorized by Congress. Rules of this kind are promulgated in response to statutes that authorize and often require them. Although rules that affect Federal budget programs are subject to Executive Orders 12866 and 13563 and OMB Circular A-4, and are reviewed by OMB, past Reports have focused primarily on regulations that have effects largely through private sector mandates. (For transfer rules, agencies typically report the estimated budgetary impacts.)

We recognize that markets embed distortions and that the transfers are not lump-sum, thereby changing relative prices of goods and services. Hence, transfer rules may create social benefits or costs. For example, they may impose real costs on society to the extent that they cause people to change behavior, either by directly prohibiting or mandating certain activities, or, more often, by altering prices. The costs resulting from these behavior changes are referred to as the “deadweight losses” associated with the transfer. The Regulatory Right-to-Know Act requires OMB to report the social costs and benefits of these rules, and OMB encourages agencies to report these costs and benefits for transfer rules; OMB will consider incorporating any such estimates into future Reports.

Tables 1-6(a), 1-6(b), and 1-6(c) list each of the 19 “non-transfer” rules and, where available, provides information on their monetized benefits and costs. Table 1-6(a) lists the 13 rules for which agencies estimated both costs and benefits, Table 1-6(b) lists the 5 rules for which agencies at least partially estimated costs and benefits, and Table 1-6(c) lists 1 rule for which the agency estimated neither costs nor benefits. Of the 13 rules for which agencies estimated both costs and benefits, two did not have net benefits: DOT’s Federal Motor Vehicle

Safety Standard No. 111, Rearview Mirrors Rule, which required rearview cameras for all new cars and light trucks, and EPA’s Criteria and Standards for Cooling Water Intake Structures rule.

Table 1-7(a) lists each of 33 “budget” rules and provides information on the estimated income transfers. Unless otherwise noted, OMB simply converts to 2001 and 2010 dollars agencies’ own estimates of annualized impacts. For all 54 budget and non-budget rules, we summarize the available information on the non-monetized impacts, where available, for these regulations in the “other information” column of Table A-1 in Appendix A. Table 1-7(b) lists the two non-budget transfer rules. The primary economic impact of each of these two rules is to cause transfers between parties outside the Federal Government, and the table includes agencies’ estimates of these transfers, if available.

Overall, HHS promulgated the largest number of rules in FY 2014 (twenty); many of these rules were annual budget rules. Sixteen of these largely transfer income from one group of entities to another without imposing significant costs on the private sector, while the other four do have significant economic impact on the private sector.

Table 1-6 (a): Major Rules Reviewed with Estimates of Both Annual Benefits and Costs, October 1, 2013 - September 30, 2014 (billions of 2001 or 2010 dollars)

Agency	RIN ⁴²	Title	Benefits		Costs	
			2001\$	2010\$	2001\$	2010\$
HHS	0938-AR49	Part II--Regulatory Provisions To Promote Program Efficiency, Transparency, and Burden Reduction (CMS-3267-F)	\$0	\$0	-\$0.5 Range: -\$0.2 to - \$0.6	-\$0.6 Range: -\$0.2 to - \$0.8
DOL	1218-AB67	Electric Power Transmission and Distribution; Electrical Protective Equipment	\$0.2	\$0.2	<\$0.1	\$0.1 Range: \$0 to \$0.1
DOL	1219-AB64	Lowering Miners' Exposure to Respirable Coal Mine Dust, Including Continuous Personal Dust Monitors	< \$0.1	< \$0.1	< \$0.1	< \$0.1
DOE	1904-AB57	Energy Efficiency Standards for External Power Supplies	\$0.3	\$0.4	\$0.1	\$0.1 Range: \$0.1 to \$0.2

⁴² In 2010, OMB issued a memorandum on “Increasing Openness in the Rulemaking Process – Use of the Regulation Identifier Number (RIN)” (available at: http://www.whitehouse.gov/sites/default/files/omb/assets/inforeg/IncreasingOpenness_04072010.pdf). The memorandum provides that agencies should use the RIN on all relevant documents throughout the entire “lifecycle” of a rule. We believe that this requirement is helping members of the public to find regulatory information at each stage of the process and is promoting informed participation.

Agency	RIN ⁴²	Title	Benefits		Costs	
			2001\$	2010\$	2001\$	2010\$
DOE	1904-AB86	Energy Conservation Standards for Walk-In Coolers and Walk-In Freezers	\$0.9 Range: \$0.9 to \$1.1	\$1.1 Range: \$1.1 to \$1.3	\$0.4	\$0.5
DOE	1904-AC00	Energy Efficiency Standards for Metal Halide Lamp Fixtures	\$0.1 Range: \$0.1 to \$0.2	\$0.1	<\$0.1	<\$0.1 Range: \$0 to \$0.1
DOE	1904-AC19	Energy Conservation Standards for Commercial Refrigeration Equipment	\$0.8 Range: \$0.7 to \$1.0	\$0.9 Range: \$0.9 to \$1.2	\$0.2	\$0.2 Range: \$0.2 to \$0.3
DOE	1904-AC22	Energy Conservation Standards for Residential Furnace Fans	\$1.4 Range: \$1.1 to \$2.2	\$1.6 Range: \$1.4 to \$2.7	\$0.3 Range: \$0.2 to \$0.3	\$0.3 Range: \$0.3 to \$0.4
DOE	1904-AC28	Energy Efficiency Standards for Certain Commercial and Industrial Electric Motors	\$1.6 Range: \$1.3 to \$2.6	\$1.9 Range: \$1.6 to \$3.1	\$0.4 Range: \$0.4 to \$0.5	\$0.5 Range: \$0.5 to \$0.7
EPA	2040-AE95	Criteria and Standards for Cooling Water Intake Structures	<\$0.1	<\$0.1	\$0.2	\$0.3
EPA	2060-AQ86	Control of Air Pollution From Motor Vehicles: Tier 3 Motor Vehicle Emission and Fuel Standards	\$3.2 to \$10.6	\$3.9 to \$12.9	\$1.1	\$1.3
DOT	2127-AK43	Federal Motor Vehicle Safety Standard No. 111, Rearview Mirrors	\$0.2 to \$0.5	\$0.3 to \$0.6	\$0.5 to \$0.8	\$0.6 to \$1.0
DOT	2127-AK56	Require Installation of Seat Belts on Motorcoaches, FMVSS No. 208 (MAP-21)	<\$0.1 Range: \$0 to \$0.1	<\$0.1	<\$0.1 Range: \$0 to \$0.2	<\$0.1

Five rules for which agencies partially monetized either benefits or costs are listed in Table 1-6(b). In some cases, agencies lack data to fully monetize. In other cases, benefits or costs may be difficult to quantify, leading agencies to rely on qualitative measures. Two of the rules in Table 1-6(b), DOI's two Migratory Bird Hunting regulations, assessed only benefits. Three rules reported only (partially or fully) monetized costs, without monetizing benefits. The

potential transfer effects and non-quantified effects of rules are described in “other information” column of Table A-1.⁴³

One rule for which agencies estimated neither costs nor benefits is listed in Table 1-6(c).

We continue to work with agencies to improve the quantification of the benefits and costs of these types of regulations and to make progress toward quantifying variables that have thus far been discussed only qualitatively. Executive Order 13563 notes that agencies “may consider (and discuss qualitatively) values that are difficult or impossible to quantify,” but firmly states that “each agency is directed to use the best available techniques to quantify anticipated present and future benefits and costs as accurately as possible.”

Table 1-6(b): Major Rules Reviewed with Partial Estimates of Annual Benefits or Costs, October 1, 2013 - September 30, 2014 (billions of 2001 or 2010 dollars)

Agency	RIN	Title	Benefits		Costs	
			2001\$	2010\$	2001\$	2010\$
HHS	0938-AR82	Program Integrity: Exchange, Premium Stabilization Programs, Market Standards, and Cost-Sharing Reduction Reconciliation [<i>sic</i>]; Amendments to Benefit and Payment Parameters for 2014 (CMS-9957-F2)	Not Estimated		<\$0.1 (partial estimate)	<\$0.1 (partial estimate)
HHS	0938-AS02	Exchange and Insurance Market Standards for 2015 and 2016 (CMS-9949-F)	Not Estimated		<\$0.1 (partial estimate)	<\$0.1 (partial estimate)

⁴³ In some instances, agencies have been unable to quantify the benefits and costs of rules because existing information does not permit reliable estimates. In these cases, agencies generally have followed the guidance of Circular A-4 and have provided detailed discussions of the non-quantified benefits and costs in their analysis of rules in order to help decision-makers understand the significance of these factors. For example, DOI promulgates annual Migratory Bird Hunting regulations, which permit hunting of migratory birds. The two potential societal costs are (1) any long-run effect on the bird populations and (2) the cost associated with administering and enforcing the permit program. Evaluating the long-term population effect of annual hunting permits is difficult. Also, State governments administer and enforce the permit program; gathering this information is difficult.

Agency	RIN	Title	Benefits		Costs	
			2001\$	2010\$	2001\$	2010\$
HHS	0945-AS31	Administrative Simplification: Change to the Compliance Date for the International Classification of Diseases, 10th Revision Medical Data Code Sets (CMS-0043-F)	Not Estimated		\$3.1 Range: \$0.9 to \$5.3	\$3.7 Range: \$1.1 to \$6.4
DOI	1018-AZ80	Migratory Bird Hunting; 2014-2015 Migratory Game Bird Hunting Regulations (Early Season)	\$0.2- \$0.3	\$0.3- \$0.4	Not Estimated	
DOI	1018-AZ80	Migratory Bird Hunting; 2014-2015 Migratory Game Bird Hunting Regulations (Late Season)	\$0.2- \$0.3	\$0.3- \$0.4	Not Estimated	

**Table 1-6(c): Major Rule Reviewed Without Estimates of Annual Benefits or Costs
October 1, 2013- September 30, 2014**

Agency	RIN	Title	Benefits	Costs
DOC	0648-BB20	Eliminate the Expiration Date Contained in the Final Rule to Reduce the Threat of Ship Collisions With North Atlantic Right Whales ⁴⁴	Not Estimated	Not Estimated

⁴⁴ This rule's preamble incorrectly stated that it was not designated economically significant.

**Table 1-7(a) Major Rules Implementing or Adjusting Federal Budgetary Programs,
October 1, 2013 - September 30, 2014
(billions of 2001 or 2010 dollars)**

Agency	RIN	Title	Transfers	
			2001\$	2010\$
USDA	0560-AI21	Disaster Assistance Programs, Payment Limitations, and Payment Eligibility	\$0.5 Range: \$0.4 to \$0.6	\$0.6 Range: \$0.5 to \$0.8
USDA	0560-AI22	Cotton Transition Assistance Program (CTAP)	\$0.2	\$0.3
USDA	0560-AI23	Margin Protection Program for Dairy and Dairy Product Donation Program	\$0.1 Range: (<\$0.1) to \$3.0	\$0.1 Range: (<\$0.1) to \$3.6
USDA	0560-AI24	Agriculture Risk Coverage and Price Loss Coverage Programs	\$4.1 to \$5.1	\$4.9 to \$6.1
USDA	0563-AC43	General Administrative Regulations; Catastrophic Risk Protection Endorsement; Area Risk Protection Insurance Regulations; and the Common Crop Insurance Regulations, Basic Provisions	\$0.1	\$0.1
USDA	0584-AD77	Special Supplemental Nutrition Program for Women, Infants, and Children (WIC): Revisions in the WIC Food Packages	\$0.2	\$0.2
USDA	0584-AE15	Certification of Compliance With Meal Requirements for the National School Lunch Program Under the Healthy, Hunger-Free Kids Act of 2010	\$0.2	\$0.3
DOD	0720-AB60	CHAMPUS/TRICARE: Pilot Program for Refills of Maintenance Medications for TRICARE For Life Beneficiaries Through the TRICARE Mail Order Program	\$0.1	\$0.1
DOD	0790-AJ06	Voluntary Education Programs	\$0.5	\$0.6
HHS	0938-AO53	Home and Community-Based State Plan Services Program, Waivers, and Provider Payment Reassignments (CMS-2249-F)	\$0.1	\$0.2

Agency	RIN	Title	Transfers	
			2001\$	2010\$
HHS	0938-AR37	Policy and Technical Changes to the Medicare Advantage and the Medicare Prescription Drug Benefit Programs for Contract Year 2015 (CMS-4159-F)	\$0.1	\$0.1
HHS	0938-AR52	Home Health Prospective Payment System Rate for CY 2014 (CMS-1450-F)	\$0.2	\$0.2
HHS	0938-AR54	Changes to the Hospital Outpatient Prospective Payment System and Ambulatory Surgical Center Payment System for CY 2014 (CMS-1601-F)	\$0.5	\$0.6
HHS	0938-AR55	CY 2014 Changes to the End-Stage Renal Disease (ESRD) Prospective Payment System, ESRD Quality Incentive Program, and Durable Medical Equipment (CMS-1526-F)	(<\$0.1)	(<\$0.1)
HHS	0938-AR56	Revisions to Payment Policies Under the Physician Fee Schedule and Medicare Part B for CY 2014 (CMS-1600-FC)	\$14.1	\$17.1
HHS	0938-AR62	Prospective Payment System for Federally Qualified Health Centers; Changes to Contracting Policies for Rural Health Clinics and CLIA Enforcement Actions for Proficiency Testing Referral (CMS-1443-FC)	\$0.2	\$0.2
HHS	0938-AR89	CY 2015 Notice of Benefit and Payment Parameters (CMS-9954-F)	(<\$0.1) (partial estimate)	(<\$0.1) (partial estimate)
HHS	0938-AR93	Establishment of the Basic Health Program (CMS-2380-F)	\$0.1	\$0.2
HHS	0938-AS07	FY 2015 Prospective Payment System and Consolidated Billing for Skilled Nursing Facilities (SNF) (CMS-1605-F)	\$0.6	\$0.7
HHS	0938-AS08	FY 2015 Inpatient Psychiatric Facilities Prospective Payment	\$0.1	\$0.1

Agency	RIN	Title	Transfers	
			2001\$	2010\$
		System--Rate Update (CMS-1606-F)		
HHS	0938-AS09	FY 2015 Inpatient Rehabilitation Facility Prospective Payment System (CMS-1608-F)	\$0.1	\$0.2
HHS	0938-AS10	FY 2015 Hospice Payment Rate Update (CMS-1609-F)	\$0.2	\$0.2
HHS	0938-AS11	Hospital Inpatient Prospective Payment System for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and Fiscal Year 2015 Rates (CMS-1607-F)	(\$0.2)	(\$0.2)
HHS	0938-AS18	Extension of Payment Adjustment for Low-Volume Hospitals and the Medicare-Dependent Hospital Program Under the FY 2014 Hospital Inpatient Prospective Payment System (CMS-1599-IFC2)	\$0.2	\$0.2
PBGC	1212-AB26	Premium Rates, Payment of Premiums, Reducing Regulatory Burden	\$0.1 Range: \$0 to \$0.1	\$0.1 Range: \$0 to \$0.1
TREAS	1505-AC44	Restore Act Program	\$0.5	\$0.6
DHS	1652-AA01	Aviation Security Infrastructure Fees (ASIF)	(\$0.3)	(\$0.3)
DHS	1652-AA68	Adjustment of Passenger Civil Aviation Security Service Fee	\$1.3	\$1.5 to \$1.6
ED	1840-AD12	Transitioning from the FFEL Program to the Direct Loan Program and Loan Rehabilitation Under the FFEL, Direct Loan, and Perkins Loan Programs	\$0.9 Range: \$0.4 to \$0.9	\$1.1 Range: \$0.4 to \$1.1
ED	1840-AD13	150% Regulations	\$0.4 Range: \$0.2 to \$0.5	\$0.5 Range: \$0.3 to \$0.6
DOT	2132-AB13	Public Transportation Emergency Relief Program (MAP-21)	<\$0.1 to \$8.6	<\$0.1 to \$10.3
VA	2900-AO91	Copayments for Medications in 2014	\$0.1	\$0.1

Agency	RIN	Title	Transfers	
			2001\$	2010\$
VA	2900-AO65	Loan Guaranty; Qualified Mortgage Definition	\$0.0 to \$0.4	\$0.0 to \$0.5

() indicates a budget savings

**Table 1-7(b): Additional Non-Budget Transfer Rules Reviewed, October 1, 2013 -
September 30, 2014
(billions of 2001 or 2010 dollars)**

Agency	RIN	Title	Transfers	
			2001\$	2010\$
HHS	0938-AR81	HIPAA Mental Health Parity and Addiction Equity Act of 2008 Amendments (CMS-4140-F)	\$0.6	\$0.7
DOL	1235-AA10	Establishing a Minimum Wage for Contractors, Executive Order 13658	\$0.2	\$0.3

2. Major Rules Issued by Independent Agencies

The Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA)⁴⁵ requires the Government Accountability Office (GAO) to submit to Congress reports on major rules, including rules issued by agencies not subject to Executive Orders 13563 and 12866. In preparing this Report, we reviewed the information contained in GAO reports on benefits and costs of major rules issued by independent agencies for the period of October 1, 2013 to September 30, 2014.⁴⁶ GAO reported that nine agencies issued a total of 17 major rules during this period. (Rules by independent agencies are not subject to OMB review under Executive Order 13563 and Executive Order 12866.)

Table 1-10 lists each of these major rules and the extent to which GAO reported benefit and cost estimates for the rule. The majority of rules were issued to regulate the financial sector. The Office of the Comptroller of the Currency in the Department of the Treasury, Federal Deposit Insurance Corporation and the Federal Reserve System issued four rules that regulate how much capital banks and other depository institutions are required to keep to reduce the risk of future insolvency. One of these rules also increased the stringency of the prudential standards for large bank holding companies and foreign banks to increase the resiliency to weather financial crisis. Two rules promulgated by the Commodity Futures Trading Commission and the Securities and Exchange Commission increased investor protection by reducing asymmetric information between regulated entities and consumers and investors. Securities and Exchange Commission issued a rule to reduce the systemic risk/contagion effects associated with money market.

Ten of the 16 rules⁴⁷ provided some information on the benefits and costs of the regulation. The independent agencies still continue to struggle in providing monetized estimates of benefits and costs of regulation. Six rules included analyses that monetized costs of some provisions. The costs associated with disclosure related provisions have been largely monetized;

⁴⁵ Pub. L. No. 104-121.

⁴⁶ In practice, a rule was considered “major” for the purposes of the report if (a) it was estimated to have either annual costs or benefits of \$100 million or more or (b) it was likely to have a significant impact on the economy.

⁴⁷ One out of the 17 rules finalizes an interim final rule that was reported in the 2014 Report.

the costs associated with provisions that change how the markets are regulated are not generally monetized. For example, only one of the four rules that increased the capital holding requirements estimated the cost of raising additional capital. Only one rule that adjusts the due date for large pension plans provided analyses that include monetized estimates of benefits. In light of the limited information provided by the GAO, the Office of Management and Budget does not know whether the rigor of the analyses conducted by these agencies is similar to that of the analyses performed by agencies subject to OMB review.

The agencies in question are independent under the law, and under existing Executive Orders, OMB generally does not have authority to review their regulations formally or to require analysis of costs and benefits. We emphasize, however, that for the purposes of informing the public and obtaining a full accounting, it would be highly desirable to obtain better information on the benefits and costs of the rules issued by independent regulatory agencies. The absence of such information is a continued obstacle to transparency, and it might also have adverse effects on public policy. Recall that consideration of costs and benefits is a pragmatic instrument for ensuring that regulations will improve social welfare; an absence of information on costs and benefits can lead to inferior decisions.

Executive Order 13563 emphasizes the importance of agency use of “the best available techniques to quantify anticipated present and future benefits and costs as accurately as possible.” While that Executive Order applies only to executive agencies, independent agencies may wish to consider the use of such techniques. In Executive Order 13579, the President explicitly said that the independent agencies should follow the central principles of Executive Order 13563. In its February 2, 2011, guidance on Executive Order 13563, OMB also encouraged the independent agencies to follow the principles and requirements of the order.⁴⁸

OMB provides in Appendix C of this Report a summary of the information available on the regulatory analyses for major rules by the independent agencies over the past ten years. This summary is similar to the ten-year lookback for regulation included in recent Reports. It examines the number of major rules promulgated by independent agencies as reported to the GAO from 2003 through 2013, which are presented in Tables C-1 and C-2.⁴⁹

⁴⁸ Memorandum for the Heads of Executive Departments and Agencies, and of Independent Regulatory Agencies, M-11-10, “Executive Order 13563, ‘Improving Regulation and Regulatory Review,’” p. 6, available at <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2011/m11-10.pdf>

⁴⁹ OMB reconstructed the estimates for this period based on GAO reports. Prior to the 2003 Report, OMB did not report on independent agency major rules on a fiscal year basis, but rather on an April-March cycle. Similar to last year, OMB is reporting all of the rules from 2003 through 2012 on a fiscal year basis (see Table C-1). The number of rules presented in earlier Reports may therefore not match the number of rules presented here.

Table 1-10: Major Rules Issued by Independent Regulatory Agencies, October 1, 2013 - September 30, 2014

Agency	Rule	Information on Benefits or Costs	Monetized Benefits	Monetized Costs
Commodity Futures Trading Commission	Derivatives Clearing Organizations and International Standards	Yes	No	No
Commodity Futures Trading Commission	Enhancing Protections Afforded Customers and Customer Funds Held by Futures Commission Merchants and Derivatives Clearing Organizations (78 FR 68,506)	Yes	No	Yes
Commodity Futures Trading Commission	Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and relationships with, Hedge Funds and Private Equity Funds (79 FR 5,808)	No	No	No
Commodity Futures Trading Commission, Department of Treasury, Office of the Comptroller of the Currency, Federal Deposit Insurance Corporation, Federal Reserve System, and Securities and Exchange Commission	Treatment of Certain Collateralized Debt Obligations Backed Primarily by Trust Preferred Securities with Regard to Prohibitions and Restrictions on Certain Interests in, and relationships with, Hedge Funds and Private Equity Funds (79 FR 5,223)	No	No	No

Agency	Rule	Information on Benefits or Costs	Monetized Benefits	Monetized Costs
Department of the Treasury, Office of the Comptroller of Currency, Federal Deposit Insurance Corporation, and Federal Reserve System	Regulatory Capital Rules: Regulatory Capital, Revisions to the Supplementary Leverage Ratio (79 FR 57,725)	Yes	No	Yes
Department of the Treasury, Office of the Comptroller of the Currency, Federal Deposit Insurance Corporation, Federal Reserve System, and Securities and Exchange Commission	Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships with, Hedge Funds and Private Equity Funds (79 FR 5,536)	No	No	No
Federal Communications Commission	Expanding the Economic and Innovation Opportunities of Spectrum through Incentive Auctions (79 FR 48,442)	No	No	No

Agency	Rule	Information on Benefits or Costs	Monetized Benefits	Monetized Costs
Federal Deposit Insurance Corporation	Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk-Weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule (79 FR 20,754) ⁵⁰	NA	NA	NA
Federal Energy Regulatory Commission and Department of Energy	Version 5 Critical Infrastructure Protection Reliability Standards (78 FR 72,756)	No	No	No
Federal Reserve System	Enhanced Prudential Standards for Bank Holding Companies and Foreign Banking Organizations (79 FR 17,240)	No	No	No
Federal Reserve System and the Department of Treasury, Office of the Comptroller of the Currency	Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk-weighted Assets, Market Discipline, and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule (78 FR 62,018)	Yes	No	No

⁵⁰ This rule finalizes the interim rule noted in the 2014 Report.

Agency	Rule	Information on Benefits or Costs	Monetized Benefits	Monetized Costs
Nuclear Regulatory Commission	Revision of Fee Schedules; Fee Recovery for Fiscal Year 2014 (79 FR 37,124)	Yes	No	No
Pension Benefit Guaranty Corporation	Payment of Premiums; Large-Plan Flat-Rate Premium (79 FR 347)	Yes	Yes	Yes
Securities and Exchange Commission	Application of “Security-Based Swap Dealer” and “Major Security-Based Swap Participant” Definitions to Cross-Border Security-Based Swap Activities (79 FR 39,068)	Yes	No	Yes
Securities and Exchange Commission	Asset-Backed Securities Disclosure and Registration (79 FR 57,184)	Yes	No	Yes
Securities and Exchange Commission	Money Market Fund Reform; Amendments to Form PF (79 FR 47,736)	Yes	No	Yes
Securities and Exchange Commission	Nationally Recognized Statistical Rating Organizations (79 FR 55,078)	Yes	No	No ⁵¹

D. The Impact of Federal Regulation on State, Local, and Tribal Governments, Small Business, Wages and Employment, and Economic Growth

Section 624 (a)(2) of the Regulatory Right-to-Know Act requires OMB to present an analysis of the impacts of Federal regulation on State, local, and tribal governments, small business, wages, and economic growth. In addition, the 2011 Presidential Memorandum: Administrative Flexibility calls for a series of measures to promote flexibility for State, local, and tribal governments; these measures include reduced reporting burdens and streamlined regulation.⁵²

⁵¹ The agency quantified the costs associated with paperwork burden only.

⁵² President Barack Obama, Memorandum for the Heads of Executive Departments and Agencies, “Presidential Memorandum – Administrative Flexibility,” available at <http://www.whitehouse.gov/the-press-office/2011/02/28/presidential-memorandum-administrative-flexibility>.

1. Impacts on State, Local, and Tribal Governments

In the United States, State and local governments have the primary role in providing domestic public services, such as public education, law enforcement, road building and maintenance, water supply, and sewage treatment. The Federal Government contributes to that role by promoting a healthy economy and by providing grants, loans, and tax subsidies to State and local governments. However, State, local, and tribal governments can have difficulty complying with Federal mandates without additional Federal resources.

In response, Congress passed the Unfunded Mandates Reform Act of 1995 (UMRA, or “the Act”). Title II, which addresses the Executive Branch, begins with a general directive for agencies to assess, unless otherwise prohibited by law, the effects of their rules on other levels of government and on the private sector. Title II also describes specific analyses and consultations that agencies must undertake for rules that may result in expenditures of over \$100 million (adjusted annually for inflation) in any year by State, local, and tribal governments in the aggregate, or by the private sector.

Over the past ten years, only seven rules have imposed costs of more than \$100 million per year (1995\$) on State, local, and tribal governments and have been classified as public sector mandates under the Act.⁵³

- *EPA’s National Primary Drinking Water Regulations: Long Term 2 Enhanced Surface Water Treatment (2005)*: The rule protects against illness due to cryptosporidium and other microbial pathogens in drinking water and addresses risk-risk trade-offs with the control of disinfection byproducts. It requires the use of treatment techniques, along with monitoring, reporting, and public notification requirements, for all public water systems that use surface water sources. The monetized benefits of the rule range from approximately \$260 million to \$1.8 billion. The monetized costs of the rule range from approximately \$89 million to \$144 million.
- *EPA’s National Primary Drinking Water Regulations: Stage 2 Disinfectants and Disinfection Byproducts Rule (2006)*: The rule protects against illness due to drinking water disinfectants and disinfection byproducts (DBPs).⁵⁴ The rule effectively tightens the existing standards by making them applicable to each monitoring location in the drinking water distribution system individually, rather than only on an average basis to the system as a whole. EPA has determined that this rule may contain a

⁵³ We note that EPA’s rules setting air quality standards for ozone and particulate matter may ultimately lead to expenditures by State, local, or tribal governments of \$100 million or more. However, Title II of the Unfunded Mandates Reform Act provides that agency statements of compliance with Section 202 must be conducted “unless otherwise prohibited by law.” 2 U.S.C. § 1532 (a). The conference report to this legislation indicates that this language means that the section “does not require the preparation of any estimate or analysis if the agency is prohibited by law from considering the estimate or analysis in adopting the rule.” H.R. Conf. Rep. No. 104-76 at 39 (1995). EPA has stated, and the courts have affirmed, that under the Clean Air Act, the criteria air pollutant ambient air quality standards are health-based and EPA is not to consider costs in setting the standards.

⁵⁴ While causal links have not been definitively established, a growing body of evidence has found associations between exposure to DBPs and various forms of cancer, as well as several adverse reproductive endpoints (e.g., spontaneous abortion).

- Federal mandate that results in expenditures by State, local, and tribal governments, and the private sector, of \$100 million or more in at least one year. While the annualized costs fall below the \$100 million threshold, the costs in some future years may be above the \$100 million mark as public drinking water systems make capital investments and finance these through bonds, loans, and other means.
- *DHS's Chemical Facility Anti-Terrorism Standards Rule (2007)*: This rule establishes risk-based performance standards for the security of our nation's chemical facilities. It requires covered chemical facilities to prepare Security Vulnerability Assessments (SVAs), which identify facility security vulnerabilities, and to develop and implement Site Security Plans (SSPs), which include measures that satisfy the identified risk-based performance standards. The rule also provides DHS with the authority to seek compliance through the issuance of Orders, including Orders Assessing Civil Penalty and Orders for the Cessation of Operations. DHS has determined that this rule constitutes an unfunded mandate on the private sector. In the regulatory impact assessment published with this rule, DHS estimates that there are 1,500 to 6,500 covered chemical facilities. DHS also assumes that this rule may require certain municipalities that own and/or operate power generating facilities to purchase security enhancements. Although DHS is unable to determine if this rule will impose an enforceable duty upon State, local, and tribal governments of \$100 million (adjusted annually for inflation) or more in any one year, it has been included in this list for the sake of completeness.
 - *EPA's National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards for Performance for Electric Utility Steam Generating Units (2011)*: This rule will reduce emissions of hazardous air pollutants (HAP) including mercury from electric power generators, both private and public by setting a MACT standard. The annualized estimated cost is \$9.6 billion (2007\$, using discount rates of 3% and 7%). The lower annualized estimated benefit is \$33 billion (2007\$, 7% discount rate); the higher \$90 billion (2007\$, 3% discount rate). The annualized net compliance cost to state, local, and tribal government entities is approximately \$294 million in 2015.
 - *USDA's Nutrition Standards in the National School Lunch and School Breakfast Programs (2012)*: This rule updates the meal patterns and nutrition standards for the National School Lunch and School Breakfast Programs to align them with the Dietary Guidelines for Americans. This rule requires most schools to: (1) increase the availability of fruits, vegetables, whole grains, and fat-free and low-fat fluid milk in school meals; (2) reduce the levels of sodium, saturated fat and trans fat in meals; and (3) meet the nutrition needs of school children within their calorie requirements. USDA estimates \$479 million in annual costs for the Local School Food Authorities and training, technical assistance, monitoring, and compliance costs for the State Education Agencies.
 - *CMS's Patient Protection and Affordable Care Act; Benefit and Payment Parameters for 2014 (issued FY2013) and for 2015 (issued FY2014)*: These final rules provide detail and parameters related to various aspect of Affordable Care Act implementation, including: the risk adjustment, reinsurance, and risk corridors

programs; cost-sharing reductions; user fees for Federally-facilitated Exchanges; advance payments of the premium tax credit; the Federally-facilitated Small Business Health Option Program; and the medical loss ratio program. Although HHS has not been able to quantify the user fees that will be associated with this rule, the combined administrative cost and user fee impact may be high enough to constitute a State, local, or Tribal government mandate under UMRA.

Although these seven rules were the only ones over the past ten-year period to require public sector mandates under UMRA on State, local, and tribal governments exceeding \$100 million (adjusted for inflation), they were not the only rules with impacts on other levels of governments. For example, many rules had monetary impacts lower than the \$100 million threshold, and agencies are also required to consider the federalism implications of rulemakings under Executive Order 13132.

2. Impact on Small Business

The Regulatory Right-to-Know Act calls for an analysis of the effects of regulations on small business. Consistent with that direction, Executive Order 12866 recognizes the need to consider such effects and to minimize costs on small business. That Executive Order, reaffirmed by and incorporated in Executive Order 13563, “Improving Regulation and Regulatory Review,” directs agencies to tailor their regulations by business size in order to impose the least burden on society, consistent with the achievement of regulatory objectives. It also calls for the development of short, or more simplified, forms and other efficient regulatory approaches for small businesses and other entities.

In the findings section of SBREFA, Congress states that “small businesses bear a disproportionate share of regulatory costs and burdens.”⁵⁵ When relevant regulations are issued, each firm must determine whether a regulation applies, how to comply, and whether it is in compliance. For small business, making that determination may impose significant costs. As firms increase in size, fixed costs of regulatory compliance are spread over a larger revenue and employee base, which often results in lower regulatory costs per unit of output.

In recognition of these principles, many statutes and regulations explicitly attempt to reduce burdens on small businesses, in part to promote economic growth and in part to mitigate against unnecessary or unjustified costs and adverse effects on employment and wages. For example, agencies frequently tailor regulations to limit the costs imposed on small business and to offer regulatory relief, including explicit exemptions for small businesses and slower phase-in schedules, allowing adequate periods of transition. Moreover, the Regulatory Flexibility Act (RFA) requires agencies to assess the effect of regulations on small businesses.⁵⁶ Under the RFA, whenever an agency concludes that a particular regulation will have a significant economic effect on a substantial number of small entities, the agency must conduct both an initial and final regulatory flexibility analysis. This analysis must include (among other things) an assessment of the likely burden of the rule on small entities and an analysis of alternatives that may afford relief to small entities while achieving the regulatory goals. OMB works closely with agencies

⁵⁵ Section 202(2) of Pub. L. No. 104-121.

⁵⁶ 5 U.S.C. §§ 601-612.

to promote compliance with RFA and to tailor regulations to reduce unjustified costs and to create appropriate flexibility.

On January 18, 2011, President Obama issued a memorandum to underline the requirements of the RFA and to direct agencies to offer an explanation of any failure to provide flexibility to small businesses in proposed or final rules. Such flexibility may include delayed compliance dates, simplified reporting requirements, and partial or total exemptions. The President's memorandum emphasizes the relationship between small and new businesses and economic growth and job creation; he directed agencies to ensure, to the extent feasible and consistent with law, that regulatory initiatives contain flexibility for small businesses.⁵⁷

The empirical evidence of the effects of regulation on small business remains less than clear. We have cited in previous Reports research by the Small Business Administration (SBA) Office of Advocacy, suggesting that small entities disproportionately shoulder regulatory and paperwork burdens. The Office of Advocacy has sponsored at least four studies that estimate the burden of regulation on small businesses.⁵⁸ A study sponsored by SBA (and cited in our 2010 Report), by Dean, et al., concludes that environmental regulations act as barriers to entry for small firms.⁵⁹

Becker offers a more complex view, focusing on the effect of air pollution regulation on small business.⁶⁰ He finds that although "progressively larger facilities had progressively higher unit abatement costs, ceteris paribus,"⁶¹ the relationship between firm size and pollution abatement costs varies depending on the regulated pollutant. For troposphere ozone, the regulatory burden seems to fall substantially on the smallest three quartiles of plants. For SO_x, the relationship between regulatory burden and the firm size seems to be U-shaped. For total suspended particles, new multi-unit emitting plants in the smallest size class had \$265 more capital expenditure (per \$10,000 of value added) in non-attainment counties than similar plants in attainment counties, while "those in the larger size classes had an additional \$511-687 in expenditure...though the rise was not monotonic."⁶²

However, more recent work by Becker, Pasurka and Shadbegian, which focuses on the relationship between establishment size and spending on pollution abatement, finds that "spending on pollution abatement operating costs per unit of output increases with establishment size."⁶³ In particular, they find that the very largest establishments (with 1000+ employees) spend between \$1.92 and \$5.61 more on pollution abatement operating costs per \$1000 of output than the establishments with 1-19 employees.

⁵⁷ Barack Obama, Memorandum for the Heads of Executive Departments and Agencies, "Presidential Memoranda – Regulatory Flexibility, Small Business, and Job Creation," available at <http://www.whitehouse.gov/the-press-office/2011/01/18/presidential-memoranda-regulatory-flexibility-small-business-and-job-cre>.

⁵⁸ See Hopkins (1995); Dean, et al. (2000); Crain and Hopkins (2001); Crain (2005).

⁵⁹ Dean, et al. (2000).

⁶⁰ Becker (2005).

⁶¹ *Id.*, p. 163.

⁶² *Id.*, p. 165.

⁶³ Becker, Pasurka and Shadbegian (2013), p. 535.

The evidence in the literature, while suggestive, remains preliminary, inconclusive, and mixed. OMB continues to investigate the evolving literature on the relevant questions in order to obtain a more precise picture. It is clear, however, that some regulations have significant adverse effects on small business and that it is appropriate to take steps to create flexibility in the event that those adverse effects cannot be justified by commensurate benefits. As the President's 2011 memorandum directs, agencies should specifically explain any refusal to take such steps, especially in light of the importance of small businesses and startups for economic growth and job creation.

3. Impact on Wages and Employment

Regulations of many different markets and areas of activity can ultimately affect labor markets, producing changes in wages and employment levels. Some regulations can have adverse effects on one or both dimensions, whereas other regulations might produce benefits. The relevant effects can be quite complex, since in general equilibrium, regulation in one area can have ripple effects across many markets, making it difficult to produce aggregate figures.

Executive Order 13563 states that our “regulatory system must protect public health, welfare, safety, and our environment while promoting economic growth, innovation, competitiveness, and *job creation*” (emphasis added). Furthermore, Executive Order 12866 states that regulatory impact analyses should include assessments of regulations’ effects on the functioning of the economy and on employment. OMB continues to believe that it is important for regulatory agencies to attempt, to the extent feasible, to consider the employment effects (whether negative or positive) of their regulations. However, when assessing the effects of regulations on employment and applying those assessments to policy decisions, there are several potential pitfalls:

- Expecting a precise, measurable impact from most individual regulations. Only a small fraction of individual regulations or agency actions will have a large enough effect to allow for measurement of changes in gross domestic product (GDP) or national employment. It is the cumulative sum over time of many small changes that is much more likely to be significant in these areas.
- Ignoring long-run or indirect impacts. Many regulatory actions have direct, short-run effects that are mitigated by long-run market adjustments. For example, businesses sometimes shut down as a result of a regulation; because jobs are temporarily lost, a short-run, industry-specific job-counting model would give the impression that regulation reduces employment. Alternatively, firms may need to hire new workers to perform activities necessary for coming into compliance with a regulation; in this case, the same job-counting model would give an impression that regulation increases employment. However, these apparent reductions or increases in employment often will, in the medium or long run, turn out to be shifts in employment between economic sectors.⁶⁴

⁶⁴ Examples may be seen in a variety of areas, including tobacco (Warner et al., 1996), water resource investment (Haveman and Krutilla, 1967) and many others.

- Ignoring the importance of timing. With employment-related policy goals, timing is often essential; spurring job creation is much more desirable during an economic downturn than during expansionary portions of the business cycle. Regulatory development, meanwhile, typically involves years of assessing evidence on the need for and effect of regulation; also, once issued, many regulations will remain effective indefinitely. Given their development and effectiveness timeframes, very few regulations that were originally motivated by policy goals unrelated to employment will be well-suited to targeting job creation when it is most needed.

We discuss below the effect of labor market regulations, environmental regulations, and economic regulations on wages and employment. OMB continues to investigate the possibility that certain kinds of regulations can have adverse effects on job creation in particular, and is interested both in empirical work and in taking steps to reduce or eliminate such adverse effects.

a. Labor market regulations.

It is perhaps simplest to analyze the effects of direct regulation of labor markets, as they can be plausibly analyzed using a relatively simple partial equilibrium framework—i.e., one that focuses exclusively on the labor market, ignoring the effects through other markets. There are many different types of labor market regulations. Perhaps the most obvious are direct price controls, such as minimum wage laws.⁶⁵ Another form of labor market regulation consists of regulations that mandate particular employer-provided benefits, such as the requirement under the Family and Medical Leave Act (FMLA) to provide unpaid leave to care for a new child; in the same category are rules that affect working conditions, such as workplace safety regulations under the Occupational Safety and Health Act. Another category of labor market regulation is anti-discrimination law, which protects certain classes of workers from discrimination in hiring and wage-setting decisions. Yet another form of labor market regulation governs the ability of workers and firms to bargain collectively; in general, U.S. competition law prohibits collusion among employers and allows collective bargaining by workers.

The effects of these approaches must be analyzed separately. Here we outline the theory and evidence on the effect of mandated benefits regulations on wages and employment levels. To be concrete, consider a workplace safety regulation. Summers provides the standard price-theoretic treatment of such regulations.⁶⁶ Such a regulation will shift the labor supply curve down by the amount that workers value the increase in safety, so that workers are willing to supply more labor for a given wage than in the absence of the regulation. Because it imposes compliance costs on employers, the regulation also shifts the labor demand curve down by the amount of the compliance cost.

If workers value the mandated benefit at more than it costs employers to provide the benefit, then both the employment level and monetary compensation plus the value of non-monetary benefits such as safety will rise. Under standard assumptions, employers have incentives to provide such benefits, but various market failures may result in suboptimal provision of such benefits. Conversely, if workers value the mandated benefit at less than its

⁶⁵ Neumark & Wascher (2008).

⁶⁶ Summers (1989).

cost, then the employment level and net wages will fall. This simple model assumes that wages can indeed perfectly adjust downwards in response to the mandated benefits—but if wages are sticky, then the regulation could result in a decrease in employment levels and an increase in monetary compensation plus the value of non-monetary benefits.

In the case of group-specific mandated benefits, which are targeted at identifiable groups of workers in the population, the theoretical analysis is more complicated. Jolls provides the leading account and emphasizes that the interaction of group-specific mandated benefits regulation with anti-discrimination law determines its consequences for labor markets.⁶⁷ Consider, for instance, regulations under the Americans with Disabilities Act (ADA) that require that employers accommodate the special needs of disabled employees—a group-specific mandated benefit. The law also forbids employers from discriminating against disabled workers in hiring and compensation decisions. To the extent that it is easier to enforce the prohibition of discrimination in wage setting than in hiring decisions, Jolls argues that the law will result in no reduction in wages for disabled workers but a reduction in their employment level, because employers will prefer to hire (cheaper) non-disabled workers.

In contrast, group-specific mandates that target women, such as maternity leave mandates, are more likely to have an effect on wages because women are disproportionately represented in a few occupations, and hence their wages can more easily be adjusted downward without triggering anti-discrimination enforcement. These mandates can be analyzed in the standard framework provided by Summers described above, and because wages adjust down, are less likely to have a negative effect on employment.

The empirical literature does not offer unambiguous conclusions, but some studies provide support for the predictions of these simple partial equilibrium models. Acemoglu and Angrist find that the ADA resulted in no decrease in relative wages of disabled people but a decrease in employment levels.⁶⁸ In contrast, Gruber finds that regulations that require employers to provide comprehensive coverage for childbirth in health insurance plans result in a decrease in women's wages but have no effect on their employment levels.⁶⁹ Studies examining the effect of the FMLA in the U.S., however, find little effect on either relative employment levels or wages of women, perhaps because the mandated leave is short and unpaid, and many employers provided maternity leave prior to the law.⁷⁰ Bartik reviews labor market literature and offers recommendations on how to improve employment benefits using adjusted reservation wage gains and adjusted earnings gains.⁷¹ Using 1994-1998 International Adult Literacy Survey microdata for Canada, Finland, Italy, the Netherlands, Switzerland, the United Kingdom, and the US, Kahn finds that employment protection mandates increase the incidence of temporary employment for low skilled workers, youth and women and raise relative joblessness among the young, immigrants and possibly women.⁷² Botero et al. largely echo this result when they

⁶⁷ Jolls (2000).

⁶⁸ Acemoglu and Angrist (2001).

⁶⁹ Gruber (1994).

⁷⁰ Waldfogel (1999) and Baum (2003). Ruhm (1998) examines parental leave mandates in Europe and finds that they are associated with increases in women's relative employment levels and reductions in their relative wages.

⁷¹ Bartik (2012).

⁷² Kahn (2007).

examined the relationship between labor force participation and employment laws, collective relations laws and social security laws in 85 countries.⁷³ OMB continues to investigate the growing literature on these topics. The references here are meant to be illustrative rather than exhaustive.

b. Environmental regulation.

New or more stringent environmental regulations may raise production costs thereby reducing production which in turn must lead to lower employment (“output effect”). However, it is also conceivable that the new regulation will require more labor input – this will depend on the extent to which the required abatement activities and labor are substitutes or compliments (“abatement activity” effect).⁷⁴ Thus, the effects of environmental regulation on the labor market can be difficult to assess. Isolating the effect of environmental regulation on employment is further complicated by the fact that changes in other economic conditions (e.g. recessions, import competition, tax policy) also affect employment over time and across sectors and therefore must be taken into consideration. Moreover, estimating changes in net employment is complicated by the fact that they are comprised of changes in employment in different sectors and while some changes represent potential decreases in employment (i.e. the directly regulated sector and up and down stream sectors⁷⁵) some of these changes represent increases in employment (e.g. pollution abatement sector⁷⁶). Therefore, the underlying questions regarding the effect of environmental regulations on labor markets requires careful and continuing conceptual analysis and empirical study, and OMB is following new developments in both areas. In this section we summarize some of the leading articles that are often cited in the academic literature.

Pollution abatement activities can be divided into two basic categories: end-of-pipe (EOP) controls, which remove pollutants from the discharge stream after they are produced (e.g. electrostatic precipitators removing particulates or a waste water treatment plant removing total suspended solids) and change-in-production-process (CIPP) techniques which reduce the amount of waste produced during production (e.g. switching from high to low sulfur coal or increasing the efficiency of boilers). EOP controls will require labor to install them and to operate them, so in this case labor and abatement activities are likely to be complements. On the other hand, CIPP techniques may reduce the amount of labor to operate the plant due to an increase in the capital-labor ratio caused by technological change. Thus the abatement activity effect is ambiguous and therefore standard microeconomic analysis cannot predict a priori whether or not environmental regulations have a negative effect on labor demand in the directly regulated sector. Determining the sign and magnitude of the effect of environmental regulation on labor demand in the directly regulated sector will require empirical studies.

⁷³ Botero, et al. (2004).

⁷⁴ See Berman and Bui (2001).

⁷⁵ Upstream sectors supply inputs to the regulated sector (e.g., coal mines supplying coal to power plants) and downstream sectors purchase output from the regulated sector (e.g., manufacturing plants purchasing electricity from power plants).

⁷⁶ In 2008 the pollution abatement sector, according to the U.S. Department of Commerce (2010), consisted of 119,000 environmental technology (ET) firms which produced roughly \$300 billion in domestic revenues (approximately 2% of GDP), and produced exports worth \$43.8 billion (roughly 2% of total export).

To estimate the net employment impacts of an environmental regulation requires the additional step of estimating the employment impacts of regulation in the up and down stream sectors as well as the pollution abatement sector. In many instances environmental regulations generate increased demand by regulated facilities for pollution control equipment and services to bring them into compliance with the regulation. In turn this higher demand could increase employment in pollution abatement sector, especially in time of high unemployment.⁷⁷ On the other hand, while increased employment in the pollution abatement sector is positive for that industry, it represents labor costs to the directly regulated sector, so determining the net effect is important.

There is a broad empirical literature analyzing the effect of environmental regulations on various economic outcomes including productivity, investment, competitiveness as well as environmental performance. On the other hand, there are only a few papers that examine the impact of environmental regulation on employment, but this literature has been growing. Studies that examine the effect of environmental regulation on employment include Berman and Bui⁷⁸, Greenstone⁷⁹, Walker⁸⁰, Gray and Shadbegian⁸¹, Gray, et al.⁸² and Ferris, Shadbegian and Wolverton^{83 84}.

Berman and Bui,⁸⁵ using plant-level data, estimate the impact of some of the most stringent air quality regulations in the United States enacted by the South Coast Air Quality Management District around Los Angeles from 1979 to 1992. They find that even though regulations impose large costs on plants they only have a very small insignificant effect on employment. According to Berman and Bui, the likely explanation for the small effects is that the regulations disproportionately affect capital-intensive plants with relatively low levels of employment, which sold output mostly to local markets where their competition faced the same level of regulation. Furthermore, they surmised that pollution abatement inputs and employment were complements.

Gray, et al.⁸⁶ and Ferris, Shadbegian and Wolverton⁸⁷ both use plant-level data to examine the effect of environmental regulations on employment as well. More specifically, Gray, et al. examine the effect of the 1998 Cluster Rule, EPA's first integrated, multi-media (air and water) regulation, on employment at pulp and paper mills. They found that plants that needed to comply with both the air and water regulations experienced relatively small (3%-7%),

⁷⁷ Schmalensee and Stavins (2011).

⁷⁸ Berman and Bui (2001).

⁷⁹ Greenstone (2002).

⁸⁰ Walker (2011).

⁸¹ Gray and Shadbegian (2013).

⁸² Gray, et al (2014).

⁸³ Ferris, Shadbegian, and Wolverton (2014).

⁸⁴ All these studies examine the impact of regulations in the directly regulated sector and do not estimate employment effects in either the up or down stream industries or the pollution abatement sector.

⁸⁵ Berman and Bui (2001).

⁸⁶ Gray, et al (2014).

⁸⁷ Ferris, Shadbegian and Wolverton (2014).

but not always statistically significant, decreases in employment. These decreases are concentrated in plants that had to comply with both the air and water rules. Ferris, Shadbegian and Wolverton estimate the impact of the Phase I of the Title IV SO₂ Trading Program on employment at fossil-fired power plants. Using an estimation technique that combines propensity score matching with a difference-in-difference estimator, they find little evidence that fossil-fuel fired power plants experienced significant declines in employment under the Phase I Program compared to non-Phase I power plants. This finding is robust to modeling compliance decisions at the plant- or owning utility-level. Gray and Shadbegian⁸⁸ use 4-digit SIC industry level data to examine the impact of environmental regulation, proxied by the percent of output spent on pollution abatement operating costs, on employment in U.S. manufacturing (1973-1994). They find that in most cases more stringent regulations have a statistically significant yet quantitatively small negative effect on employment, with slightly larger effects in the most highly regulated industries.

Greenstone⁸⁹ examines the difference in employment growth between counties that are designated as being in nonattainment for one or more of the criteria pollutants (particulate matter, sulfur dioxide, ozone and carbon monoxide) and counties in attainment. Regulators impose more stringent regulations on plants in non-attainment areas relative to attainment areas to help bring those areas into compliance. Greenstone finds that these more stringent regulations cause a loss of approximately 590,000 jobs in non-attainment areas relative to attainment areas between 1972 and 1987. Walker finds that employment at plants in newly designated non-attainment areas due to the 1990 Clean Air Act Amendments is 15% lower relative to plants in attainment areas. At first glance, the employment effects in these studies sound large, however one important point to note about these studies is that their findings do not mean that there is lower aggregate employment due to more stringent environmental regulation. The findings only imply that the relative growth rate of employment in some sectors differs between attainment and non-attainment areas. In other words, the results of Greenstone and Walker may be due to their inability to control for geographic reallocation of economic activity from non-attainment to attainment areas. As a matter of fact, List et al. find that new pollution-intensive plants are less likely to open in non-attainment areas implying that this geographic relocation is most likely occurring.⁹⁰

Environmental regulations may also have a less visible effect on employment, by lowering investment in the U.S. by multinational corporations. Using 17-year panel data, Keller and Levinson find the stringency of environmental regulation (expressed in pollution abatement costs) has “small deterrent effects” on states competing for foreign direct investment.⁹¹ Xing and Kolstad find “using instruments for the unobserved variables, the statistical results show that the laxity of environmental regulations in a host country is a significant determinant of F[oreign] D[irect] I[nvestment] from the US for heavily polluting industries and is insignificant for less polluting industries.”⁹²

⁸⁸ Gray and Shadbegian (2013).

⁸⁹ Greenstone (2002).

⁹⁰ List, et al. (2003).

⁹¹ Keller and Levinson (2002), p. 691.

⁹² Xing and Kolstad (2002), p. 1.

A recent study by Hanna measured the response of US-based multinationals foreign direct investment decisions to the Clean Air Act Amendments using a panel of firm-level data over the period 1966-1999.⁹³ Consistent with the theory that regulation causes firms to substitute foreign for domestic production, the authors find that in the environmental area, domestic regulation has led US-based multinational companies “to increase their foreign assets in polluting industries by 5.3 percent and their foreign output by 9 percent.”⁹⁴ The authors also find that these results are more robust for firms that manufactured within an industry for which imports had historically accounted for a large percentage of US consumption (see also Greenstone discussed above). Like Hanna, Brunnermeier and Levinson, using panel data, also find “statistically significant pollution haven effects of reasonable magnitude.”⁹⁵ Levinson and Taylor’s results in examining trade flows and environmental regulation are consistent with these other studies.⁹⁶

Coglianesse, Finkel and Carrigan⁹⁷ assemble works examining the methods to examine employment effects, evidence thus far on the effects of regulation on employment, and further policy recommendations. Included in this volume are papers by Aldy and Pizer⁹⁸ and Färe, Grosskopf, Pasurka, Jr., and Shadbegian⁹⁹ on the evidence of the effects of regulation on employment, Ferris and McGartland¹⁰⁰ and Masur and Posner¹⁰¹ on further research and policy recommendations. Aldy and Pizer examine the effects of regulating the electricity sector on the gross employment and competitiveness of 400 manufacturing industries using data from 1986 through 1994. They find no statistically significant relationship between the electricity price and gross employment for low energy intensity manufacturing industries. For industries that are more energy intensive, the gross employment elasticity with respect to electric prices range from -0.2 to -0.3. They also find the employment elasticity due to competitiveness effect ranges between -0.05 and -0.1 for the upper 20% of energy intensive industries. Färe, Grosskopf, Pasurka, Jr., and Shadbegian demonstrate that less labor is required to produce good and bad outputs under a tradable permit system than a command-and-control system. Masur and Posner¹⁰² respond to comments and criticisms of Masur and Posner¹⁰³, and continue to recommend that regulatory agencies incorporate unemployment costs into their benefit-cost analysis. Ferris and McGartland call for conceptual research on how to incorporate employment assessment into benefit-cost framework and empirical research based on the conceptual research.

In this context, the evidence is both suggestive and mixed. In their review of the literature on the effect of environmental regulation on the manufacturing sector, Jaffe et al. find

⁹³ Hanna (2010).

⁹⁴ Hanna (2010), p. 160.

⁹⁵ Brunnermeier and Levinson (2004), p. 6.

⁹⁶ Levinson and Taylor (2008).

⁹⁷ Coglianesse, Finkel, and Carrigan (2013).

⁹⁸ Aldy and Pizer (2013).

⁹⁹ Färe, Grosskopf, Pasurka, Jr., and Shadbegian, (2013).

¹⁰⁰ Ferris and McGartland (2013).

¹⁰¹ Masur and Pozner (2013).

¹⁰² Masur and Posner (2013).

¹⁰³ Masur and Posner (2012).

that “although the long-run social costs of environmental regulation may be significant, including adverse effects on productivity, studies attempting to measure the effect of environmental regulation on net exports, overall trade flows, and plant-location decisions have produced estimates that are either small, statistically insignificant, or not robust to tests of model specification.”¹⁰⁴

c. Economic regulation.

Rate regulations and restrictions on entry in product markets—commonly referred to as “economic regulation”—can have important effects on labor markets. As emphasized by Peoples,¹⁰⁵ restrictions on entry into an industry can make unionization of the industry easier because as a result the industry is dominated by a few large firms, which lowers the cost of organizing workers. The resulting high unionization rates give unions in the regulated industries substantial bargaining power, and as a result wages in regulated industries, which historically include trucking, electricity, and airlines, are higher. Moreover, rate regulations that allow firms in these industries to pass costs on to customers may make it easier for unions to bargain for relatively high wages.

To the extent that economic regulation also results in higher prices in the product market, consumers, including workers, will of course have to pay those prices. Blanchard and Giavazzi show in theoretical terms that the increased markups in the product market caused by widespread economic regulation can result in both lower real wages of workers, measured in terms of purchasing power, and lower employment levels.¹⁰⁶ The theoretical negative effect of entry regulation on employment was supported empirically by Bertrand and Kramarz,¹⁰⁷ who examine entry restrictions in the French retail industry and find that they have reduced employment growth in France. Using individual worker information from CPS files from 1973 through 1988, Peoples and Saunders show that deregulation of the trucking industry led to significant real wage reduction for white drivers, narrowing the black/white income gap.¹⁰⁸

4. Impact on Economic Growth

Measuring the effects of regulation on economic growth is a complex task. The category of “regulation” is of course very large. Criminal law, property law, and contract law are not always characterized as “regulation,” but they do have regulatory functions, and if well-designed, they can promote and even be indispensable to economic growth. A system of freedom of private property and freedom of contract promotes such growth, and it cannot exist without regulation (including that form of regulation that occurs through the common law). Some forms of national regulation may have a positive effect on growth, perhaps by promoting stable and efficient operation of financial markets, by improving educational outcomes, by promoting innovation, or by upgrading the operation of the transportation system. An absence of regulation, or poorly designed deregulatory initiatives, may have significant adverse effects on growth – if,

¹⁰⁴ Jaffe et al. (1995), p. 157-158.

¹⁰⁵ Peoples (1998).

¹⁰⁶ Blanchard and Giavazzi (2003).

¹⁰⁷ Bertrand and Kramarz (2002).

¹⁰⁸ Peoples and Saunders (1993).

for example, they undermine the stability and efficiency of financial markets.

Excessive and unnecessary regulations, on the other hand, can place undue burdens on companies, consumers, and workers, and may cause growth and overall productivity to slow. While the evidence remains less than entirely clear, some evidence suggests that domestic environmental regulation has led some U.S.-based multinationals to invest in other nations (especially in the domain of manufacturing), and in that sense, such regulation may have an adverse effect on domestic growth.¹⁰⁹ It is generally agreed that predictability and certainty are highly desirable features of a regulatory system. (We note that Executive Order 13563 emphasizes that our regulatory system “must promote predictability and reduce uncertainty”; in certain recent actions and decisions, including the decision not to finalize the EPA’s proposed ozone rule in 2011, the Administration has emphasized the importance of predictability and certainty.) At the same time, the direct impacts of particular regulations, or categories of regulations, on the overall economy may be difficult to establish because causal chains are uncertain and because it is hard to control relevant variables.

One difficulty with measuring the relationship between regulation and economic growth is identifying the appropriate measure of output. Economists frequently look at Gross Domestic Product (GDP), which is also our principal emphasis here (see below), but as a growing technical literature suggests, GDP may not adequately account for the effects of some regulations. For example, GDP does not capture directly relevant benefits of regulation, such as improvements to the environment, human health, and quality of life that do not result in increases in goods or services produced.¹¹⁰ Efforts to expand the national accounts to incorporate omitted factors – such as improvements in environmental quality in satellite accounts – suggest the incompleteness of existing measures.¹¹¹

While identifying the appropriate measure of output is a difficult task, debate also continues about how to evaluate the impact of regulations on the standard indicators of economic activity. Exploration of that impact continues to be centrally important, as Executive Order 13563 makes clear with its clear reference to “economic growth, innovation, competitiveness, and job creation.” At the same time, regulatory impacts on economic growth may be difficult to demonstrate because of other simultaneous changes in the economy. For example, economic growth may be strong while regulatory activity is increasing; even if so, the strength of economic growth may not be caused by such activity.

Many regulations affect economic growth indirectly through their effects on intermediate factors. There is a growing consensus specifying these intermediate drivers of growth, including increased human capital, capital investment, research and development, economic competition, physical infrastructure, and good governance (including good institutions).¹¹² Some evidence strongly suggests that regulations promoting educational attainment may improve human capital

¹⁰⁹ See Brunnermeier and Levinson (2004), Levinson and Taylor (2008).

¹¹⁰ See Sen (1999a, 1999b), Krueger (2009), Kahneman, et al. (2004), and Stiglitz, et al. (2010).

¹¹¹ Nordhaus & Kokkelenberg (1999); Nordhaus (2004).

¹¹² See, e.g., Temple (1999).

accumulation, thereby increasing economic growth.¹¹³ Ashenfelter and Krueger study the economic returns to schooling using survey data of identical twins and conclude that “each year of school completed increases a worker’s wage rate by 12-16 percent.”¹¹⁴ Other studies show a positive link between increased life expectancy and growth.¹¹⁵

If they are not carefully designed, regulations can also impose significant costs on businesses, potentially dampening economic competition and capital investment. Djankov et al.¹¹⁶ find that increased regulations on entry into markets—such as licensing and fees—create higher costs of entry and thus adversely affect economic outcomes.¹¹⁷ By contrast, van Stel et al. find that entry regulations actually have little impact on entrepreneurship, but that regulations creating greater labor rigidity have a discernible negative impact.¹¹⁸

Relatively few studies attempt to measure the economic impact of regulations in the aggregate; the literature focuses instead on particular regulatory arenas.¹¹⁹ The literature examining the effects of environmental regulations in particular is extensive. Here are a few examples:¹²⁰

- Jaffe and Palmer¹²¹ find that increases in compliance costs generated by environmental regulations lead to a lagged effect of increases in research and development expenditures, as measured by patents of new environmental technologies. Other studies provide similar findings.¹²² These studies suggest that

¹¹³ For a recent empirical analysis using new OECD data to find a strong positive impact of increased education on economic output, see Cohen & Soto (2007).

¹¹⁴ Ashenfelter and Krueger (1994), p. 1157. Krueger and Lindahl (2001) provide an overview of two literatures: (1) labor literature on monetary return to schooling and (2) the macro growth literature that investigates the relationship between education in different countries and their subsequent economic growth.

¹¹⁵ See, e.g., Bloom et al. (2004). Bloom et al. survey the existing literature on health and economic outcomes, and find in their own cross-country analysis that a one year increase in life expectancy generates a 4 percent increase in economic output, controlling for other variables.

¹¹⁶ Djankov, et al. (2002).

¹¹⁷ Djankov et al. (2002).

¹¹⁸ van Stel et al. (2007). They also find that regulations improving access to credit have a positive impact on entrepreneurship.

¹¹⁹ One of the few such studies is an analysis by Hahn and Hird (1991), which estimates the net costs of regulations on the economy to be \$46 billion, with aggregate annual transfer payments between \$172.1 and \$209.5 billion. But the authors note that their estimates have a wide range of uncertainty due to difficulties in estimation methods and available data. Further, this study is likely to be outdated due to major policy and economic developments in the years since its publication. Dawson and Seater (2013) estimated the effects of regulation by examining the effects on growth of output and total factor productivity (TFP). They conclude that the regulation has substantial and negative effects on output and TFP. EPA (2011) conducted an analysis to examine the macroeconomic effects of the Clean Air Act Amendments using a computable general equilibrium model. They find that output of goods and services decrease as a result of regulations associated with the Clean Air Act Amendments but these decreases are offset by increases in welfare resulting from reductions in medical expenditures and other welfare improvements associated with reduced air pollution-related morbidity and mortality.

¹²⁰ Berman and Bui (2001a) provide a helpful summary of some of this literature. It should be recalled that many environmental regulations affect provision of non-market goods that are not explicitly reflected in standard measures of economic activity. Thus, in addition to the direct economic costs imposed by environmental regulations, these same regulations have social welfare and other non-market impacts that are not captured in these studies.

¹²¹ Jaffe and Palmer (1997).

¹²² See Lanoie et al. (2008).

there may be positive economic effects related to technological innovation in the years following increased environmental regulatory compliance costs. As Jaffe and Palmer argue, “in the aggregate, the disincentives for R&D attributed to a command-and-control approach to environmental regulation may be overcome by the high returns that regulation creates for new pollution-control technology.”¹²³ These results, however, are noted to be sensitive to the definitions of the time lag and difficulties in specifying research and development models, coding patent types, and linking research and development to overall economic growth.

- Gray and Shadbegian examine the investment activity of paper mills from 1979 to 1990,¹²⁴ and they find that “plants with relatively high pollution abatement capital expenditures over the period invest less in productive capital. The reduction in productive investment is greater than the increase in abatement investment, leading to lower total investment at high abatement cost plants. The magnitude of this impact is quite large, suggesting that a dollar of pollution abatement investment reduces productive investment by \$1.88 at that plant. This seems to reflect both environmental investment crowding out productive investment within a plant and firms shifting investment towards plants facing less stringent abatement requirements. Estimates placing less weight on within-firm reallocation of investment indicate approximate dollar-for-dollar (\$0.99) crowding out of productive investment.”¹²⁵
- Becker and Henderson¹²⁶ find that in response to ground-level ozone regulation, in polluting industries “birth [of plants] fall dramatically in nonattainment counties, compared to attainment counties... This shift in birth patterns induces a reallocation of stocks of plants toward attainment areas. Depending on the interpretation of reduced-form coefficients, net present value for a typical new plant in a nonattainment area could fall by 13-22 percent.”¹²⁷
- Berman and Bui find that during a period of aggressive environmental regulation, productivity *increased* among the petroleum refineries located in the Los Angeles from 1987 to 1992, suggesting that “[a]batement costs may severely overstate the true cost of environmental regulation”¹²⁸ and that “abatement associated with the SCAQMD regulations was productivity enhancing.”¹²⁹
- Kahn examines census and state data and finds that better educated, wealthier populations experienced cleaner air, but that poorer, less educated populations experienced a greater overall improvement in air quality between 1980 and 1998 in California. During this time period, the exposure of the Hispanic population to pollution also fell sharply along with exposure differentials between richer and poorer people. The author concludes that, “[g]iven the overall trend in improvements for certain demographic groups, it appears that regulation under the Clean Air Act has

¹²³ Jaffe & Palmer (1997), at 618.

¹²⁴ Gray & Shadbegian (1998).

¹²⁵ *Id.*, at 254-255.

¹²⁶ Becker & Henderson (2000).

¹²⁷ *Id.*, at 414-415.

¹²⁸ *Id.*, p. 509.

¹²⁹ *Id.*, p. 499. SCAQMD is South Coast Air Quality Management District.

helped, and not economically harmed, the ‘have nots.’”¹³⁰

- Greenstone¹³¹ finds that “in the first 15 years after the [Clean Air Act Amendments] became law (1972-1987, nonattainment counties (relative to attainment ones) lost approximately 590,000 jobs, \$37 billion in capital stock and \$75 billion (1987 dollars) of output in polluting industries)” through reduced growth of pollution intensive industries.¹³² However, Greenstone notes that these impacts remain modest in comparison to the size of the national manufacturing sector. Further, these results indicate statistically significant economic costs associated with carbon monoxide regulations but not with ozone or sulfur dioxide regulations.
- List, et al., examined the effects of air quality regulation stringency and location decisions of new plants in New York State from 1980 to 1990, and found that regulatory stringency and the decision to locate is negatively correlated, and the current parametric estimates of this negative correlation may be understated.¹³³
- Chay and Greenstone¹³⁴ find that improvements in air quality induced by Clean Air Act regulations resulted in increased housing values at the county level between 1970 and 1980. This finding suggests possible economic gains in asset values resulting from improved environmental conditions, which may have had longer-term impacts on economic growth.
- As noted above, Hanna¹³⁵ finds that domestic environmental regulation has had an effect in increasing the outbound foreign direct investment of U.S.-based multinational firms. The results include an increase in foreign investments in polluting industries by 5.3 percent and in foreign output by 9 percent; the results are concentrated in manufacturing.
- Greenstone, List, and Syverson¹³⁶ analyze plant-level production data to estimate the effects of environmental regulations on manufacturing plants’ total factor productivity (TFP) levels. Using the Clean Air Act Amendments’ division of counties into pollutant-specific nonattainment and attainment categories, they find that among surviving polluting plants, a nonattainment designation is associated with a roughly 2.6 percent decline in TFP.

Outside of the context of environmental regulation, a number of studies find that some regulations have promoted economic growth and otherwise had desirable economic effects. For example, Carpenter¹³⁷ finds that certain approaches to entry regulation – such as the discretionary approval regimes used by the Food and Drug Administration – can actually

¹³⁰ Kahn (2001).

¹³¹ Greenstone (2002).

¹³² *Id.*, at 1213.

¹³³ List, et al. (2003).

¹³⁴ Chay & Greenstone (2005).

¹³⁵ Hanna (2010).

¹³⁶ Greenstone, List Syverson (2011).

¹³⁷ Carpenter (2009).

increase economic activity by establishing credible expectations of fairness and product safety.¹³⁸ Similarly, Greenstone et al.¹³⁹ find that disclosure rules in the securities industry can reduce the adverse effects of informational asymmetries and increase market confidence. Their study finds that the 1964 Securities Act Amendments generated \$3-6 billion of asset value for shareholders as a result of increased investment activity. According to their evidence, higher levels of investor protection and disclosure requirements are associated with the higher valuation of equities.¹⁴⁰

Another body of work focuses more specifically on behaviorally informed approaches to regulation—including setting appropriate default rules, reducing complexity, using disclosure as a regulatory tool, and presenting information so as to promote clarity and salience. The relevant work explores how such approaches might help improve market functioning or reduce economic costs associated with more aggressive regulatory efforts. Regulations aimed at managing risks can also have significant economic benefits by increasing the willingness of market actors to participate in market transactions.¹⁴¹ These studies suggest that when examining the economic effects of regulation, analysts should be mindful of the importance of considering alternative regulatory approaches, in addition to deregulatory options, as the baseline for comparison.

Executive Order 13563 refers in particular to the importance of flexible approaches, stating that with relevant qualifications, “each agency shall identify and consider regulatory approaches that reduce burdens and that maintain flexibility and freedom of choice for the public.” In some cases, carefully chosen forms of regulation, increasing flexibility, may yield the same social welfare benefits as existing regulatory approaches while imposing significantly lower costs. In other cases, alternative regulatory approaches may actually improve market functioning, increase economic activity, and promote economic growth.¹⁴²

OMB continues to investigate the underlying questions; no clear consensus has emerged on all of the answers. Further work of the sort outlined here might ultimately make it possible to connect regulatory initiatives to changes in GDP and also to changes in subjective well-being under various measures.

¹³⁸ Carpenter (2009). For more historical and formal modeling approaches to this same argument, see, e.g., Carpenter (2004) and Carpenter & Ting (2007).

¹³⁹ Greenstone, et al. (2006).

¹⁴⁰ *Id.* See also La Porta et al. (1999).

¹⁴¹ On the possible welfare and economic gains from employing alternative regulatory approaches, see generally Moss & Cisternino (2009).

¹⁴² *Id.* See also Balleisen and Moss, eds. (2009).

CHAPTER II: RECOMMENDATIONS FOR REFORM

The Regulatory Right-to-Know Act charges OMB with making “recommendations for reform.” In its 2009 through 2014 reports, OMB recommended a wide range of regulatory and analytic reforms and practices, including retrospective analysis of existing rules; examination of how to conduct and present regulatory impact analyses when necessary inputs are non-quantifiable; use of cost-effectiveness analysis, especially for regulations designed to reduce mortality risks; clear presentation of quantified and non-quantified costs, benefits, and distributional effects of proposed regulations and their alternatives; promotion of public participation and transparency through technological means; regulatory cooperation with international trading partners; promotion of economic growth and innovation; empirical testing of disclosure strategies; and careful consideration of approaches to regulation that are informed by an understanding of human behavior and choice.¹⁴³ OMB continues to support these recommendations.

Given the importance of cost-benefit analysis in informing regulatory decision-making, we highlight a number of strategies for reform of agencies’ analytic practices. We note that nothing in this list is intended to alter existing policy or requirements, including the requirements of OMB Circular A-4.¹⁴⁴ On the contrary, this list is meant to provide expanded discussion of concepts that are included in Circular A-4 but often misunderstood.

- Benefits and costs of a regulation should be assessed in a consistent manner. Consider, for example, a rule that would require an industry to perform certain actions that would offer protection for consumers of its products; if an analysis of the rule shows negligible costs, based on evidence or an assumption that the affected industry is already (in the regulatory baseline) voluntarily performing the protective actions, then the analysis must also show negligible consumer protection benefits. Consistency should also be kept in mind when assessing ancillary effects of a rule; estimating indirect benefits without attempting to estimate indirect costs, or estimating indirect costs without attempting to estimate indirect benefits, can yield very misleading results as regards rule-induced net benefits. Furthermore, even the relative lengths of cost and benefit portions of an analysis are worthy of consideration. If, for instance, a draft analysis contains many thousands of words about benefits and only a few paragraphs about costs, analysts should consider whether the discrepancy has a reasonable cause—such as the benefits analysis being more technical in nature than the cost analysis and therefore needing much more detailed explanation—or whether material that is tangential to the policy at hand has crept into the benefits discussion and should ideally be omitted.
- Wherever possible, the organization of regulatory documents should facilitate an understanding of underlying concepts. For example, some agencies face a legal requirement to demonstrate “economic feasibility” before issuing a rule. Because “economic feasibility” is a legal standard, grounded in statutory language and case

¹⁴³ Earlier versions of the benefit-cost report are available on OMB’s website at http://www.whitehouse.gov/omb/inforeg_regpol_reports_congress/.

¹⁴⁴ http://www.whitehouse.gov/omb/circulars_a004_a-4/

law, its assessment should be placed in a document or preamble section that addresses the agency's legal authority to regulate. Placement in the section most commonly associated with "economics"—the regulatory impact analysis required under Executive Orders 12866 and 13563, to be conducted in accordance with OMB Circular A-4—runs the risk of confusing readers because the analytic framework detailed in Circular A-4 is quite distinct from that used in assessment of "economic feasibility."

- It is important to recognize that the opportunity costs (or cost savings) of a regulation might not be reflected in budgets. For example, an agency might not devote fewer resources to processing applications when it issues a new rule that shortens an application form, but the labor and other resources previously used for processing the longer form would, in the presence of the rule, be freed for some other valuable purpose, such as achieving greater speed in the processing of the applications. Hence, there would be a cost savings attributable to the rule. By the same reasoning, there is a cost attributable to a rule if an agency will be performing enforcement activities or otherwise using resources in connection with that rule—even if the agency's budget is not increasing.
- Analysts should keep in mind basic economic principles. Suppose, for instance, a new regulation allows some mandated activity to be done by lower-paid, lesser-credentialed employees. It would be natural to estimate the cost savings of the rule by multiplying together the wage difference between the employees previously and newly doing the activity, the average time necessary to do the activity, and the number of instances in which the activity is done. If, however, the nationwide number of employees with the higher credential is much greater than the number with the lower credential, then the switch in activity will entail a substantial movement along the supply curve for the lower-credentialed employees' labor, thus raising their wage and reducing—perhaps substantially—the cost savings estimated with the rudimentary method outlined above. It is perhaps especially important with highly technical cost-benefit analyses, or analyses that emphasize recent advances in the scholarly literature, to check that results are consistent with standard economic reasoning.
- An analysis should conform to Carl Sagan's guidance that "extraordinary claims require extraordinary evidence." As an example, consider a regulation mandating that security personnel, for the sake of having a better view of potential hazards or the ability to respond more quickly to threats, stand while on duty. The agency implementing this regulation may state in its draft impact analysis that the affected security workers experience a rule-induced benefit, rather than a cost (i.e., discomfort), because sitting for long periods of time has been shown to have negative health consequences; this claim ignores the security workers' revealed preference for sitting, and therefore, unless it can be supported by detailed evidence on the affected population's inability to maximize utility (including both health and comfort), it should be omitted from the analysis.

- An analysis that contains a set of unexplained results should be targeted for revision; indeed, the explanation of how quantitative (or non-quantitative) conclusions have been reached is at least as important as the conclusions themselves. As noted in Circular A-4, “Results must be reproducible. You should clearly set out the basic assumptions, methods, and data underlying the analysis.... A qualified third party reading the analysis should be able to understand... the way in which you developed your estimates.”
- Quality peer review is a process that takes months or years, not days or weeks. Many scholarly journals implicitly acknowledge this point by noting the dates on which manuscripts are received, revised and accepted for publication. Although it may often be necessary for regulatory cost-benefit analyses to use estimates that have been published in journals that fail to post this information, agency analysts should seek ways to be transparent about which sources follow this best practice and which do not.
- In addition to being alert for necessary revisions of content, analysts should also consider the advisability of revisions for tone. For instance, even though acknowledgement of uncertainty is key to a transparent analysis, it is not appropriate for such acknowledgement to be used to undermine the practice of conducting cost-benefit analysis.
- It is important to keep in mind potential pitfalls in analyzing regulations that interact with each other or with non-regulatory policy actions.
 - As discussed in more detail in Chapter I, summing the results of cost-benefit analyses conducted at the time individual regulatory decisions are being made can yield double-counting of certain effects and thus provide a misleading assessment of rules’ cumulative impact.
 - Another possible analytic pitfall related to interactions between differently-timed regulations arises when the purpose of a new regulation is to re-implement a policy when an earlier regulation is about to reach the end of its effectiveness (perhaps due to a sunset date). In this case, it may be tempting to think that the new rule will have negligible effect because its implementation will lead to a continuation of the status quo. Implicit in that line of thought is the incorrect idea that the current state of the world forms the regulatory baseline. Instead, it is the future state of the world (during the time period when the rule is implemented) that forms the baseline. Although it is often reasonable to assume that the present and near-future states will be approximately equal, such an assumption would be incorrect in this particular example. In this case, the baseline future state of the world is characterized by the sunset of the earlier rule; compared against this appropriate baseline, the new rule’s re-implementation of the policy has non-negligible impacts.
 - As yet another example of the difficulty inherent in analyzing interacting policies, suppose Agency X implements a voluntary certification program but Agency Y has the authority to run a program that provides payments that incentivize use of

the goods or services certified by X. Although an analyst's first impulse may be to attribute costs of certification to Agency X's regulation and the costs and benefits of using certified products to Agency Y's regulation, that analytic choice is at odds with basic economic assumptions about profit-maximization, in that it reflects an assumption that producers will undergo a costly certification process without any expectation of increasing their sales as a result. If consumers' decision to purchase extra amounts of the certified products occurs as a result of Agency Y's incentive program, then certification activities also occur as a result of Agency Y's incentive program; in other words, unless at least some portion of the costs and benefits of using certified products are attributable to Agency X's regulation, then the costs of certification are attributable to Agency Y's regulation—not X's.

The above strategies, if increasingly put into practice, would allow for impact assessments to be more evidence-based, logically sound, and effectively communicated.

**PART II: EIGHTEENTH ANNUAL
REPORT TO CONGRESS ON AGENCY
COMPLIANCE WITH THE UNFUNDED
MANDATES REFORM ACT**

Introduction

This report represents OMB's eighteenth annual submission to Congress on agency compliance with the Unfunded Mandates Reform Act of 1995 (UMRA). This report on agency compliance with the Act covers the period of October 2013 through September 2014; rules published before October 2013 are described in last year's report.

Since 2001, this report has been included in our final Report to Congress on the Benefits and Costs of Federal Regulations. This is done because the two reports together address many of the same issues. Both reports also highlight the need for regulating in a responsible manner, accounting for benefits and costs and taking into consideration the interests of our intergovernmental partners.

State and local governments have a vital constitutional role in providing government services. They have the primary role in providing domestic public services, such as public education, law enforcement, road building and maintenance, water supply, and sewage treatment. The Federal Government contributes to that role by promoting a healthy economy and by providing grants, loans, and tax subsidies to State and local governments. However, State, local, and tribal governments have expressed concerns about the difficulty of complying with Federal mandates without additional Federal resources.

In response, Congress passed the Unfunded Mandates Reform Act of 1995 (UMRA, or "the Act"). Title I of the Act focuses on the Legislative Branch, addressing the processes Congress should follow before enactment of any statutory unfunded mandates. Title II addresses the Executive Branch. It begins with a general directive for agencies to assess, unless otherwise prohibited by law, the effects of their rules on the other levels of government and on the private sector (Section 201). Title II also describes specific analyses and consultations that agencies must undertake for rules that may result in expenditures of over \$100 million (adjusted annually for inflation) in any year by State, local, and tribal governments in the aggregate, or by the private sector.

Specifically, Section 202 requires an agency to prepare a written statement for intergovernmental mandates that describes in detail the required analyses and consultations on the unfunded mandate. Section 205 requires that for all rules subject to Section 202, agencies must identify and consider a reasonable number of regulatory alternatives, and then generally select the least costly, most cost-effective, or least burdensome option that achieves the objectives of the rule. Exceptions require the agency head to explain in the final rule why such a selection was not made or why such a selection would be inconsistent with law.

Title II requires agencies to "develop an effective process" for obtaining "meaningful and timely input" from State, local and tribal governments in developing rules that contain significant intergovernmental mandates (Section 204). Title II also singles out small governments for

particular attention (Section 203). OMB's guidelines assist Federal agencies in complying with the Act and are based upon the following general principles¹⁴⁵:

- Intergovernmental consultations should take place as early as possible, beginning before issuance of a proposed rule and continuing through the final rule stage, and be integrated explicitly into the rulemaking process;
- Agencies should consult with a wide variety of State, local, and tribal officials;
- Agencies should prepare an estimate of direct benefits and costs for use in the consultation process;
- The scope of consultation should reflect the cost and significance of the mandate being considered;
- Effective consultation requires trust and significant and sustained attention so that all who participate can enjoy frank discussion and focus on key priorities; and
- Agencies should seek out State, local, and tribal views on costs, benefits, risks, and alternative methods of compliance and whether the Federal rule will harmonize with and not duplicate similar laws in other levels of government.

Federal agencies have been actively consulting with states, localities, and tribal governments in order to ensure that regulatory activities were conducted consistent with the requirements of UMRA (a description of agency consultation activities will be included in the final version of this Report).

The remainder of this report lists and briefly discusses the regulations meeting the Title II threshold and the specific requirements of Sections 202 and 205 of the Act from October 1, 2013 to September 30, 2014.

In FY 2014, Federal agencies issued eleven final rules that were subject to Sections 202 and 205 of the Unfunded Mandate Reform Act of 1995 (UMRA), as they required expenditures by State, local or tribal governments, in the aggregate, or by the private sector, of at least \$100 million in any one year (adjusted annually for inflation). The Environmental Protection Agency published two, the Department of Energy published six, the Department of Health and Human Services published two, and the Department of Transportation published one.¹⁴⁶

¹⁴⁵ OMB, Memorandum for the Heads of Executive Departments and Agencies, M-95-09, "Guidance for Implementing Title II of S.1," 1995, available at <http://www.whitehouse.gov/sites/default/files/omb/memoranda/m95-09.pdf>.

¹⁴⁶ Interim final rules were not included in this chapter since "Section 202 [of the Unfunded Mandates Reform Act]... does not apply to interim final rules or non-notice rules issued under the 'good cause' exemption in 5 U.S.C. 553(b)(B)." See OMB, Memorandum for the Heads of Executive Departments and Agencies, M-95-09, "Guidance for Implementing Title II of S.1," 1995, available at <http://www.whitehouse.gov/sites/default/files/omb/memoranda/m95-09.pdf>.

OMB worked with the agencies in applying the requirements of Title II of the Act to their selection of the regulatory options for these rules. Descriptions of the rules are included in the following section.

A. Environmental Protection Agency

1. *Criteria and Standards for Cooling Water Intake Structures*

This final rule establishes requirements designed to reduce impingement and entrainment of fish and other aquatic organisms at cooling water intake structures used by certain existing power generation and manufacturing facilities. Although the rule imposes costs on non-federal government entities, these costs do not approach UMRA's \$100 million "major" threshold. However, the rule's overall impact on the private sector exceeds the threshold. Consequently, the provisions of this rule constitute a private sector mandate under UMRA.

2. *Control of Air Pollution from Motor Vehicles: Tier 3 Motor Vehicle Emission and Fuel Standards*

This final rule reduces the sulfur content of gasoline and establishes more stringent vehicle emissions standards for passenger cars, light-duty trucks, medium-duty passenger vehicles and some heavy-duty vehicles. The overall impact on the private sector exceeds the \$100 million threshold in the aggregate. Consequently, the provisions of this rule constitute a private sector mandate under UMRA.

B. Department of Energy

1. *Energy Efficiency Standards for Metal Halide Lamp Fixtures*

This final rule prescribes energy conservation standards for various consumer products and commercial and industrial equipment, including metal halide lamp fixtures. DOE has concluded that this final rule would likely require expenditures of \$100 million or more by the private sector. Such expenditures may include: (1) investment in research and development and in capital expenditures by manufacturers, and (2) incremental additional expenditures by consumers to purchase higher-efficiency metal halide lamp fixtures.

2. *Energy Conservation Standards for Walk-In Coolers and Walk-In Freezers*

This final rule prescribes energy conservation standards for various consumer products and commercial and industrial equipment, including walk-in coolers and walk-in freezers. DOE has concluded that this final rule would likely require expenditures of \$100 million or more by the private sector. Such expenditures may include: (1) investment in research and development and in capital expenditures by manufacturers, and (2) incremental additional expenditures by consumers to purchase higher-efficiency walk-in coolers and walk-in freezers.

3. Energy Efficiency Standards for Certain Commercial and Industrial Electric Motors

This final rule establishes energy conservation standards for a number of different groups of electric motors that the Department of Energy has not previously regulated and amends the energy conservation standard for some other electric motor types. DOE has concluded that this final rule would likely require expenditures of \$100 million or more by the private sector. Such expenditures may include: (1) investment in research and development and in capital expenditures by manufacturers, and (2) incremental additional expenditures by consumers to purchase higher-efficiency electric motors.

4. Energy Conservation Standards for Commercial Refrigeration Equipment

This final rule increases stringency of energy conservation standards for some classes of commercial refrigeration equipment. DOE has concluded that this final rule would likely require expenditures of \$100 million or more by the private sector. Such expenditures may include: (1) investment in research and development and in capital expenditures by manufacturers, and (2) incremental additional expenditures by consumers to purchase higher-efficiency commercial refrigeration equipment.

5. Energy Conservation Standards for Residential Furnace Fans

This final rule adopts new energy conservation standards for residential furnace fans. DOE has concluded that this final rule would likely require expenditures of \$100 million or more by the private sector. Such expenditures may include: (1) investment in research and development and in capital expenditures by manufacturers, and (2) incremental additional expenditures by consumers to purchase higher-efficiency residential furnace fans.

6. Energy Efficiency Standards for External Power Supplies

This final rule amends energy conservation standards that previously applied to certain external power supplies and establishes new energy conservation standards for other external power supplies that have not been required to meet such standards. DOE has concluded that this final rule would likely require expenditures of \$100 million or more by the private sector. Such expenditures may include: (1) investment in research and development and in capital expenditures by manufacturers, and (2) incremental additional expenditures by consumers to purchase higher-efficiency products.

C. Department of Health and Human Services

1. *Administrative Simplification: Change to the Compliance Date for the International Classification of Diseases, 10th Revision Medical Data Code Sets*

This final rule changes the compliance date for the International Classification of Diseases, 10th Revision (ICD-10-CM) for diagnosis coding. HHS concluded that the rule contains a mandate that would likely impose spending costs of more than \$100 million on the health care industry.

2. *Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2015*

This final rule provides detail and parameters related to various aspect of Affordable Care Act implementation, including: the risk adjustment, reinsurance, and risk corridors programs; cost-sharing reductions; user fees for Federally-facilitated Exchanges; advance payments of the premium tax credit; the Federally-facilitated Small Business Health Option Program; and the medical loss ratio program. Although HHS has not been able to quantify the user fees that will be associated with this rule, the combined administrative cost and user fee impact may be high enough to constitute a State, local, or Tribal government or private sector mandate under UMRA.

D. Department of Transportation

1. *Federal Motor Vehicle Safety Standard No. 111, Rearview Mirrors*

This final rule expands the required field of view for all passenger cars, trucks, multipurpose passenger vehicles, buses and low-speed vehicles with a gross vehicle weight of less than 10,000 pounds. DOT estimates private expenditures of well over \$100 million annually. Consequently, the provisions of this rule constitute a private sector mandate under UMRA.

APPENDIX A: CALCULATION OF BENEFITS AND COSTS

Chapter I presents estimates of the annual benefits and costs of selected major final regulations reviewed by OMB between October 1, 2004 and September 30, 2014. OMB presents more detailed explanation of these regulations in several documents.

- Rules from October 1, 2004 to September 30, 2005: Tables 1-4 and A-1 of the 2006 Report.
- Rules from October 1, 2005 to September 30, 2006: Tables 1-4 and A-1 of the 2007 Report.
- Rules from October 1, 2006 to September 30, 2007: Tables 1-4 and A-1 of the 2008 Report.
- Rules from October 1, 2007 to September 30, 2008: Tables 1-4 and A-1 of the 2009 Report.
- Rules from October 1, 2008 to September 30, 2009: Tables 1-4 and A-1 of the 2010 Report.
- Rules from October 1, 2009 to September 30, 2010: Tables 1-5(a) and A-1 of the 2011 Report.
- Rules from October 1, 2010 to September 30, 2011: Tables 1-5(a) and A-1 of the 2012 Report.
- Rules from October 1, 2011 to September 30, 2012: Tables 1-6(a) and A-1 of the 2013 Report.
- Rules from October 1, 2012 to September 30, 2013: Tables 1-6(a) and A-1 of the 2014 Report.
- Rules from October 1, 2013 to September 30, 2014: Tables 1-6(a) and A-1 of this Report.

In assembling estimates of benefits and costs presented in this Report, OMB has:

1. Applied a uniform format for the presentation of benefit and cost estimates in order to make agency estimates more closely comparable with each other (for example, annualizing benefit and cost estimates); and
2. Monetized quantitative estimates where the agency has not done so (for example, converting agency projections of quantified benefits, such as estimated injuries avoided per year or tons of pollutant reductions per year, to dollars using the valuation estimates discussed below).

All benefit and cost estimates are adjusted to 2001 dollars using the latest Gross Domestic Product (GDP) deflator, available from the Bureau of Economic Analysis at the

Department of Commerce.¹⁴⁷ In instances where the nominal dollar values the agencies use for their benefits and costs is unclear, we assume the benefits and costs are presented in nominal dollar values of the year before the rule is finalized. In periods of low inflation such as the past few years, this assumption does not affect the overall totals. All amortizations are performed using discount rates of 3 and 7 percent unless the agency has already presented annualized, monetized results using a different explicit discount rate.

OMB discusses, in this Report and in previous Reports, the difficulty of estimating and aggregating the benefits and costs of different regulations over long time periods and across many agencies. In addition, where OMB has monetized quantitative estimates where the agency has not done so, we have attempted to be faithful to the respective agency approaches. The adoption of a uniform format for annualizing agency estimates allows, at least for purposes of illustration, the aggregation of benefit and cost estimates across rules; however, agencies have used different methodologies and valuations in quantifying and monetizing effects. Thus, an aggregation involves the assemblage of benefit and cost estimates that are not strictly comparable.

To address this issue in part, the 2003 Report included OMB's regulatory analysis guidance, also released as OMB Circular A-4, which took effect on January 1, 2004 for proposed rules and January 1, 2005 for final rules. The guidance recommends what OMB considers to be "best practices" in regulatory analysis, with a goal of strengthening the role of science, engineering, and economics in rulemaking. The overall goal of this guidance is a more competent and credible regulatory process and a more consistent regulatory environment. OMB expects that as more agencies adopt and refine these recommended best practices, the benefits and costs presented in future Reports will become more comparable across agencies and programs. The 2006 Report was the first report that included final rules subject to OMB Circular A-4. OMB will continue to work with the agencies in applying the guidance to their impact analyses.

Table A-1 below presents the unmodified information on the impacts of 54 major rules reviewed by OMB from October 1, 2013 through September 30, 2014, and includes additional explanatory text on the impacts for these rulemakings. The estimates presented in Table A-1 are annualized impacts in 2001 dollars, which is the requested format in OMB Circular A-4.

Table 1-6(a) in Chapter I of this Report presents the adjusted impact estimates for the thirteen rules finalized in FY2014 that were added to the Chapter 1 accounting statement totals. Table A-2 below presents the benefits and costs of previously reported major rules reviewed by OMB from October 1, 2004 through September 30, 2013 that are also included in the Chapter I accounting statement totals.

¹⁴⁷ See *National Income and Product Accounts*, <http://www.bea.gov>.

**Table A-1: Summary of Agency Estimates for Final Rules October 1, 2013 - September 30, 2014,
As of Date of Completion of OMB Review (Millions of \$2001)¹⁴⁸**

RIN	Title	Benefits	Costs	Transfers	Other Information
<i>Department of Agriculture</i>					
0560-AI21	Disaster Assistance Programs, Payment Limitations, and Payment Eligibility	not estimated	not estimated	\$499.3 Range: \$395.2- \$649.0	Transfers from FSA to agricultural producers will occur in FY 2014-2023 resulting from eligibility in FY 2012-2023.
0560-AI22	Cotton Transition Assistance Program (CTAP)	not estimated	not estimated	\$226.0 Range: \$217.5- \$245.5	Transfers are from the Farm Service Agency to producers.
0560-AI23	Margin Protection Program for Dairy and Dairy Product Donation Program	not estimated	not estimated	\$69.7 Range: (\$1.1)- \$2,951.3	Primary net transfer estimates equal the difference between estimated USDA outlays of \$130 to \$215 million per year (\$30 million via the Dairy Product Donation Program and the remainder via the Margin Protection Program-Dairy) and estimated producer fee and premium payments of \$87 to \$95 million per year. Transfers are from the federal government to dairy producers and low-income individuals.
0560-AI24	Agriculture Risk Coverage and Price Loss Coverage Programs	not estimated	not estimated	\$4,086.7- \$5,116.3	Transfers are from the Farm Service Agency to farmers. Payments for crop years 2014-2018 made during fiscal years 2016-2020. Estimates are deflated based on an assumption of 2.1% annual inflation for years 2014-2018 and 1.9% annual inflation for years 2019-2020.
0563-AC43	General Administrative Regulations; Catastrophic Risk Protection Endorsement; Area Risk Protection Insurance Regulations; and the Common Crop Insurance Regulations, Basic Provisions	not estimated	\$12.5- \$13.1	\$62.7- \$64.7	Transfers are from the federal government to producers and insurance providers
0584-AD77	Special Supplemental Nutrition Program for Women, Infants, and Children (WIC): Revisions in the WIC Food Packages	not estimated	not estimated	\$174.2- \$178.3	Transfers are from the federal government to WIC participants.
0584-AE15	Certification of Compliance With Meal Requirements for the National School Lunch Program Under the Healthy, Hunger-Free Kids Act of 2010	not estimated	\$1.6-\$1.8	\$229.4- \$232.5	This action is finalizing an IFR with small policy changes; the agency thus states that the impacts are likely to be within the ranges estimated for the IFR. The numbers I filled in to the right are from the IFR, for which review was concluded in April 2012. Rule encourages compliance with NSLP and SBP meal standards by providing an

¹⁴⁸ Please note that for budgetary transfer rules, benefits and costs are generally not estimated because agencies typically estimate budgetary impacts instead.

					additional reimbursement for lunches that meet the requirements. Costs are a combination of State, SFA, and Federal costs, including administrative costs of submitting and processing compliance claims. Transfers are the sum of transfers from the Federal Government to State agencies, plus transfers from the Federal Government to SFA for meal reimbursements.
Department of Commerce					
0648-BB20	Eliminate the Expiration Date Contained in the Final Rule to Reduce the Threat of Ship Collisions With North Atlantic Right Whales	not estimated	not estimated	not estimated	Rule removed the sunset provision in the 2008 Right Whale Ship Strike Reduction rule.
Department of Defense					
0720-AB60	CHAMPUS/TRICARE: Pilot Program for Refills of Maintenance Medications for TRICARE For Life Beneficiaries Through the TRICARE Mail Order Program	not estimated	not estimated	\$92.8	The transfer of \$400M (2014\$) worth of maintenance drugs from the retail network to mail order or MTF pharmacies will result in an annual government savings of \$120M; if these savings result from mail-order pharmacies being more efficient than retail pharmacies, they represent social benefits, rather than transfers.
0790-AJ06	Voluntary Education Programs	not estimated	not estimated	\$489.7	Transfers are from Military Departments to colleges and universities.
Department of Education					
1840-AD12	Transitioning from the FFEL Program to the Direct Loan Program and Loan Rehabilitation Under the FFEL, Direct Loan, and Perkins Loan Programs	not estimated	(\$85.6)- (\$86.2)	\$366.8- \$916.9	Transfers from the Federal Government to student loan borrowers. A small portion of this is due to reduced payments to the Federal Government from additional borrowers receiving closed school discharges; the remainder is due to statutory changes to the Direct Loan interest rates. Cost savings are due to consolidation of paperwork requirements.
1840-AD13	150% Regulations	not estimated	\$4.1 Range: \$3.7-\$4.8	\$380.7 Range: \$218.5- \$480.1	\$547.5-\$794.4 (2012\$) increase in transfers from Federal Government to subsidized student loan borrowers, due to extension of 3.4% subsidized interest rate loans from 7/1/2012 to 6/30/2013, offset by transfers of \$191.5 to \$273.2 (2012\$) from subsidized borrowers who exceed the 150% limit and lose eligibility for further subsidy loans or become responsible for interest on existing loans while in-school or deferment.
Department of Energy					
1904-AB57	Energy Efficiency Standards for External Power Supplies	\$295.5 Range: 293.9- \$345.6	\$117.1 Range: \$74.9- \$129.0	not estimated	
1904-AB86	Energy Conservation Standards for Walk-In Coolers and Walk-In Freezers	\$928.3 Range: \$908.7- \$1,115.9	\$401.0 Range: \$393.1- \$424.5	not estimated	

1904-AC00	Energy Efficiency Standards for Metal Halide Lamp Fixtures	\$90.8 Range: \$90.8- \$133.8	\$36.6 Range: \$31.9- \$41.4	not estimated	
1904-AC19	Energy Conservation Standards for Commercial Refrigeration Equipment	\$764.5 Range: \$746.2- \$955.7	\$203.9 Range: \$199.1- \$215.8	not estimated	
1904-AC22	Energy Conservation Standards for Residential Furnace Fans	\$1,360.8 Range: \$1,129.2- \$2,238.0	\$280.9 Range: \$238.6- \$328.8	not estimated	
1904-AC28	Energy Efficiency Standards for Certain Commercial and Industrial Electric Motors	\$1,573.3 Range: \$1,322.2- \$2,566.0	\$405.7 Range: \$394.7- \$546.9	not estimated	
Department of Health and Human Services					
0938-AO53	Home and Community-Based State Plan Services Program, Waivers, and Provider Payment Reassignments (CMS-2249-F)	not estimated	not estimated	\$142.9- \$144.0	\$182.1-\$183.5 million in transfers (2013\$) from the federal government to beneficiaries or state governments, plus \$137.5-\$138.6 million in transfers from state governments to beneficiaries or other state governments.
0938-AR37	Policy and Technical Changes to the Medicare Advantage and the Medicare Prescription Drug Benefit Programs for Contract Year 2015 (CMS-4159-F)	not estimated	not estimated	\$116.0- \$120.7	Transfers are from Medicare Advantage organizations and Medicare Part D sponsors to the federal government.
0938-AR49	Part II--Regulatory Provisions To Promote Program Efficiency, Transparency, and Burden Reduction (CMS-3267-F)	\$0	(495.1) Range: (177.9- \$642.0)	not estimated	
0938-AR52	Home Health Prospective Payment System Rate for CY 2014 (CMS-1450-F)	not estimated	not estimated	\$156.9	Transfers are from home health Medicare providers to the federal government.
0938-AR54	Changes to the Hospital Outpatient Prospective Payment System and Ambulatory Surgical Center Payment System for CY 2014 (CMS-1601-F)	not estimated	not estimated	\$520.3 Range: \$513.2- \$527.3	Transfers are from the federal government to Medicare providers and suppliers.
0938-AR55	CY 2014 Changes to the End-Stage Renal Disease (ESRD) Prospective Payment System, ESRD Quality Incentive Program, and Durable Medical Equipment (CMS-1526-F)	not estimated	<\$0.1	(\$18.1)- (\$18.5)	Transfers are from the federal government to Medicare providers; savings in DME are associated with making payment to Medicare providers on a capped rental basis rather than a lump sum purchase basis for items that would be reclassified. Not included in the total: \$15.1 million reduced payment to ESRD facilities which fall below the quality standards in CY 2016.

0938-AR56	Revisions to Payment Policies Under the Physician Fee Schedule and Medicare Part B for CY 2014 (CMS-1600-FC)	not estimated	\$53.0	\$14,147.5	Transfers are from Medicare providers and suppliers to the federal government. Not included are an additional transfer of \$29 million (via coinsurance effects) from practitioners to beneficiaries.
0938-AR62	Prospective Payment System for Federally Qualified Health Centers; Changes to Contracting Policies for Rural Health Clinics and CLIA Enforcement Actions for Proficiency Testing Referral (CMS-1443-FC)	not estimated	not estimated	\$155.1- \$158.0	Transfers are from the federal government to Federally Qualified Health Centers.
0938-AR81	HIPAA Mental Health Parity and Addiction Equity Act of 2008 Amendments (CMS-4140-F)	not estimated	\$182.1- \$183.2	\$605.6- \$607.5	Estimated transfers of value flow from insurers and non-users of mental health and substance use disorder services to users of mental health and substance use disorder services.
0938-AR82	Program Integrity: Exchange, Premium Stabilization Programs, Market Standards, and Cost-Sharing Reduction Reconciliation [<i>sic</i>]; Amendments to Benefit and Payment Parameters for 2014 (CMS-9957-F2)	not estimated	\$12.0- \$12.1	not estimated	Cost estimates are included, but probably are not a substantial portion of the total.
0938-AR89	CY 2015 Notice of Benefit and Payment Parameters (CMS-9954-F)	not estimated	\$1.8	(\$13.0)- (\$13.3)	Transfer estimates are included, but are probably not a substantial portion of the total.
0938-AR93	Establishment of the Basic Health Program (CMS-2380-F)	not estimated	not estimated	\$136.4- \$137.2	Transfers include \$3.6 billion (2015\$) from Qualified Health Plans to the federal government and \$3.4 billion from the federal government to state governments.
0938-AS02	Exchange and Insurance Market Standards for 2015 and 2016 (CMS-9949-P)	not estimated	\$38.3- \$38.9	\$2.3	Cost estimates are included, but probably are not a substantial portion of the total.
0938-AS07	FY 2015 Prospective Payment System and Consolidated Billing for Skilled Nursing Facilities (SNF) (CMS-1605-F)	not estimated	not estimated	\$580.2	Transfers are from the federal government to Medicare providers (skilled nursing facilities).
0938-AS08	FY 2015 Inpatient Psychiatric Facilities Prospective Payment System--Rate Update (CMS-1606-F)	not estimated	\$25.8	\$92.8	Transfers are from the federal government to Medicare providers (inpatient psychiatric facilities).
0938-AS09	FY 2015 Inpatient Rehabilitation Facility Prospective Payment System (CMS-1608-F)	not estimated	\$1.6	\$139.2	Transfers are from the federal government to Medicare providers (inpatient rehabilitation facilities).
0938-AS10	FY 2015 Hospice Payment Rate Update (CMS-1609-F)	not estimated	\$6.8	\$177.9	Transfers are from the federal government to Medicare providers (hospices).
0938-AS11	Hospital Inpatient Prospective Payment System for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and Fiscal Year 2015 Rates (CMS-1607-F)	not estimated	\$3.6	(160.0)	Transfers are from the federal government to Medicare providers.
0938-AS18	Extension of Payment Adjustment for Low-Volume Hospitals and the Medicare-Dependent Hospital Program Under the FY 2014 Hospital Inpatient Prospective Payment System (CMS-1599-IFC2)	not estimated	not estimated	\$175.6	Transfers are from the federal government to providers.

0938-AS31	Administrative Simplification: Change to the Compliance Date for the International Classification of Diseases, 10th Revision Medical Data Code Sets (CMS-0043-F)	not estimated	\$3,099.6 Range: \$898.1- \$5,298.8	not estimated	
Department of Homeland Security					
1652-AA01	Aviation Security Infrastructure Fees (ASIF)	\$0.1	not estimated	(\$348.9)	Reduction in transfer payments from industry to the Government (as the Government will no longer be receiving the transfer of ASIF payments for security services provided).
1652-AA68	Adjustment of Passenger Civil Aviation Security Service Fee	not estimated	not estimated	\$1,524.7- \$1,557.0	Transfers are from air passengers to the Federal government.
Department of the Interior					
1018-AZ80	Migratory Bird Hunting; 2014-2015 Migratory Game Bird Hunting Regulations (Early Season)	\$238.6- \$289.0	not estimated	not estimated	
1018-AZ80	Migratory Bird Hunting; 2014-2015 Migratory Game Bird Hunting Regulations (Late Season)	\$238.6- \$289.0	not estimated	not estimated	
Department of Labor					
1218-AB67	Electric Power Transmission and Distribution; Electrical Protective Equipment	\$150.1	\$41.5 Range: \$39.4- \$41.5	not estimated	
1219-AB64	Lowering Miners' Exposure to Respirable Coal Mine Dust, Including Continuous Personal Dust Monitors	\$17.1 Range: \$14.6- \$42.3	\$24.1 Range: \$22.5- 29.3	not estimated	Transfers are from mine operators to the federal government. Health benefits are projected 65 years into the future but--due to latency in the development of relevant lung diseases--are associated with fewer years (perhaps approximately 45 years) of cost-generating exposure reductions; hence, for comparability with cost estimates, benefits are annualized over 45 years. MSHA's analysis is ambiguous regarding the number of years of exposure reductions that will produce the 65 years' worth of estimated benefits; therefore, the most conservative presentation would entail annualizing impacts over 65 years. Costs would continue in the same pattern in years 46-65 as established in years 1-45 and hence the annualized cost values are virtually unchanged with this approach, but benefits annualized over 65 years are (lower bound/primary/upper bound): \$17.1/\$20.0/\$23.8 million (7%) or \$31.6/\$36.9/\$44.0 million (3%) (2014\$).
1235-AA10	Establishing a Minimum Wage for Contractors, Executive Order 13658	not estimated	not estimated	\$220.1 Range: \$220.1- \$228.0	Transfers are from federal contractors and/or taxpayers to federal contractor employees. Rule may affect government costs for contracts.
Department of Transportation					
2127-AK43	Federal Motor Vehicle Safety Standard No. 111, Rearview Mirrors	\$222.6- \$509.7	\$458.4- \$790.2	not estimated	Source: Agency annualization of estimates included in the RIA. There is no estimated primary estimate. Low estimate assumes 130 degree camera displayed on the dash, and assumes 73% adoption rate. High

					estimate assumes 180 degree camera displayed in the rearview mirror, and assumes 59% adoption rate. Property damage savings are included in the benefits.
2127-AK56	Require Installation of Seat Belts on Motorcoaches, FMVSS No. 208 (MAP-21)	\$18.4 Range: \$18.4-133.8	\$5.4 Range: \$5.4-\$5.9	not estimated	
2132-AB13	Public Transportation Emergency Relief Program (MAP-21)	not estimated	\$0.1	\$19.6-\$8,553.3	Transfers are from the Federal government to FTA recipients. FTA was unable to estimate the amount of funding this program may distribute annually because there are too many unknown factors. FTA was appropriated \$10.9 billion (2013\$) for the Emergency Relief Program in response to Hurricane Sandy under the Disaster Relief Appropriations Act of 2013. However, during years in which there is no emergency on the magnitude of Hurricane Sandy, FTA expects that far fewer funds will be transferred through this program. For example, the Administration's budget request included \$25 million for fiscal year 2013 for the Emergency Relief program, which provides an indication of the amount of funds this program may transfer in a more typical year.
Department of the Treasury					
1505-AC44	Restore Act Program	not estimated	not estimated	\$505.1	Transfers from the Federal Government to affected Gulf Coast states and counties.
Environmental Protection Agency					
2040-AE95	Criteria and Standards for Cooling Water Intake Structures	\$23.5 Range: \$23.5-\$26.8	\$222.9 Range: \$222.9-\$241.0	not estimated	
2060-AQ86	Control of Air Pollution From Motor Vehicles: Tier 3 Motor Vehicle Emission and Fuel Standards	\$3,199.0-\$10,638.0	\$1,062.8	not estimated	
Pension Benefit Guaranty Corporation					
1212-AB26	Premium Rates, Payment of Premiums, Reducing Regulatory Burden	not estimated	not estimated	\$25.9-\$58.4	Transfers are from the federal government to plans. PBGC premium payments are included as receipts in the Federal budget, and the large-plan flat-rate premium deferral will cause a one-time shift of about \$1.5 billion (2014\$) from FY 2014 to FY 2015. Although no premium revenue will be lost, there will be the appearance of a one-time loss for FY 2014.
Veterans Affairs					
2900-AO65	Loan Guaranty; Qualified Mortgage Definition	not estimated	not estimated		
2900-AO91	Copayments for Medications in 2014	not estimated	not estimated	\$89.4-\$92.8	Transfers are from the federal government to veterans.

Table A-2: Estimates of Annual Benefits and Costs of Major Final Rules October 1, 2004 - September 30, 2013¹⁴⁹
(millions of 2001 dollars)

RIN	Title	Completed	Published	Benefits	Costs	Source of Estimate
<i>Department of Agriculture</i>						
0579-AB73	Bovine Spongiform Encephalopathy: Minimal Risk Regions and Importation of Commodities	12/29/04	1/4/05	572-639	557-623	2006 Report: Table 1-4
0579-AB81	Mexican Hass Avocado Import Program	11/23/04	11/30/04	122-184	71-114	2006 Report: Table 1-4
0579-AC01	Bovine Spongiform Encephalopathy; Minimal-Risk Regions and Importation of Commodities	9/14/07	9/18/07	169-340	98-194	2008 Report: Table 1-4
0583-AC88	Prohibition of the Use of Specified Risk Materials for Human Food and Requirements for the Disposition of Non-Ambulatory Disabled Cattle	6/29/07	7/13/07	0	87-221	2008 Report: Table 1-4
<i>Department of Energy</i>						
1904-AA78	Energy Efficiency Standards for Residential Furnaces and Boilers	11/6/07	11/19/07	120-182	33-38	2009 Report: Table 1-4
1904-AA89	Energy Efficiency Standards for Clothes Dryers and Room Air Conditioners	4/8/11	4/21/11	169-310	129-182	2012 Report: Table 1-5(a)
1904-AA90	Energy Efficiency Standards for Pool Heaters and Direct Heating Equipment and Water Heaters [75 FR 20112]	3/30/10	4/16/10	1,274-1,817	975-1,122	2011 Report: Table A-1
1904-AA92	Energy Efficiency Standards for General Service Fluorescent Lamps and Incandescent Lamps	6/26/09	7/14/09	1,111-2,886	192-657	2010 Report: Table 1-4
1904-AB08	Energy Efficiency Standards for Electric Distribution Transformers	9/27/07	10/12/07	490-865	381-426	2008 Report: Table 1-4
1904-AB50	Energy Efficiency Standards for Fluorescent Lamp Ballasts	10/28/2011	11/14/2011	760-1,556	179-153	2013 Report: Table 1-6(a)
1904-AB59	Energy Efficiency Standards for Commercial Refrigeration Equipment	12/18/08	1/9/09	186-224	69-81	2010 Report: Table 1-4
1904-AB70	Energy Conservation Standards for Small Electric Motors [75 FR 10874]	2/25/10	3/9/10	688-827	218	2011 Report: Table A-1

¹⁴⁹ Based on date of completion of OMB review.

RIN	Title	Completed	Published	Benefits	Costs	Source of Estimate
1904-AB79	Energy Efficiency Standards for Residential Refrigerators, Refrigerator-Freezers, and Freezers	8/25/11	9/15/11	1,660-3,034	803-1.281	2012 Report: Table 1-5(a)
1904-AB90	Energy Conservation Standards for Residential Clothes Washers	4/26/12	5/31/12	1,010-1,802	151-253	2013 Report: Table 1-6(a)
1904-AC06	Energy Efficiency Standards for Residential Furnaces, Central Air Conditioners and Heat Pumps	6/6/11	6/27/11	719-1,766	475-724	2012 Report: Table 1-5(a)
1904-AB93	Energy Efficiency Standards for Commercial Clothes Washers [75 FR 1122]	12/23/09	1/8/10	46-67	17-21	2011 Report: Table A-1
1904-AC04	Energy Efficiency Standards for Distribution Transformers	4/8/13	4/18/13	653-1,017	209-264	2014 Report: Table 1-6(a)
1904-AC07	Energy Efficiency Standards for Microwave Ovens (Standby and Off Mode)	5/31/13	6/17/13	177-266	47-55	2014 Report: Table 1-6(a)
<i>Department of Health and Human Services</i>						
0910-AB76	CGMPs for Blood and Blood Components: Notification of Consignees and Transfusion Recipients Receiving Blood and Blood Components at Increased Risk of Transmitting HCV Infection (Lookback)	8/14/07	8/24/07	28-130	11	2008 Report: Table 1-4
0910-AB88	Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Dietary Ingredients and Dietary Supplements	5/8/07	6/25/07	10-79	87-293	2008 Report: Table 1-4
0910-AC14	Prevention of Salmonella Enteritidis in Shell Eggs	7/2/09	7/9/09	206-8,583	48-106	2010 Report: Table 1-4
0910-AC34	Amendments to the Performance Standard for Diagnostic X-Ray Systems and Their Major Components	5/27/05	6/10/05	87-2,549	30	2006 Report: Table 1-4
0910-AG84	Food Labeling; Gluten-Free Labeling of Foods	7/31/13	8/5/13	16-247	5-6	2014 Report: Table 1-6(a)
0919-AA01	Patient Safety and Quality Improvement Act of 2005 Rules	11/14/08	11/21/08	69-136	87-121	2010 Report: Table 1-4
0938-AM50	Updates to Electronic Transactions (Version 5010) (CMS-0009-F)	1/9/09	1/16/09	1,114-3,194	661-1,449	2010 Report: Table 1-4
0938-AN25	Revisions to HIPAA Code Sets (CMS-0013-F)	1/9/09	1/16/09	77-261	44-238	2010 Report: Table 1-4
0938-AN49	Electronic Prescribing Standards(CMS-0011-F)	11/1/05	11/7/05	196-660	82-274	2007 Report: Table 1-4

RIN	Title	Completed	Published	Benefits	Costs	Source of Estimate
0938-AN79	Fire Safety Requirements for Long-Term Care Facilities: Sprinkler Systems (CMS-3191-F)	8/6/08	8/13/08	53-56	45-56	2009 Report: Table 1-4
0938-AN95	Immunization Standard for Long Term Care Facilities (CMS-3198-P)	9/30/05	10/7/05	11,000	6	2006 Report: Table 1-4
0938-AQ11	Administrative Simplification: Adoption of Standards for Electronic Funds Transfer (EFT) (CMS-0024-IFC)	1/6/2012	1/10/2012	223-332	2-3	2013 Report: Table 1-6(a)
0938-AQ12	Administrative Simplification: Adoption of Authoring Organizations for Operating Rules and Adoption of Operating Rules for Eligibility and Claims Status (CMS-0032-IFC)	6/30/11	7/8/11	930-1,138	260-616	2012 Report: Table 1-5(a)
0938-AQ13	Administrative Simplification: Standard Unique Identifier for Health Plans and ICD-10 Compliance Date Delay (CMS-0040-F)	8/27/2012	9/5/2012	425-1,017	150-758	2013 Report: Table 1-6(a)
<i>Department of Homeland Security</i>						
1625-AA32	Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters	2/23/2012	3/23/2012	4-442	77-152	2013 Report: Table 1-6(a)
1651-AA72	Changes to the Visa Waiver Program To Implement the Electronic System for Travel Authorization (ESTA) Program	5/30/08	6/9/08	20-29	13-99	2009 Report: Table 1-4
<i>Department of Housing and Urban Development</i>						
2502-AI61	Real Estate Settlement Procedures Act (RESPA); To Simplify and Improve the Process of Obtaining Mortgages and Reduce Consumer Costs (FR-5180)	11/7/08	11/17/08	2,303	884	2010 Report: Table 1-4
<i>Department of Justice</i>						
1117-AA60	Electronic Orders for Schedule I and II Controlled Substances	3/18/05	4/1/05	275	108-118	2006 Report: Table 1-4
1117-AA61	Electronic Prescriptions for Controlled Substances [75 FR 16236]	3/10/10	3/31/10	348-1,320	35-36	2011 Report: Table A-1
1190-AA44	Nondiscrimination on the Basis of Disability in Public Accommodations and Commercial Facilities [75 FR 56164]	7/22/10	9/15/10	980-2,056	549-719	2011 Report: Table A-1

RIN	Title	Completed	Published	Benefits	Costs	Source of Estimate
1190-AA46	Nondiscrimination on the Basis of Disability in State and Local Government Services [75 FR 56236]	7/22/10	9/15/10	151-304	122-172	2011 Report: Table A-1
Department of Labor						
1210-AB06	Revision of the Form 5500 Series and Implementing Regulations	8/30/07	11/16/07	0	(83)	2008 Report: Table 1-4
1210-AB07	Improved Fee Disclosure for Pension Plan Participants	10/5/10	10/20/10	780-3,255	217-362	2012 Report: Table 1-5(a)
1210-AB35	Statutory Exemption for Provision of Investment Advice	9/29/11	10/25/11	5,789-15,134	1,571-4,218	2012 Report: Table 1-5(a)
1218-AB45	Occupational Exposure to Hexavalent Chromium (Preventing Occupational Illness: Chromium)	2/17/06	2/28/06	35-862	263-271	2007 Report: Table 1-4
1218-AB77	Employer Payment for Personal Protective Equipment	11/2/07	11/15/07	40-336	2-20	2009 Report: Table 1-4
1218-AC20	Hazard Communication	2/21/2012	3/26/2012	517-1,584	132-164	2013 Report: Table 1-6(a)
1219-AB46	Emergency Mine Evacuation	12/5/06	12/8/06	10	41	2008 Report: Table 1-4
1218-AC01	Cranes and Derricks in Construction [75 FR 47906]	6/22/10	8/9/10	172	123-126	2011 Report: Table A-1
Department of Transportation						
2120-AI17	Washington, DC, Metropolitan Area Special Flight Rules Area	12/3/08	12/16/08	10-839	89-382	2010 Report: Table 1-4
2120-AI23	Transport Airplane Fuel Tank Flammability Reduction	7/9/08	7/21/08	21-66	60-67	2009 Report: Table 1-4
2120-AI51	Congestion and Delay Reduction at Chicago O'Hare International Airport	8/18/06	8/29/06	153-164	0	2007 Report: Table 1-4
2120-AI92	Automatic Dependent Surveillance--Broadcast (ADS-B) Equipage Mandate to Support Air Traffic Control Service [75 FR 30160]	5/20/10	5/28/10	144-189	148-284	Internal database ¹⁵⁰
2120-AJ01	Part 121 Pilot Age Limit	6/8/09	7/15/09	30-35	4	2010 Report: Table 1-4
2120-AJ67	Pilot Certification and Qualification Requirements (Formerly First Officer Qualification Requirements) (HR 5900)	7/9/13	7/15/13	13-29	122-153	2014 Report: Table 1-6(a)
2125-AF19	Real-Time System Management Information Program	10/13/10	11/8/10	152-166	132-137	2012 Report: Table 1-5(a)

¹⁵⁰ The benefits and costs of this rule were misreported in Table A-1 of the *2011 Report to Congress on the Costs and Benefits of Federal Regulations and Unfunded Mandates on State, Local and Tribal Entities*. The correct estimates are drawn from the OMB internal database, "ROCIS."

RIN	Title	Completed	Published	Benefits	Costs	Source of Estimate
2126-AA59	New Entrant Safety Assurance Process	11/26/08	12/16/08	472-602	60-72	2010 Report: Table 1-4
2126-AA89	Electronic On-Board Recorders for Hours-of-Service Compliance ¹⁵¹	3/18/2010	4/5/10	Not Included	Not Included	2011 Report: Table A-1
2126-AA90	Hours of Service of Drivers	8/16/05	8/25/05	19	(235)	2006 Report: Table 1-4
2126-AA97	National Registry of Certified Medical Examiners	4/4/2012	4/20/2012	58-180	25-28	2013 Report: Table 1-6(a)
2126-AB14	Hours of Service of Drivers ¹⁵²	11/13/08	11/19/08	Not included	Not included	2010 Report: Table 1-4
2126-AB26	Hours of Service	12/20/2012	12/27/2012	182-1,025	389	2013 Report: Table 1-6(a)
2127-AG51	Roof Crush Resistance	4/30/09	5/12/09	374-1,160	748-1,189	2010 Report: Table 1-4
2127-AH09	Upgrade of Head Restraints	11/23/04	12/14/04	111-139	83	2006 Report: Table 1-4
2127-AI91	Rear Center Lap/Shoulder Belt Requirement--Standard 208	11/30/04	12/8/04	188-236	162-202	2006 Report: Table 1-4
2127-AJ10	Side Impact Protection Upgrade--FMVSS No. 214	8/28/07	9/11/07	736-1,058	401-1,051	2008 Report: Table 1-4
2127-AJ23	Tire Pressure Monitoring Systems	3/31/05	4/8/05	1,012-1,316	938-2,282	2006 Report: Table 1-4
2127-AJ37	Reduced Stopping Distance Requirements for Truck Tractors	7/16/09	7/27/09	1,250-1,520	23-164	2010 Report: Table 1-4
2127-AJ61	Light Truck Average Fuel Economy Standards, Model Year 2008 and Possibly Beyond	3/28/06	4/6/06	847-1,035	666-754	2007 Report: Table 1-4
2127-AJ77	Electronic Stability Control (ESC)	3/23/07	4/6/07	5,987-11,282	913-917	2008 Report: Table 1-4
2127-AK23	Ejection Mitigation	12/23/10	1/19/11	1,500-2,375	419-1,373	2012 Report: Table 1-5(a)
2127-AK29	Passenger Car and Light Truck Corporate Average Fuel Economy Model Year 2011	3/24/09	3/30/09	857-1,905	650-1,910	2010 Report: Table 1-4
2130-AC03	Positive Train Control [75 FR 2597]	12/30/09	1/15/10	34-37	519-1,264	2011 Report: Table A-1

¹⁵¹ This rule was vacated on Aug. 26, 2011, by the U.S. Court of Appeals for the Seventh Circuit. (Benefits: \$165-170 million; Costs: \$126-129 million)

¹⁵² As explained in the 2010 Report, the benefits and costs of this rule are not included in the benefit and cost totals for the 10-year aggregate. This interim final rule reestablished policies on the maximum time truck drivers were able to drive per day and per week, and the minimum period before which truck drivers could restart the count of their weekly driving time. These policies were put in place through previous rulemakings on the same subject, but were vacated in 2007 by the United States Court of Appeals for the DC Circuit, which held that the Agency had failed to provide an opportunity for public comment on certain aspects of their Regulatory Impact Analysis. Furthermore, the analysis accompanying this interim final rule analyzed the impact of maintaining these policies relative to the disruptive impact of their prompt removal, not relative to previous fully-implemented policies. Since OMB already reported and attributed the benefits and costs of the Hours of Service Regulations to other rulemakings, and those policies were maintained by this interim final rule, we felt that including the benefits and costs of this rulemaking in the ten-year totals would constitute double counting.

RIN	Title	Completed	Published	Benefits	Costs	Source of Estimate
2130-AC27	Positive Train Control Systems Amendments (RRR)	5/9/2012	5/14/2012	34-65	1-3	2013 Report: Table 1-6(a)
2137-AE15	Pipeline Safety: Distribution Integrity Management [74 FR 63906]	11/6/09	12/4/09	97-145	92-97	2011 Report: Table A-1
2137-AE25	Pipeline Safety: Standards for Increasing the Maximum Allowable Operating Pressure for Gas Transmission Pipelines	10/2/08	10/17/08	85-89	13-14	2010 Report: Table 1-4
2130-AB84	Regulatory Relief for Electronically Controlled Pneumatic Brake System Implementation	8/29/08	10/16/08	828-884	130-145	2009 Report: Table 1-4
<i>Department of Transportation and Environmental Protection Agency</i>						
2127-AK50; 2060-AP58	Light-Duty Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards [75 FR 25323]	3/31/10	5/7/10	3.9-18.2 thousand	1.7-4.7 thousand	2011 Report: Table 1-5(a)
2127-AK74; 2060-AP61	Commercial Medium- and Heavy-Duty On-Highway Vehicles and Work Truck Fuel Efficiency Standards	8/8/11	9/15/11	2,150-2,564	331-496	2012 Report: Table 1-5(a)
2127-AK79; 2060-AQ54	Joint Rulemaking to Establish 2017 and Later Model Year Light Duty Vehicle GHG Emissions and CAFE Standards	8/27/12		21,220-28,822	5,305-8,828	2013 Report: Table 1-6(a)
<i>Environmental Protection Agency</i>						
2040-AD37	National Primary Drinking Water Regulations: Long Term 2 Enhanced Surface Water Treatment Rule	6/22/05	1/5/06	262-1,785	89-144	2006 Report: Table 1-4
2040-AD38	National Primary Drinking Water Regulations: Stage 2 Disinfectants and Disinfection Byproducts Rule	11/23/05	1/4/06	598-1,473	74-76	2007 Report: Table 1-4
2040-AF11	Water Quality Standards (Numeric Nutrient Criteria) for Florida's Lakes and Flowing Waters	11/18/10	12/6/10	23	111-169	2012 Report: Table 1-5(a)
2050-AG16	Revisions to the Spill Prevention, Control, and Countermeasure (SPCC) Rule [74 FR 58784]	10/23/09	11/13/09	0	(78-85)	2011 Report: Table A-1
2050-AG23	Oil Pollution Prevention; Spill Prevention, Control, and Countermeasure (SPCC) Requirements--Amendments	11/15/06	12/26/06	0	(86-148)	2008 Report: Table 1-4
2050-AG31	Definition of Solid Wastes Revisions	9/17/08	10/30/08	16-285	14	2009 Report: Table 1-4

RIN	Title	Completed	Published	Benefits	Costs	Source of Estimate
2050-AG50	Oil Pollution Prevention: Spill Prevention, Control, and Countermeasure Rule Requirements - Amendments for Milk Containers	4/8/11	4/18/11	0	(118-121)	2012 Report: Table 1-5(a)
2060-AI44	Review of the National Ambient Air Quality Standards for Particulate Matter ¹⁵³	9/21/06	10/17/06	Not Included	Not Included	2007 Report: Table 1-4
2060-AJ31	Clean Air Visibility Rule	6/15/05	7/6/05	2,302-8,153	314-846	2006 Report: Table 1-4
2060-AJ65	Clean Air Mercury Rule-- Electric Utility Steam Generating Units ¹⁵⁴	3/15/05	5/18/05	Not Included	Not Included	2006 Report: Table 1-4
2060-AK70	Control of Hazardous Air Pollutants From Mobile Sources	2/8/07	2/26/07	2,310-2,983	298-346	2008 Report: Table 1-4
2060-AK74	Clean Air Fine Particle Implementation Rule	3/28/07	4/25/07	18,833-167,408	7,324	2008 Report: Table 1-4
2060-AL76	Clean Air Interstate Rule Formerly Titled: Interstate Air Quality Rule ¹⁵⁵	3/10/05	5/12/05	11,947-151,769	1,716-1,894	2006 Report: Table 1-4
2060-AM06	Control of Emissions from New Locomotives and New Marine Diesel Engines Less Than 30 Liters per Cylinder	2/14/08	5/6/08	4,145-14,550	295-392	2009 Report: Table 1-4
2060-AM34	Control of Emissions From Nonroad Spark-Ignition Engines and Equipment	8/18/08	10/8/08	899-4,762	196-200	2009 Report: Table 1-4
2060-AM82	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	6/28/06	7/11/06	679-757	56	2007 Report: Table 1-4
2060-AN24	Review of the National Ambient Air Quality Standards for Ozone	3/12/08	3/27/08	1,581-14,934	6,676-7,730	2009 Report: Table 1-4
2060-AN72	Petroleum Refineries--New Source Performance Standards (NSPS)--Subpart J	4/30/08	6/24/08	176-1,669	27	2009 Report: Table 1-4

¹⁵³ Although promulgated in 2006, this rule was removed from the 10-year aggregate estimates to avoid double counting benefits and costs with implementing regulations. (Benefits: \$3,837-39,879; Costs: 2,590-2,833.)

¹⁵⁴ On February 8, 2008, the D.C. Circuit vacated EPA's rule removing power plants from the Clean Air Act list of sources of hazardous air pollutants. At the same time, the Court vacated the Clean Air Mercury Rule. Thus, we exclude this rule from the 10-year aggregates. (Benefits: \$1-2 million; Costs: \$500 million)

¹⁵⁵ On July 11, 2008, the DC Circuit Court vacated the rule; however, in response to EPA's petition, the Court, on December 23, 2008, remanded the rule without vacatur, which keeps this rule in effect while EPA conducts further proceedings consistent with the Court's July 11 opinion. As explained in more detail in a previous footnote. On July 6, 2011, EPA finalized the Cross-State Air Pollution Rule (CSAPR), which was designed to replace the Clean Air Interstate Rule (CAIR). On August 21, 2012, however, the final CSAPR rule was vacated. On April 29, 2014, the US Supreme Court reversed the DC Circuit opinion vacating CSAPR. On June 26, 2014, the US Supreme Court filed a motion with the US Court of Appeals for the DC Circuit to lift the stay on CSPPR. On Oct 23, 2014, the US Court of Appeal for the DC Circuit ordered that EPA's motion to lift the stay of CSPPR be granted.

RIN	Title	Completed	Published	Benefits	Costs	Source of Estimate
2060-AN72	Petroleum Refineries--New Source Performance Standards (NSPS)--Subparts J and Ja	5/7/2012	9/12/2012	240-580	(79)	
2060-AN83	Review of the National Ambient Air Quality Standards for Lead	10/15/08	11/12/08	455-5,203	113-2,241	2010 Report: Table A-1
2060-AO15	National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants [75 FR 54970]	8/6/10	9/9/10	6,074-16,317	839-861	2011 Report: Table A-1
2060-AO47	Review of the National Ambient Air Quality Standards for Particulate Matter	12/14/12	1/15/13	2,980-7,532	44-290	2014 Report: Table 1-6(a)
2060-AO48	Review of the National Ambient Air Quality Standards for Sulfur Dioxide [75 FR 35519]	6/2/10	6/22/10	2,809-38,628	334-2,019	2011 Report: Table A-1
2060-AP36	National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (Diesel) [75 FR 9647]	2/17/10	3/3/10	709-1,920	296-311	2011 Report: Table A-1
2060-AP50	Cross State Air Pollution Rule (CAIR Replacement Rule)	7/1/11	8/8/11	20,467-59,697	691	2012 Report: Table 1-5(a)
2060-AP52	National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Electric Utility Steam Generating Units	12/16/11	2/16/12	28,143-76,753	8,187	2013 Report: Table 1-6(a)
2060-AP76	Oil and Natural Gas Sector--New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants	4/17/12	8/16/12	155	142	2013 Report: Table 1-6(a)
2060-AQ13	National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines--Existing Stationary Spark Ignition (Gas-Fired) [75 FR 51569]	8/10/10	8/20/10	380-992	202-209	2011 Report: Table A-1
2060-AQ58	Reconsideration of Final National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines	1/14/13	1/30/13	617-1,697	404	2014 Report: Table 1-6(a)

RIN	Title	Completed	Published	Benefits	Costs	Source of Estimate
2060-AR13	National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters; Proposed Reconsideration	12/20/12	1/31/13	21.103-56,555	1,182-1,351	2014 Report: Table 1-6(a)
2070-AC83	Lead-Based Paint; Amendments for Renovation, Repair and Painting	3/28/08	4/22/08	618-1,612	366-400	2009 Report: Table 1-4
2070-AJ55	Lead; Amendment to the Opt-out and Recordkeeping Provisions in the Renovation, Repair, and Painting Program [75 FR 24802]	4/22/10	5/6/10	785-2,953	267-290	2011 Report: Table A-1

() indicates negative.

APPENDIX B: THE BENEFITS AND COSTS OF FISCAL YEAR 2004 MAJOR RULES

Table B-1 lists the rules that were omitted from the ten-year running totals presented in Chapter I of our Report to Congress. It consists of the annualized and monetized benefits and costs of rules for which OMB concluded review between October 1, 2003 and September 30, 2004. These rules were included in Chapter I of the 2014 Report as part of the ten-year totals, but are not included in the 2015 Report.

While we limit the Chapter I accounting statement to regulations issued over the previous ten years, we have included in this Appendix the benefits and cost estimates provided for the economically significant rulemakings that have been covered in the previous year’s Report in order to provide transparency.

**Table B-1: Estimates of Annual Benefits and Costs of Nine Major Federal Rules
October 1, 2003 - September 30, 2004**
(millions of 2001 dollars)

Agency	RIN	Title	OMB Review Completed	Benefits	Costs
HHS	0910-AC26	Bar Code Label Requirements for Human Drug Products and Blood Products	2/17/04	\$1,352-\$7,342	\$647
HHS	0910-AF19	Declaring Dietary Supplements Containing Ephedrine Alkaloids Adulterated Because They Present an Unreasonable Risk of Illness or Injury (Final Rule)	2/5/04	0-\$130	\$7-\$89
HHS	0938-AH99	Health Insurance Reform: Standard Unique Health Care Provider Identifier -- CMS-0045-F	1/13/04	\$214	\$158
DOT	2120-AH68	Reduced Vertical Separation Minimum in Domestic United States Airspace (RVSM)	10/8/03	(\$60)	(\$320)
DOT	2137-AD54	Pipeline Integrity Management in High Consequence Areas (Gas Transmission Pipelines)	11/26/03	\$154	\$288
EPA	2040-AD56	Effluent Guidelines and Standards for the Meat and Poultry Products Point Source Category (Revisions)	2/26/04	0-\$10	\$41-\$56
EPA	2060-AG52	Plywood and Composite Wood Products	2/26/04	\$152-\$1,437	\$155-\$291
EPA	2060-AG63	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	2/26/04	\$105-\$1,070	\$270
EPA	2060-AK27	Control of Emissions of Air Pollution From Nonroad Diesel Engines and Fuel (Final Rule)	5/7/04	\$6,853-\$59,401	\$1,336

**APPENDIX C: INFORMATION ON THE REGULATORY ANALYSES FOR MAJOR RULES BY
INDEPENDENT AGENCIES**

**Table C-1: Total Number of Major Rules Promulgated by Independent Agencies, October
1, 2004 – September 30, 2013**

Agency	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Consumer Financial Protection Bureau (CFPB)	--	--	--	--	--	--	--	2	4	--
Commodity Futures Trading Commission (CFTC)	--	--	--	--	--	--	1	13 ¹⁵⁶	2	4 ¹⁵⁷
Consumer Product Safety Commission (CPSC)	--	1	--	--	--	--	1	1	--	--
Department of Treasury, Office of the Comptroller of the Currency (OCC)	--	--	--	--	--	--	--	1 ¹⁵⁸	--	3 ¹⁵⁹
Federal Communications Commission (FCC)	4	2	2	4	--	--	--	--	1	1
Federal Deposit Insurance Corporation (FDIC)	--	--	--	--	--	--	--	1 ¹⁶⁰	1	4 ¹⁶¹
Federal Energy Regulatory Commission (FERC)	--	--	--	1	--	--	--	--	--	1 ¹⁶²
Federal Reserve System	--	--	--	--	3	7	4	1 ¹⁶³	1	5 ¹⁶⁴
Federal Trade Commission (FTC)	1	--	--	--	--	1	--	--	--	--
National Credit Union Administration (NCUA)	--	--	--	--	--	--	--	--	--	--
Nuclear Regulatory Commission (NRC)	1	1	1	2	2	1	1	1	4	1
Pension Benefit Guaranty Corporation (PBGC)	--	--	--	--	--	--	--	--	--	1
Securities and Exchange Commission (SEC)	5	--	7	4	8	9	10	8 ¹⁶⁵	5	6 ¹⁶⁶
Total	11	4	10	11	13	17	17	23	18	17

¹⁵⁶ Three of these rules are joint rules with SEC.

¹⁵⁷ One of these rules is a joint rule with OCC, Federal Reserve System, FDIC and SEC.

¹⁵⁸ This is a joint rule with FDIC and the Federal Reserve System.

¹⁵⁹ All of these rules are joint rules with CFTC, Federal Reserve System, FDIC and SEC.

¹⁶⁰ This is a joint rule with OCC and the Federal Reserve System.

¹⁶¹ Three of these rules are joint rules with CFTC, OCC, Federal Reserve System and SEC.

¹⁶² This is a joint rule with DOE.

¹⁶³ This is a joint rule with OCC and FDIC.

¹⁶⁴ Four of these rules are joint rules with CFTC, OCC, FDIC and SEC.

¹⁶⁵ Three of these rules are joint rules with CFTC.

¹⁶⁶ Two of these rules are joint rules CFTC, OCC, Federal Reserve System, and FDIC.

Table C-2: Total Number of Major Rules with Some Information on Benefits or Costs Promulgated by Independent Agencies, October 1, 2004- September 30, 2013¹⁶⁷

Agency	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Consumer Financial Protection Bureau (CFPB)	--	--	--	--	--	--	--	2	4	--
Commodity Futures Trading Commission (CFTC)	--	--	--	--	--	--	1	9 ¹⁶⁸	1	2
Consumer Product Safety Commission (CPSC)	--	1	--	--	--	--	0	0	--	--
Department of Treasury, Office of the Comptroller of the Currency (OCC)	--	--	--	--	--	--	--	0	--	1 ¹⁶⁹
Federal Communications Commission (FCC)	0	0	0	0	--	--	--	--	0	0
Federal Deposit Insurance Corporation (FDIC)	--	--	--	--	--	--	--	0	1	1 ¹⁷⁰
Federal Energy Regulatory Commission (FERC)	--	--	--	1	--	--	--	--	--	0 ¹⁷¹
Federal Reserve System	--	--	--	--	0	2	0	0	0	2 ¹⁷²
Federal Trade Commission (FTC)	0	--	--	--	--	1	--	--	--	--
National Credit Union Administration (NCUA)	--	--	--	--	--	--	--	--	--	--
Nuclear Regulatory Commission (NRC)	--	--	--	1	1	--	1	1	1	1
Pension Benefit Guaranty Corporation (PBGC)	--	--	--	--	--	--	--	--	--	1
Securities and Exchange Commission (SEC)	5	--	7	4	8	9	9	7 ¹⁷³	5	4
Total	5	1	7	6	8	11	11	17	7	10

¹⁶⁷ Table C-2 excludes all fee assessment rules promulgated by independent agencies. FCC promulgated six fee assessment rules from 1997 through 2002. NRC promulgated 15 statutorily mandated fee assessment rules from 1997 through 2013.

¹⁶⁸ Two of these rules are joint rules with SEC.

¹⁶⁹ This rule is a joint rule with FDIC and Federal Reserve System.

¹⁷⁰ This rule is a joint rule with OCC and Federal Reserve System.

¹⁷¹ This is a joint rule with DOE.

¹⁷² These rules are joint rules with OCC, and FDIC.

¹⁷³ Two of these rules are joint rules with CFTC.

APPENDIX D: REFERENCES

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