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Testimony of Randall Lutter,
Visiting Scholar, Resources for the Future

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On

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1616 P Street NW, Washington DC 20036-1400
Tel: 202-328-5000; www.rff.org

Mr. Chairman: I am pleased to appear before this committee today to offer my views on environmental regulation, the economy and jobs, an important topic because both the environment and prosperity are important to Americans. As an economist, I believe that careful analysis of the effects of regulations can help in designing regulations so they offer clear net benefits to Americans and do not impose unnecessary economic burdens. Careful regulatory analysis can also promote both public understanding of regulatory decisions and accountability for the regulators who make them. A theme of my testimony today is that the debate about the environment, the economy and jobs could benefit from more careful analysis and research.

I speak as an economist who has been involved in regulatory policy for more than two decades. I have had the privilege of serving Democratic and Republican Presidents, including positions at the federal Office of Management and Budget (OMB), the President's Council of Economic Advisers and the Food and Drug Administration. I am currently visiting scholar at Resources for the Future (RFF), a nonprofit and nonpartisan organization that conducts independent research – rooted primarily in economics and other social sciences – on environmental, energy, natural resource and environmental health issues. I have conducted research at the American Enterprise Institute and the AEI-Brookings Joint Center for Regulatory Studies. I emphasize that the views I present today are mine alone. RFF takes no institutional position on legislative, judicial, regulatory, or other public policy matters.

An important concern to the public and to policy makers these days is employment and in particular the relatively poor performance of the economy in providing jobs to people who want to work. The Commissioner of the federal Bureau of Labor Statistics (BLS) announced earlier in February that the unemployment rate declined from 9.4 to 9.0 percent in January, and that nonfarm payroll employment changed little, (+36,000), having increased by 1.0 million since a recent low in February 2010.[1] It is worth noting that the current level of nonfarm payroll employment, 130,265,000 is about 7.7 million jobs below the highest level of the last decade, nearly 138 million jobs, achieved in January, 2008.[2] Thus nonfarm employment needs to experience strong and sustained growth to catch up to levels seen before the recent recession. Cyclical trends in employment and unemployment are, however, a macroeconomic phenomenon best addressed through fiscal and monetary policy and sound financial regulation—topics beyond my scope and that of today's hearing.

My testimony today focuses on likely effects of environmental regulations on jobs and employment. I provide a brief background on benefit cost analysis as conducted by regulatory agencies and review highlights of the relevant economics literature. I then discuss some recent regulatory impact analyses, paying special attention to what the Environmental Protection Agency's analyses say about the likely

[1] See the BLS Commissioner's Statement on the Employment Situation, February 4th, 2011, http://www.bls.gov/news.release/pdf/jec.pdf
[2] See BLS data from the Current Employment Statistics survey (National) at http://data.bls.gov/pdq/SurveyOutputServlet?request_action=wh&graph_name=CE_cesbref1

employment effects. I also review existing federal guidelines about how to conduct such analyses and find them lacking. In the absence of guidelines about how to conduct such analyses, there is little clear basis for evaluating the quality of any given analysis, so I conclude with recommendations about what the Office of Management and Budget should do to strengthen the analysis of the effects of regulations on jobs and employment.

Regulations and Benefit Cost Analysis: a Thumbnail Overview

The consensus view within the economics profession about the role of economic analysis in environmental, health and safety regulation is that it is an exceptionally useful framework for consistently organizing disparate information, and that in this way it can greatly improve the process and the outcome of policy analysis and deliberations.[3] This idea has become part of a centralized process of regulatory review, outlined in Executive Order 12866, which was signed by President Clinton in 1993 to replace an earlier Executive Order of comparable scope signed by President Reagan.[4] E.O. 12866 requires agencies to conduct an economic analysis of the benefits and costs of regulations before they are issued either as proposals or as final rules.

Executive Order 12866 articulates a basic regulatory policy principle--regulations should be issued only "upon a reasoned determination that the benefits of the

[3] See Arrow et al., 1996.
[4] President Clinton. 1993. "Executive Order 12866: Regulatory Planning and Review", FR 58(190) 51735:51744, October 3rd, 2011. www.whitehouse.gov/sites/default/files/omb/inforeg/eo12866.pdf

intended regulation justify its costs."[5] Acceptance of this principle, which I fully support, has helped promote consideration of efficiency implications during rulemakings. The analyses that regulatory agencies conduct to satisfy E.O. 12866 have also helped to increase public understanding and accountability for regulatory decisions, at least in instances where these analyses are conducted rigorously enough to meet standards of reliability.

While Executive Order 12866 does not mention employment or jobs in its twelve principles, it directs agencies to conduct[6]

> "[A]n assessment, including the underlying analysis, of costs anticipated from the regulatory action (such as . . . any adverse effects on the efficient functioning of the economy, private markets (including productivity, ***employment***, and competitiveness), health, safety, and the natural environment), together with, to the extent feasible, a quantification of those costs". (emphasis added)

President Obama's January 18th E.O. 13563, Improving Regulation and Regulatory Review, reaffirms E.O. 12866 and mentions job creation under general principles of regulation. It states, "Our regulatory system must protect public health, welfare,

[5] See E.O. 12866, Section 1(b)(6).
[6] See E.O. 12866, Section 6(a)(3)(C)(ii).

safety, and our environment while promoting economic growth, innovation, competitiveness, and job creation."[7]

To aid in the implementation of E.O. 12866, the federal Office of Management and Budget issued guidelines to agencies about how to conduct economic analysis of regulations. In 2003 OMB issued guidelines called Circular A-4, replacing a 2000 guidance that formalized a best practices document that had been issued in 1996.[8]

As described in Circular A-4, the best practice is for analysts to estimate costs based on the opportunity cost of the resources used or the benefits forgone as a result of the regulatory action. Opportunity costs include, but are not limited to, private-sector compliance costs and government administrative costs. Thus the costs of an environmental regulation requiring a given level of abatement or control typically include the full costs of all of the resources and all of the changes in operations or procedures necessary to comply with the regulation. The amount of labor needed to comply with the regulatory requirements, valued at market rates, is included in these cost estimates.

Conventional methods of calculating the benefits of environmental regulations focus on the value to people of reductions in the risks of disease or death, or

[7] See President Obama. 2011. "E.O. 13563, Improving Regulation and Regulatory Review" 76 FR 3821, January 21, 2011, http://www.archives.gov/federal-register/executive-orders/2011.html

[8] See OMB (2003). Full disclosure: in 2003 while working at FDA, I co-chaired a group of federal regulatory economists advising OMB on a draft version of Circular A-4. I drafted sections of the 1996 best practices document that preceded Circular A-4.

improvements in environmental amenities such as visibility, improved quality of surface water, or reduced risk of extinction for endangered species. Thus consideration of the effects of a regulation on employment has historically been separate from analysis of benefits and costs. When analyzed at all, employment effects have typically considered as a possible impact rather than as a cost or benefit.

Selected research on environmental regulation and jobs

Perhaps surprisingly, there has been relatively little scholarly, empirical economics research about the effects of environmental regulations on employment. I would like to highlight just two key articles, noting that more research would be valuable and appropriate.

Michael Greenstone, now with MIT, studied differences in economic activity between plants located in counties that met the national ambient air quality standards and those located in counties that did not.[9] In his 2002 paper, he reported that during the first 15 years after the Clean Air Act Amendments became law (1972-87), the counties that were out of attainment and subject to more stringent regulations, relative to the other counties, lost approximately 590,000 jobs, $37 billion in capital stock, and $75 billion (1987 dollars) of output in polluting industries. This paper did not address, however, the extent of any shift in jobs or

[9] See Greenstone, M. 2002. "The Impacts of Environmental Regulations on Industrial Activity: Evidence from the 1970 and 1977 Clean Air Act Amendments and the Census of Manufactures." *Journal of Political Economy.* 110(6):1175-1219.

other measures of economic activity toward the attainment areas—areas of cleaner air and less stringent regulation. Thus these estimates probably overstate the national loss of activity due to the nonattainment designations. Moreover, the applicability of the quantitative results to current air quality regulations is unclear.

Another important article, published in 2002 by my RFF colleagues Richard Morgenstern, William Pizer and Jhih-Shyang Shih, studied employment effects of spending on pollution controls in four industries subject to environmental regulations. The researchers identified three different mechanisms for increases in spending on pollution control to affect employment in a specific industry. They noted that the effects of pollution control spending on employment in a given industry do not need to be negative and could be positive. For example, if demand does not fall very much with increases in price, and if new spending to reduce pollution is relatively labor-intensive, then employment in the regulated industry would rise and not fall with mandatory increases in pollution control spending. Morgenstern, Pizer and Shih estimated their model and found small, statistically significant, positive associations between spending on pollution control and employment for the plastics industry and the petroleum industry. They did not find any evidence of large negative associations in the other industries. The applicability of their specific quantitative results to current regulations is unclear because U.S. markets have become more open to foreign competition and control requirements have become more stringent in the two decades since the last year of their study. In addition, the Morgenstern analysis uses a proxy for the stringency of environmental

regulation--spending on pollution controls--that likely does not reflect all opportunity costs related to environmental regulation. In particular, regulations that require permit approval before firms can increase emissions may delay or deter profitable improvements in operations. Morgenstern and his team lacked data to estimate such effects—which are generally of unknown magnitude.

EPA's consideration of employment or jobs in recent regulations

How has the Environmental Protection Agency analyzed and considered the possible effects of its regulations on employment? To address this question, I have examined several regulatory impact analyses recently released by the agency. I find that there are a wide variety of practices and no clear explanation about why EPA estimates some effects and not others.

1. EPA issued in June of 2010 a multi-billion dollar proposed regulation for Coal Combustion Residues generated by the electric utility industry under the Resource Conservation and Recover Act. It reports

> "The RIA for this proposed rule does not include either qualitative or quantitative estimation of the potential effects of the proposed rule on economic productivity, economic growth, employment, job creation, or international economic competitiveness."[10]

[10] See p. 443, Appendix for Regulatory Impact Analysis For EPA's Proposed RCRA Regulation Of Coal Combustion Residues (CCR) Generated by the Electric Utility Industry, available at http://www.regulations.gov/#!documentDetail;D=EPA-HQ-RCRA-2009-0640-0003.1

2. In April of 2009, EPA issued a proposed regulation for emissions standards for hazardous air pollutants for Portland cement manufacturing. It reports

> "Other consequences include reduced demand for labor. Employment falls by approximately 8 %, or 1167 employees."[11]

In this instance, EPA had fairly specific information about the effects on individual plants. EPA"identified six domestic plants with negative operating profits and significant utilization changes that could temporarily idle until market demand conditions improve".[12]

EPA does not appear to have incorporated into its cost estimates any costs associated with the reduced demand for labor or the possible plant closures.

3. In April of 2010, EPA issued a proposed regulation setting national emissions standards for hazardous air pollutants from industrial boilers. Applying earlier research by Morgenstern and colleagues, EPA estimated that the net effect on employment is four thousand additional jobs, with a large

[11] See p. 3-8, Regulatory Impact Analysis: National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry, http://www.epa.gov/ttnecas1/regdata/RIAs/portlandcementria_4-20-09.pdf

[12] See p. 3-10, Regulatory Impact Analysis: National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry, http://www.epa.gov/ttnecas1/regdata/RIAs/portlandcementria_4-20-09.pdf

confidence interval encompassing zero.[13] This analysis includes a detailed discussion about the applicability of the earlier results of Morgenstern and colleagues.

4. In January of 2010 EPA issued a new proposal for the national ambient air quality standard for ozone that contained no analysis of jobs, employment or work. This omission seems material because EPA reported that meeting one of several proposed standards (60 parts per billion ozone), would require reductions in emissions of nitrogen oxide of more than 90 percent in California's South Coast Air Basin, in the greater Chicago-land area stretching from Wisconsin to Indiana, and in Houston, Texas. [14]

   EPA's decision not to analyze effects on jobs, employment or work, however, followed a well-established precedent. For example, the final rule it issued on national ambient air quality standards for ozone in March 2008, though less stringent than the 2010 proposed rule, was also silent on these same questions.[15] These ozone standards, however, are much more stringent than the standards studied by Greenstone in his analysis showing adverse employment effects.

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[13] See Regulatory Impact Analysis: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, http://www.epa.gov/airquality/combustion/docs/boilerria20100429.pdf,

[14] See EPA. 2010. "Summary of the updated Regulatory Impact Analysis (RIA) for the Reconsideration of the 2008 Ozone National Ambient Air Quality Standard (NAAQS)". Table S2.2 http://www.epa.gov/ttnecas1/regdata/RIAs/s1-supplemental_analysis_full.pdf

[15] See EPA. 2008. "Final Ozone NAAQS Regulatory Impact Analysis". http://www.epa.gov/ttnecas1/regdata/RIAs/452_R_08_003.pdf

In summary, this snapshot review of four recently proposed regulations suggests that the agency's analysis of effects of these regulations on employment or jobs varies significantly. For two regulations EPA provided no information and no explanation for the lack of analysis. One of these regulations, dealing with ozone, is very likely to have adverse effects on local labor markets because of the difficulty of achieving cuts in emissions of 90 percent or greater. EPA has estimated positive (but statistically insignificant) effects on employment for one regulation and modest negative effects for another.

Standards for evaluating effects on employment

Ordinarily, when confronted with questions about agency's estimates of economic effects of pending regulations, one judges the quality of the estimates by evaluating whether the agency's analysis adheres to established standards.

OMB's Circular A-4, however, does little in 48 pages to clarify *how* agencies should assess any adverse effects on employment. In particular, A-4 does not develop any standards about how to perform the assessment of effects on employment described in E.O. 12866.[16]

[16] The Circular mentions "time in work, leisure and/or travel settings" in a recommendation that regulatory agencies should include various effects in their analysis and provide estimates of their monetary values when they are significant. See p. 37, OMB Circular A-4.

Although OMB's Circular A-4 is essentially silent about how to analyze the effects of regulation on employment, EPA has recently issued a guidance on preparing economic analyses that addresses this issue.[17] EPA's guidance states (page 9-10)

> "The chapters on benefits (Chapter 7) and costs (Chapter 8) point out that regulatory induced employment impacts are not, in general, relevant for a benefit-cost analysis. For most situations, employment impacts should not be included in the formal benefit-cost analysis. However, if desired, the analyst can, as part of an economic impact analysis, assess the employment impacts of a regulation. If this task is undertaken, the analyst needs to quantify all of the employment impacts -- positive and negative -- to present a complete picture of the effects.

Recommendations

Regulatory agencies should issue regulations only where the benefits demonstrably justify the costs and should take full advantage of statutory authority to use market-based regulatory mechanisms.

To ensure credible regulatory analysis of the effects of regulations on employment, the OMB should issue guidelines about how agencies should conduct such analysis but only after soliciting and considering public comment and genuinely independent expert advice. OMB followed such a process before issuing Circular A-4 in 2003.

[17] See EPA, Guidelines for Preparing Economic Analyses, December 2010. http://yosemite.epa.gov/ee/epa/eed.nsf/pages/Guidelines.html

Indeed the controversy over the effects of regulations on employment suggests there is value in having an independent non-federal entity convene experts to develop consensus standards for such analysis. OMB should work with regulatory agencies and other government bodies to support further independent economic research into this area. My own suggestions regarding the content of such OMB guidelines are as follows.

- The focus should be on identifying what employment effects can be quantified reliably and what quantification procedures are appropriate. They should avoid pitfalls associated with simply counting the number of "net" jobs—such as an inappropriate implicit preference for regulatory options associated with more jobs of low pay.

- The guidelines should reconsider the practice of excluding from benefit-cost analysis the costs of job losses induced by regulations. Losses due to regulation include the adjustment costs associated with the shifting of resources to new sectors. People who lose jobs lose valuable human capital that is specific to their employer or to their industry. This human capital, typically acquired through specialized classroom or on-the-job training or work experience, is often the basis for compensation greater than earned by workers just out of school.

- The guidelines should provide for distributional analyses of effects on those workers who are at significant incremental risk of job loss and who face

barriers to finding another job. Such barriers might be related to age, since many workers around age 50 have difficulty retraining, or live in locations that lack comparable work opportunities. The EPA's new guidelines do not mention the need for any analyses of effects on such workers.[18]

References

Arrow, Kenneth L., Maureen L. Cropper, George C. Eads, Robert W. Hahn, Lester B. Lave, Roger G. Noll, Paul R. Portney, Milton Russell, Richard Schmalensee, V. Kerry Smith, and Robert Stavins. 1996. "Is There a Role for Benefit-Cost Analysis in Environmental, Health and Safety Regulation"? *Science,* Vol. 272, p. 221, April 12, 1996.

President Clinton. 1993. "Executive Order 12866: Regulatory Planning and Review", FR 58(190) 51735:51744. October 3rd, 2011. www.whitehouse.gov/sites/default/files/omb/inforeg/eo12866.pdf

EPA, Guidelines for Preparing Economic Analyses, December 2010. http://yosemite.epa.gov/ee/epa/eed.nsf/pages/Guidelines.html

Greenstone, M. 2002. "The Impacts of Environmental Regulations on Industrial Activity: Evidence from the 1970 and 1977 Clean Air Act Amendments and the Census of Manufactures." *Journal of Political Economy.* 110(6):1175-1219.

Morgenstern, Richard, William Pizer and Jhih-Shyang Shih. 2002. "Jobs vs the Environment: An Industry Level Perspective." *Journal of Environmental Economics and Management.* 43(3): 412-436.

President Obama. 2011. "Executive Order 13563, Improving Regulation and Regulatory Review". FR 76(14) 3821-3823. January 21, 2011. http://www.archives.gov/federal-register/executive-orders/2011.html

Office of Management and Budget. 2003. Circular A-4, Regulatory Analysis. September, 17th, 2003. http://www.whitehouse.gov/omb/circulars_default/

[18] See, however, EPA, p. 10-1.