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REGULATORY ACCOUNTING: COSTS AND BENEFITS OF FEDERAL REGULATIONS

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY POLICY, NATURAL RESOURCES AND REGULATORY AFFAIRS

OF THE

COMMITTEE ON GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

ONE HUNDRED SEVENTH CONGRESS

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REGULATORY ACCOUNTING: COSTS AND BENEFITS OF FEDERAL REGULATIONS

TUESDAY, MARCH 12, 2002

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENERGY POLICY, NATURAL RESOURCES AND REGULATORY AFFAIRS,
COMMITTEE ON GOVERNMENT REFORM,
Washington, DC.

The subcommittee met, pursuant to notice, at 2 p.m., in room 2154, Rayburn House Office Building, Hon. Doug Ose (chairman of the subcommittee) presiding.

Present: Representatives Ose, Otter, Duncan, Tierney, and Kucinich.

Staff present: Dan Skopec, staff director; Barbara F. Kahlow, deputy staff director; Alison Freeman, clerk; Yier Shi, press secretary; Melica Johnson, press fellow; Elizabeth Mundinger and Alexandra Teitz, minority counsels; and Jean Gosa and Earley Green, minority assistant clerks.

Mr. OSE. Good afternoon. Welcome to today's hearing.

Last fall, Mark Crain and Thomas Hopkins estimated that in 2000 Americans spent $843 billion to comply with Federal regulations. Their report, commissioned by the Small Business Administration, states, "Had every household received a bill for an equal share, each would have owed $8,164." Their report also found that, "in the business sector, those hit hardest by Federal regulations are small businesses. Firms employing fewer than 20 employees face an annual regulatory burden of $6,975 per employee, a burden nearly 60 percent above that facing a firm employing over 500 employees." Regulations add to business costs and decrease capital available for investment.

Today, we will examine the Office of Management and Budget's—we will refer to them as OMB—annual regulatory accounting reports. They were intended to disclose the off-budget costs and benefits associated with Federal regulations and paperwork.

Because of congressional concern about the increasing costs and incompletely estimated benefits of Federal rules and paperwork, in 1996, Congress required OMB to submit its first regulatory accounting report. In 1998, Congress changed the annual report's due date to coincide with the President's budget. Congress established this simultaneous deadline so that Congress and the public could be given an opportunity to simultaneously review both the on-budget and off-budget costs associated with each Federal agency imposing regulatory or paperwork burdens on the public. In 2000, Congress made this a permanent annual reporting requirement. The

law requires OMB to estimate the total annual costs and benefits for all Federal rules and paperwork in the aggregate, by agency, by agency program, and by major rule.

Agency-by-agency data and data by agency program are important for the public to know the aggregate costs and benefits associated with each agency and each major regulatory program. For example, what are the aggregate costs and benefits of the requirements imposed by the Environmental Protection Agency and the Labor Department's Occupational Health and Safety Administration? Is there a more cost-effective way for OSHA or EPA to accomplish the intended objective? Would another approach achieve the same objective at less cost? Also, policymakers could make better decisions about tradeoffs between alternatives.

To date, OMB has issued four regulatory accounting reports—in September 1997, January 1999, June 2000, and December 2001. All four have failed to meet some or all of the statutorily required content requirements, and the last was submitted 8 months late. This untimely submission was too late to be useful in the congressional appropriations process. Additionally, OMB's December 2001 report was not presented as an accounting statement, did not include any estimates by agency or by agency program, and did not include updated estimates from its prior annual report. Last, OMB failed to submit its next report due February 4, 2002. Today, we will hear testimony that OMB expects to issue its draft report this month.

In 1996, OMB issued Best Practices Guidances to help standardize agency cost-benefit measures. Since then, OMB has not enforced agency compliance. As a consequence, agency practices continue to substantially deviate from OMB's guidance, with some agencies not even estimating costs or benefits.

Last October, I wrote to the OMB Director, asking if OMB will be ready to provide agency-by-agency information and what steps OMB has taken to ensure that costs and benefits data will be provided in a traditional accounting statement format, including by agency and agency program.

For OMB's Information Collection Budget and for the President's budget each year, OMB tasks agencies with preparing paperwork and budgetary estimates respectively for each agency bureau and program. OMB uses the Information Collection Budget to manage the burden of Federal paperwork imposed on the public. In contrast, for Federal regulations, OMB does not similarly task agencies annually with preparing estimates of the costs and benefits associated with the Federal regulations imposed by each agency bureau and program. As a consequence, OMB's annual regulatory accounting report is harder for OMB to prepare by agency and by agency program.

Regulatory accounting is a useful way to improve the cost effectiveness and accountability of government. One of my goals when I came to Congress was to make the government more efficient. The only way that policymakers can innovate is to understand the strengths and weaknesses of new proposals. Cost-benefit analyses give Congress tools to modernize our government and make it more responsive to the public.

I look forward to the testimony of our witnesses about OMB's track record and the utility of its annual regulatory accounting reports due with the President's budget.

I'd like to recognize the gentleman from Tennessee for the purpose of an opening statement.

[The prepared statement of Hon. Doug Ose follows:]

Chairman Doug Ose
Opening Statement
Regulatory Accounting: Costs and Benefits of Federal Regulations
March 12, 2002

Last Fall, Mark Crain and Thomas Hopkins estimated that, in 2000, Americans spent $843 billion to comply with Federal regulations. Their report, commissioned by the Small Business Administration (SBA), states, "Had every household received a bill for an equal share, each would have owed $8,164." Their report also found that, "[i]n the business sector, those hit hardest [by Federal regulations] are small businesses. Firms employing fewer than 20 employees face an annual regulatory burden of $6,975 per employee, a burden nearly 60 percent above that facing a firm employing over 500 employees." Regulations add to business costs and decrease capital available for investment.

Today, we will examine the Office of Management and Budget's (OMB) annual regulatory accounting reports. They were intended to disclose the off-budget costs and benefits associated with Federal regulations and paperwork.

Because of Congressional concern about the increasing costs and incompletely estimated benefits of Federal rules and paperwork, in 1996, Congress required OMB to submit its first regulatory accounting report. In 1998, Congress changed the annual report's due date to coincide with the President's Budget. Congress established this simultaneous deadline so that Congress and the public could be given an opportunity to simultaneously review both the on-budget and off-budget costs associated with each Federal agency imposing regulatory or paperwork burdens on the public. In 2000, Congress made this a permanent annual reporting requirement. The law requires OMB to estimate the total annual costs and benefits for all Federal rules and paperwork in the aggregate, by agency, by agency program, and by major rule.

Agency-by-agency data and data by agency program are important for the public to know the aggregate costs and benefits associated with each agency and each major regulatory program. For example, what are the aggregate costs and benefits of the requirements imposed by the Environmental Protection Agency (EPA) and the Labor Department's Occupational Health and Safety Administration (OSHA)? Is there a more cost-effective way for EPA or OSHA to accomplish the intended objective? Would another approach achieve the same objective at less cost? Also, policymakers could better make decisions about tradeoffs between alternatives.

To date, OMB has issued four regulatory accounting reports - in September 1997, January 1999, June 2000, and December 21, 2001 (for the report statutorily due April 9, 2001). All four have failed to meet some or all of the statutorily-required content requirements and the last was submitted over eight months late. This untimely submission was too late to be useful in the Congressional appropriations process. Additionally, OMB's December 2001 report was not presented as an accounting statement, did not include any estimates by agency or by agency program, and did not include updated estimates from its prior annual report. Lastly, OMB failed to submit its next report due on February 4, 2002. Today, OMB will testify that it expects to issue its draft report this month.

In 1996, OMB issued "Best Practices Guidances" to help standardize agency cost-benefit measures. Since then, OMB has not enforced agency compliance; as a consequence, agency practices continue to substantially deviate from OMB's guidance, with some agencies not even estimating costs or benefits. Last October, I wrote the OMB Director, asking if OMB will be ready to provide agency-by-agency information and what steps OMB has taken to ensure that costs and benefits data will be provided in a traditional accounting statement format, including by agency and agency program.

For OMB's Information Collection Budget (ICB) and for the President's Budget, each year, OMB tasks agencies with preparing paperwork and budgetary estimates, respectively, for each agency bureau and program. OMB uses the ICB to manage the burden of Federal paperwork imposed on the public. In contrast, for Federal regulations, OMB does not similarly task agencies annually with preparing estimates of the costs and benefits associated with the Federal regulations imposed by each agency bureau and program. As a consequence, OMB's annual regulatory accounting report is harder for OMB to prepare by agency and by agency program.

Regulatory accounting is a useful way to improve the cost-effectiveness and accountability of government. One of my goals when I came to Congress was to make the government more efficient. The only way that policymakers can innovate is to understand the strengths and weaknesses of new proposals. Cost-benefit analyses give Congress tools to modernize our government and make it more responsive to the public.

I look forward to the testimony of our witnesses about OMB's track record and the utility of its annual regulatory accounting reports due with the President's Budget. Our witnesses include: Dr. John D. Graham, Administrator, Office of Information and Regulatory Affairs (OIRA), OMB; Thomas M. Sullivan, Chief Counsel for Advocacy, SBA; James C. Miller III, former OMB Director and first OIRA Administrator and current Counselor to Citizens for a Sound Economy; Dr. Thomas D. Hopkins, former OIRA Deputy Administrator and current Dean, College of Business, Rochester Institute of Technology; Susan Dudley, Deputy Director, Regulatory Studies Program, Mercatus Center, George Mason University; Joan Claybrook, President, Public Citizen; and Lisa Heinzerling, Professor of Law, Georgetown University Law Center.

Laws Requiring Regulatory Accounting Reports and OMB Issuances

Date of Law	Due Date for OMB Report	Date of OMB Report	Required Content for OMB
9/30/96	9/30/97	9/97	(1) annual costs & benefits of Federal regulatory programs & of each major rule (2) impacts on private sector & State/locals (3) recommendations to reform/eliminate
10/10/97	9/30/98	1/99	same as prior year
10/21/98	**with the President's Budget** (2/7/00)	6/00	(1) accounting statement with annual costs & benefits of Federal rules & paperwork in the aggregate, by agency & agency program, & by major rule (2) associated report with impacts on small business, State/locals, etc. (3) recommendations for reform also: (4) OMB guidelines to agencies to standardize cost/benefit measures & format of accounting statements
9/29/99	**with the Budget (4/9/01)**	12/21/01	same as prior year
12/21/00	**permanently with the Budget (2/4/02)**	not yet issued	same as prior year

Prepared for Congressman Doug Ose

Mr. DUNCAN. Well, thank you very much, Mr. Chairman.

I don't have a formal opening statement, but I do want to say that I thank you for calling this hearing on what I think is a very important topic.

I was a lawyer and then a circuit court judge for 7½ years before I came to Congress. I can tell you there are so many millions of laws and rules and regulations on the books in this country today that they haven't even designed a computer that can keep up with all of them, much less a human being. People, especially people in business, are out there every day violating rules and regulations that they didn't even know were in existence.

I know that today it's estimated that almost 40 percent of the average person's income goes to pay taxes of all types—Federal, State, local, property, gas, excise, etc.—and most people estimate at least another 10 percent go for regulatory costs that are passed on to the consumer in the form of higher prices. So Senator Fred Thompson from our State had an ad the last time he ran for office. He said, one spouse works to support the family while the other spouse works to support the government.

I'm not as serious about what the tremendous costs are because who they impact most the lower income and the poor and the working people of this country. That is who is hurt the most by a society that's overregulated.

But, also, I'm concerned about the effect on small businesses. When you come in with excessive regulation, you first run the small businesses out. Then you run the medium size out. So some of these people who believe in regulating everything in the world are the best friends that extremely big business has. It happens in every industry. Every industry that's overregulated ends up in the hands of a few big giants.

We had 157 small coal companies in east Tennessee in 1978. Then they opened up a Federal mining regulatory office there, and now there are no small coal companies, and there are two or three big giants. That's happened in every industry in this country.

So thank you very much for calling this hearing. I look forward to hearing the testimony of the witnesses.

Mr. OSE. I thank the gentleman.

The gentleman from Idaho.

Mr. OTTER. Thank you, Mr. Chairman.

I, too, would agree with my colleague from Tennessee on the importance of this hearing. I appreciate your leadership on this important effort, as I also believe it is important for Congress to be provided with current, accurate, and timely information on the cost of financial burdens and the benefit and effectiveness of Federal regulations. To me, this is a simple matter of common sense.

In my last life I was a french fry salesman, and I don't ever remember making a decision about building a plant or increasing a distribution port, whether it was in the United States or one of the 82 countries that we operated in, on partial facts and incomplete conclusions. If I had, I wouldn't have been in business that long. Without accurate and timely information, my colleagues and I are being left to conduct the business of this Nation without all the facts.

As a businessman, as a lieutenant Governor and a member of the Idaho State legislature, I also became well aware of the impact that Federal regulations have on rural economies. The amount of money spent each year to meet regulatory demands of the Federal Government agencies is astounding.

In fact, in a report by an agency represented by Mr. Sullivan here today, the Small Business Administration, it is estimated that $843 billion—and this was a report that was put out in October of last year—$843 billion to comply with Federal regulations. Now that's the actual cost. It does not also include the opportunity cost of $843 billion. So as the financiers of the Federal regulatory agencies I think it's imperative that Congress has access to all the necessary means to conduct a thorough review of the financial and functional effectiveness of Federal regulations.

Again, I appreciate the chairman's attention to this issue and am proud to serve as the vice chairman of this subcommittee to look through these important issues. I look forward to hearing the testimony of our witnesses.

Thank you, Mr. Chairman. I yield back the balance of my time.

Mr. OSE. Thank you, Mr. Vice Chairman.

We have two panels today. It's the custom of this committee and the subcommittees to swear their witnesses in. So, gentlemen, if you would rise, please.

[Witnesses sworn.]

Mr. OSE. Let the record show the witnesses on the first panel answered in the affirmative.

We are joined today by two witnesses, by John Graham, who is the Administrator of the Office of Information and Regulatory Affairs in the Office of Management and Budget. He'll be first. Then we also are joined by the Chief Counsel for Advocacy in the Small Business Administration, Thomas M. Sullivan.

Dr. Graham, we have your testimony. We have entered it into the record. If you could summarize within 5 minutes, that would be great.

STATEMENTS OF JOHN D. GRAHAM, PH.D., ADMINISTRATOR, OFFICE OF INFORMATION AND REGULATORY AFFAIRS, OFFICE OF MANAGEMENT AND BUDGET; AND THOMAS M. SULLIVAN, CHIEF COUNSEL FOR ADVOCACY, U.S. SMALL BUSINESS ADMINISTRATION

Dr. GRAHAM. Very well, Mr. Chairman.

Good afternoon. I appreciate the opportunity to be here.

Since this is my first oversight hearing with this particular subcommittee, I thought I should step back and say a few words about the approach I'm taking to running the Office of Information and Regulatory Affairs for the President. This is the office that oversees all of the regulatory policy within the executive agencies.

As you know, the President supports regulations that are sensible and based upon sound science and economics; and, at the same time, we're determined to streamline the regulatory process to make sure there are no other regulations that are outside that basic criteria.

In terms of overall approach to the office, I'm trying to introduce a greater degree of transparency and openness to the office. Since

I was confirmed in July, I have had a virtually open door policy for public visitors from various types of groups, have hosted about 100 different groups interested in different facets of Federal regulation. We have also, through our Web site, been publishing the letters that our office submits to agencies on regulatory issues. We've published our meetings with outside groups, and we provide daily updates of new regulations that are either under review at our office or are being cleared, withdrawn, or returned.

We believe that this more open and public approach to the way we do our work will enhance public scrutiny of the regulatory process and, in the long run, increase appreciation of the value of our office.

Let me proceed now to the major topic of the hearing, which is the regulatory accounting law and our implementation of it. From your opening statement, Mr. Chairman, I realize we have a lot of work to do to bring our office into compliance with the requirements as you have described them in your opening statement. Let me say a couple things about what we're doing modestly to move in that direction.

The first point I would like to make is that we view better quality data and better analysis by agencies as the key to generating the information to make this regulatory accounting report a more effective and useful document. The key way we intend to do that for new regulations is through intense scrutiny by my analytical staff of these regulations when they are coming to our office. Since July we have returned 20 rules, in most cases because of inadequate analysis; and that number is more than the total number of rules returned in the entire Clinton administration.

We have also cleared six of these returned rules after the agencies improved their analysis and came back with stronger proposals. So a return does not necessarily mean the regulation is denied. It means it needs to be improved.

The second thing we need to do to improve the underlying information for the regulatory accounting law is look at the very difficult problem of the sea of existing regulations that are out there. The administration does not support an across-the-board review of every existing regulation in every agency. We don't believe that's practical. We don't believe the agencies could handle it, and we don't think OMB could handle it. However, we do believe that a public participation process rooted in the regulatory accounting law is an effective way to identify those particular regulations that are especially in need of reform and better analysis; and in the report that you've received that we submitted in December we took our first effort in this direction of seeking public comment on the existing regulatory state.

The third step we're taking to improve this information is to update the analytic guidance that OMB asks agencies to adhere to when they produce regulatory analyses that are submitted to our office. Jointly with the Council of Economic Advisors, my office is going to be refining this guidance after a process of public comment and peer review. It's through this guidance that the analysts and the agencies are expected to follow that we hope to spawn better data and better analysis from the agencies.

The final point I want to make is with regard to the timing of the regulatory accounting report. As you have mentioned, our statutory requirement is to release the report in February. I want to remind you at the end of the previous fiscal year, on October 1st, that left 4 months to generate a quality regulatory accounting report that has our office's analysis, peer review, interagency review, and the final analysis. Our position is we're going to do our best to get the draft regulatory accounting report to you in February of next year, and in future years we'll be working hard to do better than that. So I hope I have given you a general sense of where we're headed with compliance.

Let me conclude by saying that the annual accounting report to Congress we're using in this administration is a crucial vehicle to stimulate both specific regulatory reforms and to spawn in the long run better data and analysis from the agencies. I look forward to working with the subcommittee to pursue that agenda.

Mr. OSE. Thank you, Dr. Graham.

[The prepared statement of Dr. Graham follows:]

STATEMENT OF
JOHN D. GRAHAM, PH.D.
ADMINISTRATOR
OFFICE OF INFORMATION AND REGULATORY AFFAIRS
BEFORE THE
SUBCOMMITTEE ON ENERGY POLICY, NATURAL RESOURCES
AND REGULATORY AFFAIRS
UNITED STATES HOUSE OF REPRESENTATIVES

March 12, 2002

Mr. Chairman, and Members of this Subcommittee, thank you for inviting me to this hearing. I am John D. Graham, Ph.D., Administrator, Office of Information and Regulatory Affairs, Office of Management and Budget. Prior to joining the Bush Administration, I served as a faculty member at the Harvard School of Public Health, where I founded and directed the Harvard Center for Risk Analysis.

Since this is my first oversight hearing before this subcommittee, I would like to say a few words about my objectives as OIRA Administrator in the field of regulatory policy and then proceed to some remarks about OIRA's implementation of the Regulatory Right-to-Know Act, the primary topic of this hearing.

OVERALL APPROACH

The Bush Administration supports regulations that are sensible and based on sound science and economics. My role, on behalf of the President, is to oversee the activities of regulators throughout the federal government. Since my Senate confirmation last July, my priorities have been to (1) establish more openness and transparency about how the Office does its work, (2) stimulate more analytic rigor in the process of regulatory analysis throughout the federal government, and (3) suggest promising regulatory reforms to the agencies – some of these reforms call for more or stricter regulation for public benefit; other reforms call for less intrusive or less costly regulation for consumers and taxpayers. In doing our work we have sought to respect the expertise of the agencies and the substantive laws governing the activities of federal regulatory agencies.

OPENNESS AND TRANSPARENCY

On the subject of openness and transparency, we have deployed our web site as a vehicle to provide the public an unprecedented amount of information about the Office. Each day our web site provides new information about regulations that have been submitted to the Office, cleared for publication, returned for reconsideration by agencies or withdrawn by agencies. The

web site also provides basic information about our meetings with the public (names, affiliations, date and topic) concerning rules under review, copies of return and post-clearance letters, copies of my speeches and annual reports from the Office. We have also added a basic "question and answer" section about my Office, so that the public can learn the basic facts about the Office of Information and Regulatory Affairs. OMB is committed to this more open posture because we believe it will facilitate greater public understanding of our analytic approach to regulatory oversight.

ANALYTIC RIGOR

Since July of last year, I have attempted to send clear signals to agencies that the Bush Administration expects regulatory proposals to be supported by formal analyses of high quality. In my September 20th memorandum to the President's Management Council (which is posted on our web site), I described in some detail the procedures and criteria we shall use at OIRA to review the work of agencies.

There is a change underway at OIRA compared to previous Administrations. For example, in the last three years of the previous Administration, OIRA returned to agencies exactly zero rules. Since my confirmation in July, I have returned over twenty rules to agencies under the authority of Executive Order 12866, the most common reason being poor quality analysis (see our web site for a copy of these letters). A return does not necessarily stop a rulemaking forever. In six cases thus far, agencies have resubmitted improved analyses and we have cleared those rules for publication in the FEDERAL REGISTER. We have also encouraged agencies to make greater use of formal, independent peer review of their technical analyses. We have offered more deferential OMB review in those cases where agencies have voluntarily subjected their analyses to open, competent, and credible procedures of peer review.

SUGGESTING REGULATORY PRIORITIES

Historically, OIRA has been primarily a reactive institution that responds to the regulatory initiatives of agencies. In the Bush Administration, OIRA has taken a more proactive role in suggesting regulatory priorities for agency consideration.

One device we have used has been called the "prompt" letter. In each of the five prompt letters that I have issued since last September, the Office has suggested actions by agencies that can save lives, improve health or protect the environment in a cost-effective manner. The prompt letter is not an edict from a czar or even a Presidential directive. It is a public request designed to stimulate agency and public deliberation. Final decisions about priorities remain in the hands of the agencies. These prompt letters, and the initial agency responses, are also on our web site.

The prompt letters issued to date have emerged primarily from discussions with my professional staff. However, there is no reason that members of the public should not suggest ideas for prompt letters. Although we are not yet receiving first-class mail due to the events of September

11th, ideas for prompt letters can also be faxed to my office at (202) 395-3047.

Alternatively, ideas for regulatory priorities can be submitted to the Office during the annual public comment process under the Regulatory Right-to-Know Act. And that brings me to the major topic of this hearing, our annual regulatory accounting report as mandated in the Regulatory Right-to-Know Act.

OIRA's 2001 REPORT TO CONGRESS

On December 17th of last year we submitted to Congress the 2001 Report to Congress under the regulatory accounting law. Entitled "Making Sense of Regulation", the 2001 report provides both our annual Report to Congress on Unfunded Mandates on State, local and tribal governments and the regulatory accounting information on costs and benefits. Given the change in Administrations and the timing of my confirmation, it was not feasible to complete this report in February, when the budget was released.

A unique feature of this report was the request for public nomination of specific regulatory reforms for consideration by OIRA and the agencies. We received 71 nominations from 33 commenters involving 17 agencies. My Office made a preliminary evaluation of these 71 nominations and identified 23 as high priority for agency consideration. In fact, many of these 23 reform ideas were already Administration priorities. We are now in the process of discussing these nominations with the relevant agencies and final decisions about whether to enact these specific reforms will be made by the them through notice-and-comment rulemaking.

My assessment is that this public nomination process was only partly successful because I have learned that many academics, business groups, state and local groups, and public interest groups were not fully aware of this nomination opportunity. Obviously, publication in the *Federal Register* is not adequate to inform everyone. For this year's report, we intend to increase outreach efforts in order to potentially expand and diversify the public commenters. Those citizens and groups that choose to participate can be assured that their efforts will be taken seriously by OIRA.

OIRA's 2002 REPORT TO CONGRESS

We will soon be publishing the 2002 regulatory accounting report in the *Federal Register* for public comment and peer review, as required by the Act. I know that over the last several years, members of the Subcommittee have expressed concern that OMB has issued the Report after the budget has been released. In future years, we intend to cover the costs and benefits of all major rules published during the previous year and then release the draft regulatory accounting report at the same time that the budget is released. It may be difficult to publish the final report with the budget due to the statutory requirements for external peer review and public comment.

As directed by the Act, the 2002 report shall contain estimates of the total annual costs and benefits of Federal Rules and paperwork (a) in the aggregate; (b) by agency and agency program; and (c) by major rule. We shall also provide, as called for by the Act, analyses of impacts of Federal regulations on State, local, and tribal government, small business, wages, and economic growth as well as recommendations for reform. Moreover, the 2002 Report shall also include additional information in the spirit of the Regulatory Right-to-Know Act about the Administrations's efforts to make its centralized approach to federal regulatory policy more open, transparent, and accountable to the public.

Since we hope to issue the draft report within a week or two, I would like to describe some of its major features and findings:

1. In the last six months, OMB has cleared 41 significant federal regulations aimed at responding to the terrorist attacks of September 11th. These rules address urgent matters such as homeland security, immigration control, airline safety, and assistance to businesses harmed by the resulting economic disaster experienced in several regions of the country.

2. We examined major U.S. federal regulations cleared by OMB from April 1, 1995 to September 30, 2001 to determine their quantifiable benefits and costs. The estimated annual benefits ranged from $49 billion to $68 billion while the estimated costs ranged from $51 billion to $54 billion. Our estimates of the total benefits and costs of *all* federal regulations currently in effect are less reliable because they are based substantially on figures that the agencies did not produce and OMB did not review. The estimates of total benefits, which are highly uncertain, range from about one-half to three times the total costs, which are pegged at $520 billion to $620 billion per year. Total cost figures are roughly comparable to the federal government's total discretionary budget authority in FY 2001. The report acknowledges that these rules also have many non-quantifiable costs and benefits that need to be considered by policy makers and the public.

Thank you very much for the opportunity to appear today. I am willing to answer any questions you may have.

Mr. OSE. Our next witness is Thomas Sullivan.

Mr. Sullivan, if you could summarize—we do have a copy of your testimony—for 5 minutes. Thank you.

Mr. SULLIVAN. Chairman Ose, other members of the subcommittee, good afternoon and thank you for the opportunity to appear before you today, as the recently confirmed Chief Counsel for Advocacy, to discuss regulatory accounting.

I'm pleased that my written statement has been accepted into the record, and I will briefly summarize the key points.

First, let me tell you what an honor and privilege it is for me to have been appointed Chief Counsel for Advocacy by President Bush. This is my first statement before this subcommittee since my confirmation, and I am grateful for the tremendous support that I have already had from other committees in the House and the Senate, Members of Congress, from SBA administrator Hector Barreto, from government leaders like Dr. John Graham, and from regulatory experts who we work with and are well represented at this hearing.

Today's topic, regulatory accounting, is one the Office of Advocacy understands very well, but from a slightly different perspective than what was just mentioned by Dr. Graham. We share the same concern as other panelists, concerns that will be voiced in the next panel, that there is an overwhelming regulatory burden on small businesses; and implementation by Dr. Graham's office of the regulatory accounting law forces government agencies to analyze the economic impact of their actions. This early examination of costs and benefits should help agencies comply with the analytical requirements of the Regulatory Flexibility Act, which my office oversees.

The Office of Advocacy focuses on an early exchange of information with OMB and Federal agencies in order to assist them in reducing unnecessary burdens, while at the same time allowing the agencies to accomplish their public policy objectives. This is the primary tenet of the Regulatory Flexibility Act.

Frankly, from my perspective, many of the 71 regulations identified in OMB's regulatory accounting report would not have appeared there as "high priority," if agencies had consulted with our office early in the regulatory process, complied with the Regulatory Flexibility Act, and crafted less burdensome regulatory alternatives.

Early analysis works. In OMB's 2001 report, Dr. Graham extolled the value of timely and meaningful consultation for the Federal regulatory apparatus.

We at Advocacy could not agree more.

Early consultation has led to the development of improved regulations that avoid undue burdens but still accomplish the agency's objectives. Early attention to economic consequences helps reduce the overall cost of regulatory development, and once the analysis is complete, there is less risk that a rule will be successfully challenged in court.

Early dissemination to the public of regulatory analyses encourages well-informed policy decisions. Those decisions are enhanced by additional economic perspectives, like the quality work produced by the regulatory studies program in the Mercatus Center at

George Mason University. The more analysis and flushing out of a rule's consequences, the better off the final product.

We estimate that, during fiscal years 1998 through 2001, modifications to regulatory proposals in response to agencies' consultation with the Office of Advocacy resulted in cost savings totaling more than $16.4 billion, or more than $4.1 billion per year on average.

Let me put the $4.1 billion in small business terms. That money saved means that over 1.3 million employees who work in small businesses might be able to afford employer-sponsored health care.

Small businesses are and have historically been our Nation's primary source of innovation, job creation, and productivity. They have led us out of recessions and economic downturns. They have provided tremendous economic empowerment opportunities for women and minority entrepreneurs, and small employers spend more than $1.5 trillion on their payroll.

That is why it is so important for OIRA or OMB to do what it does well, track, analyze, and report to Congress on the impact of significant regulations in their annual regulatory accounting report. If agencies aren't doing their homework and are promulgating rules without thoroughly considering their economic impact, small business is going to get hit disproportionately harder than their larger counterparts.

I see that my time is up, so I'll sum up, with the permission of the Chair.

Mr. OSE. Fifteen seconds.

Mr. SULLIVAN. In summary, regulatory accounting and early receipt of agency information continue to be important priorities for the Office of Advocacy. Government expects small business to follow Federal rules and regulations. I think it is only fair that agencies follow the rule requiring timely and deliberate economic analysis.

Thank you again for inviting me here this afternoon. I'm happy to answer any questions the subcommittee may have.

[The prepared statement of Mr. Sullivan follows:]

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Testimony of

Thomas M. Sullivan

Chief Counsel for Advocacy

U.S. House of Representatives
Subcommittee on Energy Policy, Natural Resources, and Regulatory Affairs

Date: March 12, 2002
Time: 2:00 P.M.
Location: 2154 Rayburn House Office Building
Topic: Hearing on Regulatory Accounting

Created by Congress in 1976, The Office of Advocacy of the U.S. Small Business Administration (SBA) is an independent voice for small business within the federal government. The Chief Counsel for Advocacy, who is appointed by the President and confirmed by the U.S. Senate, directs the office. The Chief Counsel advances the views, concerns, and interests of small business before Congress, the White House, federal agencies, federal courts, and state policy makers. Issues are identified through economic research, policy analyses, and small business outreach. The Chief Counsel's efforts are supported by offices in Washington, D.C., and by Regional Advocates located across the United States. For more information on the Office of Advocacy, visit http://www.sba.gov/advo, or call (202) 205-6533.

Chairman Ose, Ranking Member Tierney, Members of the Subcommittee, good afternoon and thank you for the opportunity to appear before you today to discuss Regulatory Accounting: Costs and Benefits of Federal Regulations.

First, let me tell you what an honor and privilege it is for me to have been appointed Chief Counsel for Advocacy by President Bush. Since my confirmation just over one month ago, I have had an incredible experience. I am grateful for the tremendous support I have had from Members of Congress; Administrator Barreto; the staff of the Office of Advocacy; government leaders; and our many small business organization and trade association friends.

Today's topic, Regulatory Accounting, is one the Office of Advocacy understands very well, but from a slightly different perspective. We are concerned about increasing governmental regulations and the corresponding economic burden on this nation's small businesses. The focus of our office in this area continues to be an early exchange of information with OMB and federal agencies in order to assist agencies in reducing unnecessary burdens, while accomplishing their public policy objectives. We believe OMB's regulatory accounting report demonstrates clearly the overwhelming burden placed on the nation's economy and the employers who drive the economy. Frankly, from my perspective, many of the 71 regulations identified in OMB's 2001 report would not have appeared there as "troublesome" regulations if agencies had consulted with our office early in the regulatory process, complied with the Regulatory Flexibility Act, and crafted less burdensome regulatory alternatives. We appreciate the opportunity to discuss these important issues today and to continue our important working relationship with the Office of Information and Regulatory Affairs (OIRA) at OMB and Congress.

Advocacy was given a mandate to act as an independent voice for small business within the federal government. In September 1980, Congress enacted the Regulatory Flexibility Act (RFA) which required agencies to consider the impact of their regulatory proposals on small entities, analyze equally effective alternatives, and make their analyses available for public comment. The law was not intended to create special treatment for small businesses. Congress intended that agencies consider impacts on small business to ensure that their proposals did not have unintended anti-competitive impacts and that agencies explore less burdensome alternatives that are equally effective in resolving agency objectives.

In March 1996, the Small Business Regulatory Enforcement Fairness Act (SBREFA) raised the stakes for regulatory agencies. SBREFA added judicial review and reinforced the RFA requirement that agencies reach out to small entities in the development of regulatory proposals. This precedent-setting law institutionalized outreach to small entities and ensured that two agencies, EPA and OSHA, identify and consider effective alternatives early in the rulemaking process.

Early Intervention in the Rulemaking Process

Since enactment of SBREFA, Advocacy has witnessed significant changes in the ways rules are made. The most significant phenomenon we have seen is the change in the regulatory culture in at least some federal agencies. Some regulators are beginning to think about the effects of their proposals **before** they act, and our experience has shown that this makes for better rules; i.e. rules that are less costly to those that are regulated. This practice has resulted in a more consistent application of the RFA for those agencies—a more efficient approach than tackling

RFA violations on a rule-by-rule basis. It is sometimes difficult to quantify the effect this early exchange of information has on mitigating the cost of regulation to small business, but we are convinced that it is real.

Early consultation has led to the development of improved regulations – regulations that avoid undue burdens but still accomplish the agency's objective. This shift to pre-proposal work is productive for agencies, for Advocacy, and most important, for small business. Time and again Advocacy has successfully identified weaknesses in agency analyses before publication. Advocacy's pre-proposal activities have helped agencies provide information that would be the most useful to the public in order to elicit informed submissions from the public during the comment period. This early attention to RFA compliance issues helps reduce the overall cost of regulatory development and the risk that a rule will be judicially challenged.

The review panel provisions of SBREFA, which apply only to EPA and OSHA, provide a model for early intervention with a proven record of success. The panel process has confirmed that: (1) credible economic and scientific data, as well as sound analytical methods, are crucial to rational decision-making in solving regulatory problems; and (2) information provided by small businesses themselves on real-world impacts is invaluable in identifying equally effective regulatory alternatives.

The importance of data to the regulatory process and rational decision-making cannot be overemphasized. It was data that persuaded EPA to drop an industrial laundries water pollution regulation that saved small businesses approximately $103 million annually. The data showed

there was no need for a national rule. It was data that convinced OSHA that its compliance cost estimates were too low for its ergonomics rule.

One of the benefits that has emerged from early consultation has been increased awareness of what agencies do not know, but should know, about the industries they are trying to regulate. This has helped agencies understand how the regulatory process aids in eliciting relevant information from the public.

We estimate that during fiscal years 1998 through 2001, modifications to federal regulatory proposals in response to RFA/SBREFA provisions, and consultation with Advocacy, resulted in cost savings totaling more than $16.4 billion, or more than $4.1 billion per year on average.

Partnership with OIRA

On January 11, 1995, OIRA and Advocacy signed an "Exchange of Letters" outlining how both agencies would work together on regulatory issues. In those letters, Advocacy agreed to contact OIRA whenever it had concerns about an agency's compliance with the RFA. OIRA in turn agreed that it would consult with Advocacy when it was not able to resolve RFA issues with an agency.

The SBREFA panel process has brought Advocacy and OIRA even closer together, and a mutual respect has developed from this information-sharing relationship. An early exchange of

information enables Advocacy to comment at a vital stage of the rule's development and to have an impact on its final design.

Prior to promulgation of a final rule, Advocacy often participates in meetings and discussions with both OIRA and the relevant regulatory agency, in order to advocate for crucial changes on behalf of small business. This important working relationship with OMB at all stages of a rule's development has assisted the Office of Advocacy in monitoring agency compliance with the RFA more closely

With its new leadership, OIRA is positioned to be of even greater help to this office and to small business. Advocacy is currently working with OIRA to ensure that our close relationship continues. This renewed commitment to provide early information on regulatory proposals is vital to reducing the economic burden on small entities. This renewed commitment will likely result in an increased effort from OIRA staff to assist Advocacy in developing agency compliance guidance as well as initiating agency RFA training. Whatever shape this commitment takes, it will be transparent to the public—in keeping with Dr. Graham's effort to uncover the mystery behind the rulemaking process.

I commend the new leadership of both OMB and OIRA for facing these challenges with renewed commitment and purpose. OIRA's use of "return letters" to inform an agency of the deficiencies in a proposed regulation forces an agency to assess carefully the economic impact of its proposals on those they intend to regulate. The existence of these letters provides an incentive for agencies to get it right the first time in order to avoid the embarrassment of receiving such a letter. Dr. Graham has created other important tools within OIRA to enhance the regulatory

process. For instance, he devised the "prompt letters" that are intended to suggest a new regulatory priority to a federal agency which further stimulates public input into the regulatory process.

The continued partnership between Advocacy and OIRA/OMB may further enhance the information that goes into future regulatory accounting reports. Advocacy stands ready to supply OIRA/OMB with data and anecdotal evidence to complement its report. The hope is that our continued early involvement as partners in the regulatory process will at least reduce the number of unnecessarily burdensome federal regulations appearing in future reports.

Small Business and OMB's Regulatory Accounting Report

The RFA, SBREFA and the Office of Advocacy exist because of the bedrock importance of small business to our economy, both at the national and community levels. The latest data we have indicate that small businesses:

- Represent more than 99 percent of all employers;
- Employ 51 percent of private sector workers;
- Provide about 75 percent of net new jobs; and
- Represent 96 percent of all exporters of goods.

Small businesses are and have historically been our nation's primary source of innovation, job creation, and productivity. They have led us out of recessions and economic downturns, offsetting job contraction by larger firms, and providing new goods and services. They have provided tremendous economic empowerment opportunities for women and minority

entrepreneurs. They play an invaluable role in our defense industrial base. Small employers spend more than $1.5 trillion on their payroll. In order for small businesses to continue to be such a valuable asset to our nation's economy, they must have a level playing field. The regulatory playing field is a vital one for small business.

We recently released a study on this subject by W. Mark Crain and Thomas D. Hopkins. As the report disclosed, and Mr. Hopkins testified today, the cost of federal regulation to firms with fewer than 20 employees was almost $7,000 per employee, more than 50 percent higher than the per-employee cost to businesses with 500 or more employees. This disproportionate burden is a huge impediment to small businesses realizing their full potential.

This is why it is so important for OMB/OIRA to do what it does so well – track, analyze and report to Congress on the impact of significant regulations in their regulatory accounting report. Providing the public with this valuable information, as they did in their last report, enables all to see how the government intends to regulate the regulated. This latest report has taken that requirement an important step further by pointing out regulations with a questionable cost basis or questionable beneficial result. In this way, agencies are held accountable for the regulations they draft. They must stand up to the strict scrutiny of OMB and the analysis required from them by OIRA.

In its most recent report, of the 71 rules identified, OMB listed 23 that it considered most in need of reform to reduce costs or increase effectiveness. Advocacy was involved in nearly half of those 23 and had previously found them to be problematic for small business. OMB/OIRA was right on target with the choice of these rules. As a result of this list, agencies were put on

notice of the need for additional analysis and justification of their proposals and the need to return to the drawing board to discover more cost-effective alternatives.

In summary, regulatory accounting and early receipt of agency information continue to be important priorities for the Office of Advocacy. Without such analysis and review early in the regulatory process, we would see a continuation of overly burdensome rules with questionable results. I am confident that the continued partnership between my office and OMB/OIRA will benefit small business greatly and I look forward to working with Dr. John Graham and his staff to continue to create innovative solutions to these important problems facing small businesses.

This concludes my prepared testimony. Thank you again for inviting me here today, and I am pleased to answer any questions you may have.

Mr. OSE. I thank the panelists.

I think I'm going to go ahead and start here. My primary question has to do with—I have any number of issues in my district that are health and safety issues, they're transportation issues, they're water issues, they're education issues; and until I can get adequate feedback in terms of the relative costs and benefits of this or that regulatory action, I'm sort of flying in the dark in making decisions on an allocation of resource basis to address each of those issues.

How do we move toward getting this particular report presented to Congress in time for me—and my colleagues, for that matter—to factor this analysis into the decisions that we have to make here? Because, frankly, if I've got $10 and I've got demand for $100 worth of resources, I have to prioritize. Without that analysis, which, frankly, my office is not capable of doing, I'm in a little bit of a disadvantage. Dr. Graham, how do we deal with this?

Dr. GRAHAM. Mr. Chairman, it's a very good question.

The first point I would make is, while your office does not have the staffing and resources, as have you just said, to do all this analysis, the truth of the matter is that the Office of Information and Regulatory Affairs at OMB, with several dozen analysts, has some capability to do analysis, but, frankly, it's modest compared to the resources that are available in the many agencies. So I think the key to making the regulatory accounting reports successful is to change the culture within the agencies so they appreciate the importance of analysis and invest the resources and the data and quality and analytic tools to make that analysis better.

One of the very first steps that we have tried in this administration is to make it clear to agencies that we are going to be returning rules to agencies that are not based upon quality analysis. But if those analyses are improved, then there's a basis for clearing those regulations.

Mr. OSE. So the statute is clear that OIRA or OMB has the authority to require these, to acquire these analyses from the agencies?

Dr. GRAHAM. You're talking about the regulatory accounting statute?

Mr. OSE. Yes.

Dr. GRAHAM. It places, actually, burdens on my office at the Office of Information and Regulatory Affairs. But, as a practical matter, the only real way that compliance can actually occur is if the agencies share with us the information and analysis. Otherwise, at a practical level, it's not really going to be feasible to do the job the law calls for.

Mr. OSE. Are you getting resistance from the agencies in providing this information?

Dr. GRAHAM. Well, in a candid answer to that question, Mr. Chairman, I would say that the responses we get from agencies in terms of our calls for better analysis are highly variable; and the agencies and programs within agencies have varying levels of commitment to high-quality analysis. So I don't think I can be here, frankly, and tell you that we see across-the-board high-quality analysis coming from the regulatory agencies.

Mr. OSE. We're going to come around.

Mr. Sullivan, I will come back to you in a minute.

This really begs the question, this becomes so clear here. We've had this concept of best practices in terms of the manner in which the information is supposed to be reported by the agencies; and yet, if I understand correctly, we have a variety of formats not necessarily consistent with the Best Practices Guidance that has been put out that is delivered to you. Am I accurately informed on that?

Dr. GRAHAM. The Best Practices guidelines from my office that I'm aware of are from 1996. They were actually superseded by a much more general and limited document on guidelines that came out in the year 2000.

One of the reasons the Council of Economic Advisors and OMB are jointly engaged to look at those two documents and improve them and refine them is that we're not convinced that the existing guidance for agencies, frankly, has enough teeth behind it.

Mr. OSE. My time is about to expire. I will yield to Mr. Otter for 5 minutes.

Mr. OTTER. Thank you, Mr. Chairman.

Before I begin, Mr. Sullivan, you quoted some figures in your testimony; and I have not been able to find them. It was a pretty important figure as far as I was concerned, that there was enough money saved in reviewing the regulatory burdens on small business that you could have provided insurance for 1.4 million employees in small businesses. What page does that appear on in here?

Mr. SULLIVAN. Mr. Otter, that does not actually appear in my written testimony. I do have a statement that I formalized into the Congressional Record during my confirmation hearing in the Senate. I have it with me; and, with the chairman's permission, I can enter it into the record.

[The information referred to follows:]

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ORAL STATEMENT
for
Thomas M. Sullivan
Chief Counsel for Advocacy

U.S. House of Representatives
Subcommittee on Energy Policy, Natural Resources, and Regulatory Affairs

Date: March 12, 2002
Time: 2:00 P.M.
Location: 2154 Rayburn House Office Building
Topic: Hearing on Regulatory Accounting

Chairman Ose, Ranking Member Tierney, Members of the Subcommittee, good afternoon and thank you for the opportunity to appear before you today, as the recently confirmed Chief Counsel for Advocacy, to discuss Regulatory Accounting.

With your permission, I would ask that my complete written statement be accepted into the record [PAUSE, AND HE WILL MOVE TO ACCEPT]. I will briefly summarize the key points for the Subcommittee.

First, let me tell you what an honor and privilege it is for me to have been appointed Chief Counsel for Advocacy by President Bush. This is my first statement before this Subcommittee since my confirmation and I am grateful for the tremendous support I have already had from other Committees in the House and the Senate, Members of Congress; from SBA Administrator Hector Barreto; from government leaders like Dr. John Graham; and from regulatory experts who we work with, and are well-represented at this hearing.

Today's topic, Regulatory Accounting, is one the Office of Advocacy understands very well, but from a slightly different perspective than what was just mentioned by Dr. Graham. We share the same concern as other panelists – that there is an overwhelming regulatory burden on small businesses. Why does my office care about Regulatory Accounting? Because the requirement, and implementation by Dr. Graham's office, forces government agencies to analyze the economic impact of their actions. This early examination of costs and benefits should help agencies comply with the analytical requirements of the Regulatory Flexibility Act, which my office oversees.

The Office of Advocacy focuses on an early exchange of information with OMB and federal agencies in order to assist agencies in reducing unnecessary burdens, while accomplishing their public policy objectives (the primary tenet of the Regulatory Flexibility Act).

Frankly, from my perspective, many of the 71 regulations identified in OMB's 2001 report would not have appeared there as "high priority" if agencies had consulted with our office early in the regulatory process, complied with the Regulatory Flexibility Act, and crafted less burdensome regulatory alternatives.

Early Intervention in the Rulemaking Process

Early analysis works – In the 2001 Report to Congress on the Costs and Benefits of Regulations, submitted by OIRA, Dr. Graham extolled the value of "timely and meaningful consultation" for the federal regulatory apparatus.

We, at Advocacy, could not agree more.

Early consultation has led to the development of improved regulations – regulations that avoid undue burdens but still accomplish the agency's objective. Early attention to economic consequences helps reduce the overall cost of regulatory development and once the analysis is complete there is less risk that a rule will be successfully challenged in court.

Early and public dissemination of analysis encourages well-informed policy decisions. Those decisions are enhanced by additional economic perspectives, like the quality work produced by the Regulatory Studies Program in the Mercatus Center at George Mason University. The more analysis and flushing out of a rules' consequences, the better off the final product.

We estimate that during fiscal years 1998 through 2001, modifications to federal regulatory proposals in response to agencies' consultation with Advocacy, resulted in cost savings totaling more than $16.4 billion, or more than $4.1 billion per year on average

Let me put $4.1 in "small business perspective" -- $4.1 saved, means over 1.3 million employees, who work in small businesses, could afford employer-sponsored health care.

Small Business and OMB's Regulatory Accounting Report

Small businesses are and have historically been our nation's primary source of innovation, job creation, and productivity. They have led us out of recessions and economic downturns. They have provided tremendous economic empowerment opportunities for women and minority entrepreneurs. Small employers spend more than $1.5 trillion on their payroll.

This is why it is so important for OIRA to do what it does well – track, analyze and report to Congress on the impact of significant regulations in their regulatory accounting report. If agencies aren't doing their homework, and are putting rules on the street without thoroughly

considering their economic impact, small business is going to get hit harder than their larger corporate counterparts.

In summary, regulatory accounting and early receipt of agency information continue to be important priorities for the Office of Advocacy. Government expects business to follow their rules. I think it is only fair that agencies follow the rules requiring timely and deliberate economic analysis. I am confident that the continued partnership between my office and OIRA will benefit small business greatly and I look forward to working with Dr. John Graham and his staff, and this Subcommittee, to continue to create innovative solutions to problems facing small business.

Thank you again for inviting me here today. I am happy to answer any questions.

Mr. OSE. Without objection.

Mr. SULLIVAN. Basically, what this does is average out per individual or per family the cost of health care. It's always helpful for me and our colleagues to put cost savings like $4.1 billion into real terms; and I think, given the problem of access to health care, it does paint a very stark picture of what the money that is being saved thorough analysis of regulations really is about.

Mr. OTTER. OK. Thank you very much.

Dr. Graham, what did you do in your life before this life?

Dr. GRAHAM. Well, I was in the academic world, actually, all the way since graduate school. I was at the Harvard School of Public Health as a faculty member, taught the analytic tools of risk analysis and cost-benefit analysis and launched the Harvard Center for Risk Analysis, which I ran for about a decade.

Mr. OTTER. Would you give me your understanding of regulations? Why do we regulate?

Dr. GRAHAM. Well, I think the reasons for regulation vary enormously, depending upon the underlying law that Congress has passed and given authority to various agencies. They range from laws that are engaged to protect the environment, to protect consumers, to protect workers, to protect some businesses. It's a broad range of regulatory statutes. But, in the final analysis, we cannot at all times rely exclusively on the marketplace to achieve the outcomes in society that we seek; and, hence, we need in some cases regulatory approaches to improve the outcomes that markets cannot generate.

Mr. OTTER. I certainly understand that, and I certainly agree. No question that we could go through an entire litany of horrors in the past that, without regulation, certain things happened with the environment, certain things happened in human conditions, etc.

But what I'm after is, each of these regulations that we have, don't they carry some sort of an encouragement, generally in the form of a penalty, either financial or otherwise, for somebody that doesn't obey the regulation?

Dr. GRAHAM. Yes, sir. That would be typical.

Mr. OTTER. What happens when a Federal agency doesn't obey a regulation?

Let me give you an example—and we have several. The Army Corps of Engineers, for instance, is dumping 200,000 tons of slop into an area of an endangered species, the snubnose sturgeon, in the Potomac River every year since 1994 and without even a license to do so. Yet, you know, if some corporation or some private property owner or some individual or even a municipality had done that, there would have been some regulatory relief, there would have been some financial relief and maybe, in some cases, some criminal relief to the government to see to it that was done.

What happens when a Federal agent or agency doesn't obey the very same laws, as in the instance of the Army Corps of Engineers?

Dr. GRAHAM. I think you're asking a great question.

To be candid with you, I don't think I really know the enforcement processes and penalty process that applies to governmental agents.

Mr. OTTER. These are good laws. And, if these regulations that are promulgated by agencies in order to carry out a very important

public policy mission—shouldn't the agencies, the other agencies of government, including the regulatory agency that's required to do the enforcement, shouldn't they withstand the same criminal and the same financial penalties as the private sector? Lord knows, you know, we're going to send a private property owner or a corporate president or perhaps a mayor or maybe even a Governor to jail if they don't enforce the laws or if they don't obey the laws. Doesn't it seem reasonable that if it's good for the general population than it would be good also for the agencies and the people who are enforcing those same laws?

Dr. GRAHAM. Well, in candor, Congressman, if we're going to encourage people to be in public service, I hope we'll accompany that with some sort of compensation for the liabilities that they'll impose.

But I think you're raising an excellent point. I don't feel authoritative to speak on it in terms of what would be the appropriate type of penalty structure for people operating in regulatory agencies.

Mr. OTTER. My time is up, and the chairman has picked up the gavel. So I'll come back to you.

Mr. OSE. The gentleman from Tennessee for 5 minutes.

Mr. DUNCAN. We have a staff briefing that estimates that the cost of regulations at approximately $843 billion are 8 percent of the gross domestic product. You've heard in my opening statement and I've heard of other estimates of roughly 10 percent. Can you tell me, do you think those figures are roughly accurate and will you tell me who pays those costs?

Dr. GRAHAM. Well, the first point I would make is the $800 billion figure, which you're going to hear about later today in the testimony by one of the analysts who generated that, Dr. Hopkins, I think that is the best available estimate that exists at the time. It does have a lot of uncertainties and limitations, but it's the best that we have at the present time.

My own personal view on that in terms of framing $800 billion is less helpful than dividing that by the number of households in the country, roughly 100 million, roughly $8,000 per household, because it can give you a sense for a family making $30,000 or so, an $8,000 bill for Federal Government regulation is a pretty substantial part of their overall disposable income. We at OMB view regulatory review as a form of consumer protection because it protects consumers from the invisible taxes that regulation often involves.

Mr. DUNCAN. Well, certainly, as I mentioned, when you think about the regulatory costs being in addition to the tax burden of almost 40 percent on most people and $8,000 per family, it becomes very, very significant.

Mr. Sullivan, you have in your testimony that small businesses are and have historically been our Nation's primary source of innovation, job creation, and productivity. They provide tremendous economic empowerment opportunities for women and minority entrepreneurs, so forth and so on. You say that in order for small businesses to continue to be such a valuable asset to our Nation's economy they must have a level playing field. The regulatory playing field is a vital one for small business.

You know from my opening statement that was one of my main concerns, and I heard you say right at the tail end of your testimony that these regulations hit harder on small businesses than on very large ones. Is that correct?

Mr. SULLIVAN. That is correct, Congressman.

Mr. DUNCAN. Do you think that we have a level playing field now?

Mr. SULLIVAN. No, I don't. I don't believe that we have a level playing field right now.

Later on this afternoon you will hear from Dr. Hopkins, who is a coauthor of the Crain/Hopkins Report. That's where the Office of Advocacy obtained a lot of this statistical information that I cite in my testimony and in other statements that I make.

We have an opportunity within the confines of this hearing and the regulatory accounting report. In order to get to a level playing field for small business, agencies have to do the analysis up front. When agencies start realizing the incredible burden that they place on the backs of small businesses, then they'll begin to realize that maybe there are less burdensome alternatives that still meet the objective of protecting the environment, still meet the objective of protecting the workplace safety or encouraging workplace safety, but don't impose such an overwhelming burden as to devastate entire sectors of small businesses.

Mr. DUNCAN. You know, I chaired the Aviation Subcommittee for 6 years; and we had hearings in that subcommittee about the fact that a lot of the environmental rules and regulations and red tape caused major airport projects to cost at least three times what they should have cost. The main runway in Atlanta was 14 years from conception to completion, but it took only 33 days of actual construction. Now, those were 24-hour days, so maybe you could say 99 days of actual construction. But, when you drive those costs up, it means that the cost of airline tickets go up a lot more than they should be. As I said in my opening statement, who this impacts and hits the hardest are the poor, are the lower income people, the working people of this country.

I now chair a subcommittee called Water, Resources and the Environment. We had a hearing a few months ago in which they estimated some published EPA regulations were going to cause 40,000 small farms to go out of existence. We had people crying at that hearing about the potential impact. And, all these people who believe in big government always say they're for the little guy. But it's the little guy who ends up getting hurt, and it's the consumer who ends up paying the cost. We run the small farmers and the small businesses out, and then these people who believe in all this regulation and stuff, as I said in my opening statement, they end up becoming the best friends extremely big business has.

I'll yield. I don't have any time left.

Mr. SULLIVAN. Could the chairman at least let the record reflect that throughout the Congressman's statement I was nodding in agreement?

Mr. OSE. We will note your verbal statement for the record, as well as your physical.

Thank you, Mr. Duncan.

Let me—Dr. Graham, here's one of the things that I struggle with. The Federal Government collects taxes, and we can account for how much people pay in taxes on an annual basis. We distribute student loans, and we can account for how much was loaned and whether or not the borrower paid it back. We can account for Agriculture Department programs, whether they be on the foreign food service deliveries, or commodity support programs, or environmental quality improvement programs or what have you. Yet, when you look at the estimated costs of regulation, which in your testimony, if I understand correctly, are close to the discretionary expenditures of the Federal Government, we can't seem to account for the regulatory costs in a manner that allows us to factor that into our decisionmaking. I'm coming back to my question: Where's my report?

The issue for me becomes not letting the perfect be the enemy of the good. Because at some point or another I've got to have this information, as do my colleagues. How do we move this thing forward? Do we pass—instead of have it be a regulatorily based requirement, do we pass a statute that says the agencies will provide to OMB or OIRA this information by such and such a date? How do we get this thing moving forward in a positive—how can I help you do your job so you can help me do mine?

Dr. GRAHAM. Mr. Chairman, that's a good question. My initial instinct, after 6 or 7 months of working in this role and working with the agencies, is that we will be able to make some progress without any statutory change. We will be able to move this process to the point where we can give you with the budget the draft regulatory accounting report before peer review and before public comment.

I don't really see, frankly, in the way it's designed, how we're going to get from here to getting you the final report in February of each year, given that all the information that we are looking at doesn't come to a conclusion until October 1st of the previous year. And Congress has required by statute that we have a public comment period, we have peer review, and I think we should have those processes with this report.

So I do think there's a little reality check, frankly, in the designing of this regulatory accounting law that we need to talk about and see whether or not there's some way—that I don't see—that we can get this to the point where you ideally want it, which is that final report with the budget in February.

Mr. OSE. Even if you were able to provide us with a draft copy of the report, even after 3 short years, I understand that draft copy will somehow or another become available to the interested parties and the peer review itself would take place just naturally. You would get feedback. I'd get feedback. Mr. Otter and Mr. Duncan, they would get feedback. My good friend from California, Mr. Waxman, Mr. Tierney, they'd get feedback. It would at least allow us to factor in the relative costs and relative benefits of any regulatory action as we approach the final date of the legislative session.

I mean, the thing that's so crazy here is that when you look at the tax revenue we get, we account for that very carefully; you look at the discretionary expenditures that we make, we account for that very carefully; and yet we have to have, frankly, an equally quantified cost of the regulatory burden on an annual basis. And,

it complicates my life, not to mention the lives of the other Members up here.

So I really want to encourage you and your colleagues at OIRA and OMB to make the best of what you have at any available time. If it improves with peer review, great. I mean, I'm fine with it. But I've got to have something. I've got to have something to start with, and I'm trying to figure out how it is we make that possible. Even if it's, you know, 3 days later or 6 days later or a week late, I don't care on that kind of a timeframe. But I have to have that information just to make my job more effective. So how do I make that happen?

Dr. GRAHAM. You're making yourself very clear, Mr. Chairman. We will work very hard to get the report to you with the budget. And if it can't be the final report, then we will definitely try to make sure that you have the draft report with the budget next year. Our estimate is we're going to miss by about 6 weeks this year, but our trend line is in the right direction. We've gone from 10 months late to 6 weeks late, so we're moving in the right direction.

Mr. OSE. I appreciate that.

My time is up. Mr. Otter.

Mr. OTTER. Thank you, Mr. Chairman.

Dr. Graham, I received a questionnaire from the U.S. Department of Agriculture recently, wanting to know about how my farm and my ranch were doing and what I produced. I noticed on the document that I was required to fill out that, under penalty of law and under a certain financial penalty as well as perhaps criminal penalty. If I didn't fill it out and send it back that they could enforce those penalties. Do you have any such requirement—inducement when you ask these agencies for information relative to their regulatory practices?

Dr. GRAHAM. I was afraid you were going to ask me whether there are any penalties you can hold against me for not submitting the regulatory accounting report on schedule.

Mr. OTTER. That's my next question.

Dr. GRAHAM. No, I don't know the specifics of the example, Congressman, no.

Mr. OTTER. If you had that sort of enforcement encouragement that if an agency, wherever it was, whatever agency it was, refused to respond in full and complete according to your request, do you think then that you would probably get responses that were actually more factual and more evidentiary of what was actually going on with that regulatory agency?

Dr. GRAHAM. I think that's certainly worth consideration.

Mr. OTTER. Would the administration support that kind of legislation, if I wrote it and advanced it?

Dr. GRAHAM. I think it's definitely worth some discussion.

Mr. OTTER. The problem that we have with that is that we asked 283 million Americans that sometimes collect together in communities and sometimes collect together in companies and sometimes start their own companies, we put all these rules and regulations that cost them $843 billion a year. I think we pretty well accepted that figure and said that if you don't obey these rules and regulations, it's important for us to know this stuff. It's important for you

to comply with these rules and regulations, and it's important enough that we're going to have to take some sort of action against you for this necessary enforcement.

If it's important for these 283 million Americans, why isn't it important for the very Government that serves them to do the same thing?

Dr. GRAHAM. Fair point.

Mr. OTTER. Thank you, Mr. Chairman. That's all I have. I yield back the balance of my time.

Mr. OSE. Thank the gentleman.

Mr. TIERNEY. What I would like to do is ask unanimous consent to place relevant materials in the record and to ask questions of the witnesses for the record in writing.

Mr. OSE. Oh, without objection. We extend that courtesy to all Members of Congress.

Mr. TIERNEY. Just putting it on the record.

Mr. OSE. Mr. Sullivan, Ms. Dudley recommends that OMB should identify in a common but comprehensive manner variables in the methodologies to estimate the benefits and costs of regulations. It's in her testimony and talks about a report card for each agency. Congressman Horn has done that very effectively over in the Management Subcommittee of this full committee. What is your view of Ms. Dudley's recommendations about using a report card for agency analyses?

Mr. SULLIVAN. Mr. Chairman, this actually is a perfect opportunity to talk about a response to a number of questions that have come up and been properly directed to Dr. Graham; and that is the requirement for agencies to follow the law on which Congressman Otter just elaborated. The expectation is that those who we regulate should follow the law. Why aren't government agencies also following laws?

There is a law entitled the Regulatory Flexibility Act, that I mentioned in more detail in my written statement, that does require agencies to consider economic impact before they promulgate rules. To the extent that a "report card" would be helpful to this committee, to Dr. Graham and others, that report card will be finished by the end of this month; and it's entitled the Annual Report of the Chief Counsel for Advocacy on Implementation of the Regulatory Flexibility Act. That report talks about whether or not agencies are doing the analysis that they're required to do and consider their impact on small business prior to finalizing regulations.

Mr. OSE. The end of March of this year?

Mr. SULLIVAN. Yes, Mr. Chairman.

Mr. OSE. And, where will we be able to obtain copies of that report?

Mr. SULLIVAN. It will be hand-delivered to your counsel, Mr. Chairman, and the entire committee. Advocacy does have a fantastic Web site containing all of our publicity available documents, but the actual copies and executive summaries will be hand-delivered to this committee.

Mr. OSE. So this is a report by your office on compliance with SBREFA, if I understand correctly?

Mr. SULLIVAN. You understand it correctly, Mr. Chairman.

Mr. OSE. All right.

If I may go on, Mr. Sullivan. What is your view of the value of the agency-by-agency data on the impact of each agency's rules on small businesses? Clearly you think there is value.

Mr. SULLIVAN. I think there is tremendous value. And that value is reflected in how an agency itself considers that analysis, how this committee considers it, how Dr. Graham's office and how other stakeholders in the regulatory process consider the analysis.

But, the first step in that process is making sure that the agencies adequately prepare their analyses. I know that Dr. Graham is vigilant in his insistence that agencies do that analysis. Our office is vigilant in our efforts. To the extent that we have the help of this committee, that certainly helps things.

Mr. OSE. But your office is narrowly—your focus is narrowly crafted on small business or issues in the small business regulatory world.

Mr. SULLIVAN. That is correct.

Mr. OSE. Dr. Graham has got a much larger responsibility.

Mr. SULLIVAN. We are a smaller piece of the larger regulatory pie that Dr. Graham has responsibility for, yes.

Dr. GRAHAM. But, Mr. Chairman, an important piece they have. Because two of the most important regulatory agencies, EPA and the Occupational Safety and Health Administration, it is in those particular settings where the two offices at this table can work together on panels with agencies before regulations are being developed.

By the way, am I right about that? Is it EPA and OSHA together?

Mr. SULLIVAN. That is correct.

Dr. GRAHAM. That model, our staff feels, has been very helpful in getting agencies to think through the small business issues early in the process before they get too committed to a particular line of regulatory thinking.

So I think that is an area where we ought to look to in terms of collaboration that can continue between our offices and a model for early involvement that we might want to consider in other contexts.

Mr. OSE. Thank you. The gentleman from Massachusetts for 5 minutes.

Mr. TIERNEY. Thank you for your indulgence. Thank you, Dr. Graham, Mr. Sullivan, for your testimony here, for being here today.

Dr. Graham, let me start with just a question about the New Source Review under the Clean Air Act. You have emphasized that the administration strongly supports using what you say are sound analysis and economic tools to make policy decisions. One of the tools that you have argued for is cost-benefit analysis.

There are serious concerns with this approach because, among other things, it is difficult to express many of the values in monetary terms.

So my question to you is, you advocate this approach. Has your office reviewed the benefits and costs to changes to the New Source Review regulations that are under consideration by the administration?

Dr. GRAHAM. No, we haven't received any proposals from the agency as of yet, though we expect that very well may happen down the road.

Mr. TIERNEY. But, that is on your list, is it not?

Dr. GRAHAM. It is on the list for what we believe the agencies should do. In this case, EPA.

Mr. TIERNEY. Have you looked at any of the potential health effects of those changes at all?

Dr. GRAHAM. We haven't done any analysis yet on the NSR reform proposal.

Mr. TIERNEY. Well, what gives OIRA the ability or the authority to make a target list of 23?

Dr. GRAHAM. What gives us our legal authority?

Mr. TIERNEY. Yeah.

Dr. GRAHAM. Actually, the proposals that we have asked for public suggestions on were actually done pursuant to the regulatory accounting law that is the subject of this hearing.

Mr. TIERNEY. That requires that you make a target list?

Dr. GRAHAM. No, it actually doesn't require us to do it. But we interpret it as authorizing us to do so. We think it is consistent with the authorization in the statute.

Mr. TIERNEY. So you took the liberty to do it?

Dr. GRAHAM. Correct.

Mr. TIERNEY. Now you have 23 targeted regulations that you target for high priority. Fourteen of them are nominated apparently by the Mercatus Center. Tell me a little bit about that, that center, and how it was that they got to play such a prominent role in your proceedings.

Dr. GRAHAM. Well, let me first start by noting that the public comment process that led to these nominations was a standard Federal Register announcement. Anyone was allowed to suggest nominations. And, frankly, we were very pleased that the Mercatus Center did the diligence to actually make the large number of nominations that they did. When we evaluated their nominations, quite frankly, we did not evaluate a majority of them as high priority. It is only a minority of them that we felt were in that class of 23 that you described.

Mr. TIERNEY. Fourteen.

Dr. GRAHAM. Out of 40, I believe.

Mr. TIERNEY. But 14 out of the 23 that you chose.

Dr. GRAHAM. They accounted for 14 out of the 23 that we chose, yes.

Mr. TIERNEY. Were you at all concerned about the funding sources for Mercatus Center, that they might have a bias?

Dr. GRAHAM. No. We actually look at the quality of the arguments and analysis of each of the commenters regardless of where they happen to get their funding sources from.

Mr. TIERNEY. Did you ever serve on the Mercatus Centers Board of Advisors?

Dr. GRAHAM. I think I may have actually served for a year or two toward the end of my tenure at the Harvard Center for Risk Analysis.

Mr. TIERNEY. Now my understanding is that the American Chemical Council nominated the Mixture and Drive-From Rule,

and the American Petroleum Institute nominated the Notice of Substantial Risk Rule. They are both on your high priority list. You testified that you were the director of the Harvard Center for Risk Analysis. Did the American Chemical Council and the American Petroleum Institute donate funds to the Harvard Center in undisclosed amounts?

Dr. GRAHAM. Yes. American Chemistry Council and American Petroleum Institute, yes.

Mr. TIERNEY. And those amounts that they contributed were not disclosed?

Dr. GRAHAM. I don't believe that the Harvard Center for Risk Analysis discloses the actual amounts, but they do disclose who the contributors are.

Mr. TIERNEY. Is there a limit on the amount that they could contribute to that center?

Dr. GRAHAM. Not that I am aware of.

Mr. TIERNEY. How do you decide the number of staff that are going to be devoted to each of your agencies' regulations that you are reviewing? For instance, in October I think you only had one OIRA desk officer assigned to the IRS, but the IRS, I am told, generates 82 percent of the paperwork burden imposed by the Federal Government. At the same time the EPA, which generates only 1.7 percent of the total paperwork burden imposed by government, has 18 percent of your desk officers assigned to it. So how do you make those determinations?

Dr. GRAHAM. Through intense scientific analysis, sir. No, it is a fair question. The first point I would like to make is a distinction between the regulatory review side of our operation and the paperwork reduction side. As I understand your question, you are focusing on how we allocate our staff resources with regard to paperwork review.

Mr. TIERNEY. Right.

Dr. GRAHAM. I think there, one of the key things that we look at is not simply what the aggregate amount of paperwork burden is by various agencies, but what the actual paperwork reduction opportunity is in these various agencies. And I did, in the process of my confirmation, look at prior hearings of this committee. And while I thought it was pretty clearly argued that there were substantial paperwork burdens from the IRS, a lot of those burdens are rooted in statute, and in interpretative rules that are outside of the authority of our office.

So it may look at first blush like IRS is a great opportunity. But I think it is a lot more complicated than that when you look more closely at it.

Mr. OSE. The gentleman's time has expired. The gentleman from Idaho for 5 minutes.

Mr. OTTER. I would like to pursue that just in general with the agencies. Regulatory agencies that have their mission, that have their laws pretty well rooted in statute, like the IRS, as opposed to a more subjective enforcement opportunity, say like the Environmental Protection Agency or OSHA, where a person on the spot doesn't necessarily have a statute to look at and says, "this is the depreciation schedule and you will follow the depreciation schedule for a 30-year life on a building," whereas opposed to making a more

personal judgment within the knowledge that one would have of a constructionsite, and/or of a potential hazardous material. Doesn't it seem possible to you that in the one case there is an awful lot more room for human error in the judgment case as opposed to the statutory laws that are available in statute, for instance for the IRS, and shouldn't we be more concerned about human error in trying to serve the public than otherwise?

Dr. GRAHAM. I think you are right that there is more discretion in certain agencies for how they frame regulations, how they design them, what their ultimate costs are likely to be. The example that you gave, however, the Environmental Protection Agency, my experience so far in the first several months, is that a lot of the rulemakings that they do are under specific statutory requirement, in some cases not only a statutory deadline, but in some cases a court order. We don't necessarily let those things cause us to not look carefully at regulations, but they do cause us to have a need for a much more expedited look at these regulatory proposals in light of the statutory and judicial context they are framed in.

Mr. OTTER. Were you—are you familiar with the Canadian Lynx study that was falsified by four Federal agencies in the Wenatchee National Forest?

Dr. GRAHAM. No, sir.

Mr. OTTER. Thank you. Thank you, Mr. Chairman. I yield back.

Mr. OSE. I thank the gentleman.

The gentleman from Massachusetts for 5 minutes.

Mr. TIERNEY. That was a quick round. Dr. Graham, continuing on a little bit on that. In your report you say that you support, or strongly support, using sound analysis and economic tools to make your policy decisions. One of the tools that you have argued for is the cost-benefit analysis, and you say there are concerns with the approach because it is difficult to express many of your values in monetary terms.

Tell me, if you would, how you would evaluate the potential health effects in monetary terms, something like the Clean Air, or something like the—you know, any one of those environmental regulations.

Dr. GRAHAM. Right. That is an interesting question. It is an area in which, as a faculty member of the Harvard School of Public Health, I did a lot of teaching and writing. When I actually came to Washington and looked at the guidance documents in this area, what I found is that our office does not in fact require agencies to put dollar values on life-saving effects or other types of health effects.

Agencies are certainly authorized to do so if they feel there is a useful analytic approach for doing that. But one of the interesting things I think about this is as you look across the Federal agencies, some of them are doing that exercise, and some of them, such as the National Highway Traffic Safety Administration and the Occupational Safety and Health Administration, are not doing that.

So one of the things we are going to be looking at with the Council on Economic Advisors is whether there really is an adequate analytic foundation to be insisting upon some general approach to that very difficult question.

Mr. TIERNEY. Well, if you don't factor in the health benefit on that, your study is not worth anything, is it? If you are leaving out one very major component?

Dr. GRAHAM. No, I think there would still be tremendous value in quantifying how many citizens each year suffer from aggravation of asthma, or how many citizens who have cardiopulmonary disease have hospital admissions as a result. But I thought your question was should we put a dollar value on that.

Mr. TIERNEY. Well, you are going to do a cost-benefit analysis. So what is the benefit in terms of—what does that mean?

Dr. GRAHAM. Interestingly enough, I believe the Environmental Protection Agency does currently try to put dollar values on each of those effects, but other Federal agencies don't. So I don't think we are in a particularly orderly situation at the present time.

Mr. TIERNEY. And, we get to my next question, which is assumptions. Everybody is using assumptions. I think you state in the report that it is only as strong as their assumptions made are. If the assumptions aren't strong or aren't correct, then we don't have much to go on.

But then you just sort of seem to be dictating the assumptions that are used by the agencies. Do you think that your office has more expertise in this area than some of the agencies? I mean, you go into a particular agency that has all of that expertise, they come up with a recommendation and tell you what their assumptions are, and your group just kicks it back and says we don't agree with your underlying assumptions. They might ask, who the heck are you?

Dr. GRAHAM. Well, I am still early in my learning on where the sources of authority are in our office and this sort of thing. But, I believe the regulatory accounting law itself requires us, as an office, to develop the guidance that agencies use. So I don't think this is our office just sort of volunteering to be the analytic force within the Federal Government. I think actually there is statutory requirement for our role in analytic——

Mr. TIERNEY. That is sort of setting parameters up here. But you are going right into their report and saying, "Hey, I don't like the assumptions that you made." Who gives you the authority to do that? Where does it come in and say that you have more expertise than the Department of Transportation, the Environmental Protection Agency, or anybody?

Dr. GRAHAM. Well, on the authority side, clearly the executive order provides us that authority.

Mr. TIERNEY. Then you might as well write the things yourself and not even include them in the process.

Dr. GRAHAM. We certainly look very hard—as I can tell by the line of your questioning, we do in fact look very hard at the analytic assumptions and the bases that agencies try. And, if we see that we don't feel an adequate rationale, we will return it to the agency and ask them to work on it some more.

Mr. TIERNEY. So, I guess what you are telling me is you think that your staff has better expertise than the departments that are sending you these analyses?

Dr. GRAHAM. I wouldn't generalize on that. But in certain cases, I think we can make a contribution to inducing agencies to do better analysis.

Mr. TIERNEY. You are doing it at a world record pace, aren't you, with all of your letters back, and rejections?

Dr. GRAHAM. Well, I will let others judge the rate of that pace.

Mr. TIERNEY. There we go to the numbers, right. You have sent back more than the entire two terms of the past administration and you have been here a couple of months.

I have to tell you that it raises a lot of concern, that this is just another way to go about some things that certain people may not like, and instead of just dealing with them in a legislative end of it, trying to go through the back door on the regulatory process and kick them out. The track record I have seen so far is very, very troubling.

Dr. GRAHAM. Well, I think, Mr. Chairman, if you look actually at the overall record——

Mr. TIERNEY. Wait until November, maybe.

Mr. OSE. This is the ranking member.

Dr. GRAHAM. I am sorry. Not until November, right? We discussed that earlier. But I hope you look at the overall record of the office. Because there are a number of other areas in which our office has been suggesting and encouraging agencies to adopt regulations in the health, safety and environmental arena. At FDA for the labeling of trans-fatty acids for foods, at OSHA in terms of making available automatic defibrillators that save lives from sudden cardiac arrest.

Mr. TIERNEY. Well, the trans-fatty acids made your list at first and then somehow got kicked off, right?

Dr. GRAHAM. Pardon?

Mr. TIERNEY. The regulation concerning trans-fatty acids made your list of concerns at first and then you decided to go with the regulation; am I right?

Dr. GRAHAM. I am sorry. I didn't hear the last part.

Mr. TIERNEY. At one point wasn't the trans-fatty acids regulation on your list, your identified list of regulations that you wanted to look at?

Dr. GRAHAM. You are saying one of the public commenters raised it as one to look at?

Mr. TIERNEY. Well, it made your list of 23. So, not only did the public comment on it, you put it up on your hit list here, about six down, food labeling, trans-fatty acids and nutrition labeling, nutrient content and health claims. You have since pulled back from that, right?

Dr. GRAHAM. Congressman——

Mr. TIERNEY. My understanding is that you have since pulled back.

Dr. GRAHAM. We consider that a review list rather than a hit list.

Mr. TIERNEY. It depends on your perspective, I guess.

Dr. GRAHAM. Some of these reviews may surprise you in terms of what type of results are actually generated. I hope you will look explicitly at what our office has suggested in the trans-fatty acid area, because I am not sure we are in total sync on what actually our office has done in that area.

Mr. TIERNEY. I hope with respect to all of the others you surprise the heck out of me.

Mr. OSE. Yes. The gentleman's time has expired.

The gentleman from Massachusetts for a final question.

Mr. TIERNEY. I was going to ask you about each of your 23, go down the list. We can do that in writing, I suppose.

I would really like to know what your specific reason for putting each of these 23 on your high priority list is, and why they made a high priority list as opposed to a medium priority, as opposed to low priority, or no priority. What distinguished them? One of the things that really draws it to my attention is the arsenic in drinking water regulation that made the list put out by the Environmental Protection Agency, the authority is the Safe Drinking Water Act. Description of your problem was that Mercatus states that, based on EPA's own analysis, benefits do not justify cost in standards of either 5 or 10 ppb. Based on the more robust analysis, these levels are even less attractive. Then your proposed solution says, Mercatus believes that the EPA should set a standard. Then your estimate of economic impact says that Mercatus asserts. So, I think maybe you can see my concern that it wasn't your agency so much that was looking at these things and making the analysis, as that Mercatus was sort of writing out a formula here and dropping it on OIRA's desk and I think the end of this is, of course, that eventually the administration accepted the arsenic in drinking water standards as they were.

Dr. GRAHAM. The Mercatus Center was not the only player in that discussion. There was the National Academy of Sciences. There was the EPA Science Advisory Board. And, ultimately we looked at all of that information and came—and supported Administrator Whitman's decision on arsenic in drinking water.

Mr. TIERNEY. But you based your proposed solution and your estimate of economic impact on Mercatus. You don't cite the other people. You cite Mercatus.

Dr. GRAHAM. Because, at that time, the review of the arsenic review was not ultimately completed when we made the rating that you are referring to in your statement.

Mr. TIERNEY. We will put the others in writing. Thank you.

Dr. GRAHAM. I would be happy to answer your questions in writing, sir.

Mr. OSE. I thank the gentleman for yielding back. I want to thank Dr. Graham and Mr. Sullivan for joining us today. Mr. Sullivan, I am sorry you didn't get much attention in the latter part of the hearing, but maybe next time. We do have additional questions which the Members may well submit in writing.

We will be leaving this open. We appreciate your cooperation in coming today. I apologize for keeping you a little bit long. Thank you both.

If we can have the second panel step forward. That would be Dr. Miller, Dr. Hopkins, Ms. Dudley, Ms. Claybrook, and Ms. Heinzerling. OK. I want to thank you for coming. In this committee and this subcommittee we routinely swear in our witnesses. So, if you all would stand and raise your right hand.

[Witnesses sworn.]

Mr. OSE. Let the record show all of the witnesses answered in the affirmative. As you have seen in our prior panel, we are going to give each of you 5 minutes to summarize your written testimony which we have received. We appreciate you coming.

Dr. Miller, you are first. Joining us, our first witness is Dr. James C. Miller, III, the former Director of the Office of Management and Budget and the counselor to Citizens for a Sound Economy. Dr. Miller, 5 minutes.

STATEMENTS OF JAMES C. MILLER III, FORMER DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET, COUNSELOR TO CITIZENS FOR A SOUND ECONOMY; THOMAS D. HOPKINS, FORMER DEPUTY ADMINISTRATOR, OFFICE OF INFORMATION AND REGULATORY AFFAIRS, OFFICE OF MANAGEMENT AND BUDGET, DEAN, COLLEGE OF BUSINESS, ROCHESTER INSTITUTE OF TECHNOLOGY; SUSAN DUDLEY, DEPUTY DIRECTOR, REGULATORY STUDIES PROGRAM, MERCATUS CENTER, GEORGE MASON UNIVERSITY; JOAN CLAYBROOK, PRESIDENT, PUBLIC CITIZEN; AND LISA HEINZERLING, PROFESSOR OF LAW, GEORGETOWN UNIVERSITY LAW CENTER

Dr. MILLER. Mr. Chairman, thank you. Thank you, Mr. Ranking Member. I appreciate an opportunity to be here with you today. My statement can be summarized in nine points. I will try to be brief.

One. Regulation is just one of the two major ways the Federal Government uses to acquire command over resources, or to make those resources go to uses other than they would have gone otherwise.

The other, of course, is by spending, taxing, borrowing—also printing money, we don't do much of that—spending and buying the resources on the private market.

Two. You have an elaborate budget process or spending process. An elaborate process for making decisions about spending. You don't have an analogous process for making decisions about the way government goes about regulating.

Three. The regulatory resource burden or the amount of resources in value terms obtained by the Federal Government through regulation is significant. It is about half the total spending of the Federal Government. In fact, it exceeds all appropriations. Let me say that again. The regulatory resources directed by the Federal Government exceed, in value terms, all appropriations for the Department of Transportation, the EPA, all of these departments, all of those appropriated accounts.

Four. Although I have spent a lot of time in my career studying the efficiency of collective decisionmaking, and I wouldn't say that all collective decisionmaking by this Congress is perfect, I think you would be a lot better off in your decisionmaking, you would make a lot more efficient decisions, if you had adequate information and if these issues were transparent to you.

Five. I think you ought to develop a regulatory process very much like your spending process. You ought to appropriate regulatory resources just like you appropriate spending resources.

Six. It is not anti-government to say that you ought to estimate the cost of regulation any more than it is anti-government to produce a budget, a spending budget, for the U.S. Government.

When you make decisions about some program and fund the program, you have to make some evaluation of the benefits of that program. In fact, the very fact that you approve it is revealing that in your mind the benefits exceed the costs.

There is nothing any more biased about looking at regulatory costs than there is a bias in looking at the costs of programs. Some argue you ought to just do what is right instead of looking at cost—you shouldn't look at costs at all. The analogy there would be, you ought to just tell agencies go do this, that, or the other without any notion of what it will cost, any budget, any spending limit at all.

Eight. A start would be to have better regulatory accounting. Now I know there has been some problems about getting this regulatory accounting budget to you. And, that brings me to my ninth and final point.

It is easy to blame OMB. Maybe I am expressing a parochial view since I was the first Administrator of OIRA, I was the first OIRAnian, Mr. Chairman. Along with Dr. Hopkins here, I was present at the creation. Let me also mention that accompanying me today is Dr. Wayne Brough, who was also a member of the OIRA staff.

It is easy to blame OMB. But the agencies don't necessarily respond to OMB, to OIRA. When OIRA asks for information, they don't always get it. The raison d'etre of agencies is to promulgate regulations or spend money or whatever. When OMB says we are not going to give you any money unless you respond, they tend to respond.

To the degree that OIRA can say, well, we are not going to approve your regulations unless you respond, that raises all sorts of problems, creates controversy, etc.

But to the degree to which you can support OIRA and impress your colleagues on the authorizing committees for the agencies that it is important that they cooperate with OIRA in producing these estimates of costs and benefits, this will improve your chances of getting this information. I am not against estimating benefits. I think it is very important, I think we would be better off if we had them.

But you have got to give OIRA a bigger stick. Part of the problem is that you have the diffusion of power and authority in OMB with the management deputy and all of these recent reforms. But I think if you give OIRA a bigger stick and you give this new Administrator of OIRA, Dr. Graham, some support and encouragement, I think you will get your reports in a more timely fashion.

Thank you, Mr. Chairman.

[The prepared statement of Dr. Miller follows:]

CITIZENS FOR A SOUND ECONOMY FOUNDATION

STATEMENT OF JAMES C. MILLER III[1]

before the

SUBCOMMITTEE ON ENERGY POLICY, NATURAL RESOURCES
AND REGULATORY AFFAIRS

of the

COMMITTEE ON GOVERNMENT REFORM

U.S. HOUSE OF REPRESENTATIVES

on

MARCH 12, 2002

Mr. Chairman and Members of the committee: thank you for inviting me to comment on the utility of the accounting statement and report which the Office of Management and Budget's Office of Information and Regulatory Affairs (OIRA) is required to submit to Congress each year. I have a particular interest in this matter, having been the very first OIRA Administrator (April-October, 1981).

Importance of Accuracy in Measurement and Transparency

First, let me comment on the need for more accuracy in measurement and transparency in the regulatory decision-making process.

The notion that people make better decisions when they are accurately informed is a well-established principle of public policy. We have laws against deception, some of which I helped to enforce during the Reagan Administration (as chairman of the Federal Trade Commission, 1981-1985). The public's outrage over the Enron debacle

[1]Counselor to Citizens for a Sound Economy and John M. Olin Distinguished Fellow at Citizens for a Sound Economy Foundation. Neither Citizens for a Sound Economy nor Citizens for a Sound Economy Foundation receive any funding from the federal government.

1250 H Street, NW, Suite 700 ✧ Washington, DC 20005-3908 ✧ PH: 202 783-3870 ✧ FX: 202 783-4687 ✧ 1-888 JOIN-CSE ✧ www.cse.org

is driven in major part over the lack of truthfulness and candor about what was going on. Likewise, campaign finance reform is supported, at least in part, because many believe that reporting is slow, inaccurate, and incomplete.[2] There's no less need for accurate information and transparency when it comes to deliberations over ways in which the people's representatives acquire command over individual citizens' resources for public use.

The federal government can gain command over resources and determine their uses in four major ways. It can:

1. Tax, and then spend;
2. Borrow and spend;
3. Simply spend ("print money"); and
4. Conscript

The process of decision-making under the first two methods consists of extensive deliberations based on data and analysis extraordinary in its scale and scope. While I would not agree that all decisions in these areas are the "right" ones, certainly there is no excuse for their not being informed ones. The third method is largely unused today.

The fourth method of gaining command over resources – conscription – is used, and used widely. Specifically, governments at all levels engage in regulatory actions which "conscript" resources in a real sense and force (or "channel") them to be used in ways different than would be the case otherwise. This is neither good nor bad. As I have spent many, many years discussing and writing about, there are times when the (federal) government should step in and regulate. There are times when it does, but it should not. There are many more cases where it does, and should, regulate, but should do so in a more cost-effective manner.

Understanding the regulatory enterprise is important for the people's representatives. American citizens expect you to make good decisions in the regulatory area. How are you to accomplish this task if you don't really have adequate information on regulation's dimensions, effects, and opportunities?

Let me share with you a perspective on what's at stake. The Administration forecasts that fiscal year 2002 GDP will be roughly $10.4 trillion (assuming the President's policies, including his budget, are enacted). Total outlays are pegged at $2.1 trillion, or about 19.8 percent of GDP.[3] In a widely-quoted recent report, Professor Mark Crain of George Mason University and Dean Thomas Hopkins of the Rochester

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[2]See, generally, the discussion – and cautions – contained in my book, Monopoly Politics (Stanford: Hoover Institution Press, 1999).
[3]Historical Tables, Fiscal Year 2003, Tables 1.1, 1.2, and 10.1.

Institute of Technology, estimate that the (annual) cost of federal regulation was $843 billion in 2002, or roughly $881 billion in 2002 dollars.[4] Assuming no growth, this implies that the cost of federal regulation will be about 8.5 percent of GDP in 2002. Moreover, the cost of resources the federal government conscripts through regulation will be about 43 percent as large as the cost of resources it purchases on the open market. Alternatively, of the total costs of the federal government, roughly 70 percent is imposed through the budget process, and about 30 percent is imposed through the regulatory process. In other words, the federal government's command over private-sector resources through regulation exceeds all appropriated funds for all federal agencies.[5]

Now I ask you: do you believe you and your colleagues in Congress have anywhere near the information on regulation that you have on appropriated accounts in the budget? Certainly not! Is all the information available on the budget essential to making an informed decision? Probably not, but most is. The obvious point is that the amount of information you have on the regulatory "side" is grossly insufficient for you, the people's elected representatives, to make truly informed decisions.

Regulatory Accounting

It is important here to stress that getting better information on the effects of and opportunities for regulation is not, as some would allege, a scheme to constrain or reduce regulation. To find that a regulation is "costly" is no more an indictment of that regulation than is drawing the conclusion that some health, education, or defense expenditure program is "costly." The relevant question is whether the regulation or program in question generates benefits greater than costs. An ancillary, but key, question is whether the benefits might be achieved in a less costly way – or the obverse, whether more benefits might be achieved at the same cost. This is not ideology. This is common sense.

Overall, it's more difficult to measure benefits than to measure costs. That goes for budgeted programs as well as regulatory programs. For example, you may know well how much a given job-relocation program will cost in terms of federal outlays, but how do you measure the benefits? The problems in measuring, or estimating, benefits in the case of regulatory programs is little different than measuring, or estimating, benefits in the case of budgeted programs.

Obtaining good measures of costs is more difficult in the regulatory area than in

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[4]W. Mark Crain and Thomas D. Hopkins, The Impact of Regulatory Costs on Small Firms: A Report for The Office of Advocacy, U.S. Small Business Administration, 2000. Estimate for 2000 was inflated by Administration's GDP inflator to obtain the 2003 equivalent. Historical Tables, Table 10.1.
[5]See Historical Tables, Table 5.5.

the budgetary (outlay) area, since you are depending in large measure on reporting from a variety of sources, some of which may be biased, and in many cases you are having to determine what would have happened without the regulation.

To suggest that since it's difficult to measure benefits and (sometimes) costs you ought to ignore the issue entirely is absurd. In fact, every time you face a decision on a budget appropriation or regulatory initiative you have to make some kind of benefit/cost assessment. My point is that your overall batting average in the regulatory area will improve if your decisions are based on better information.

OIRA's Regulatory Reporting

I understand there has been some frustration with OIRA's inability to supply you with reports required by statute in a timely and complete manner. I do not know the details of the situation, and I do not want to enter the debate to place blame on or to exonerate any party. But let me make a few observations that I hope you will find useful in framing the issue.

First, OIRA is a powerful organization, but it can only do so much. Its total staff count pales in comparison with those of the "audit" agencies such as the General Accounting Office.

Second, the regulatory agencies have strong incentives to avoid OIRA's demands for information. Partly this is because they have other work to do, and partly it is because they feel that OIRA's intervention may compromise their regulatory mission.

Third, a substantial part of the leverage OIRA has is through the budget "side" of OMB. In the past few years, that has been weakened by the restructuring of OMB to include a new deputy for management and other institutional changes.

Given the importance of having such reports – and institutionalizing additional regulatory accounting measures – I think you should take steps to address these problems, or at least devise means to overcome them. Let me suggest that you:

1. Reiterate to the OIRA Administrator that you consider this a high priority. This will not only give him additional incentive, but will provide him with a committee mandate which he can use to good effect in demanding agency cooperation.

2. Urge your colleagues on the authorizing and appropriating committees to demand of relevant agency personnel that they cooperate with OIRA in the timely production of the needed information.

3. Consider instituting a formal regulatory budget and that, at least for starters, the regulatory budget process parallel the appropriated budget process.

Thank you for the opportunity to present these views. I would be happy to respond to any questions you might have.

Mr. OSE. Thank you, Dr. Miller. Our second witness, who has been briefly introduced by Dr. Miller, is Dr. Thomas Hopkins, who is the former deputy administrator, the Office of Information and Regulatory Affairs at OMB. He is also the Dean of the College of Business at the Rochester Institute of Technology.

Dr. Hopkins, welcome. We have your written statement. If you could summarize in 5 minutes, that would be great.

Dr. HOPKINS. Mr. Chairman and members of the committee, I am pleased to have this opportunity to present my views on the regulatory accounting issues now before you.

Government regulation, however well intentioned and effectively designed, necessarily impose burdens on those who are regulated. When a burden is imposed without an accounting of its consequences, government operates without accountability and without transparency. Most of the costs associated with regulatory compliance are hidden from public view.

A recent report that Dr. Mark Crain and I prepared for the U.S. Small Business Administration found this hidden additional spending on regulatory compliance exceeding $800 billion annually, more than half of the size of the Federal Government's entire tax take each year. Indeed, if the Internal Revenue Service mailed "informational invoices" showing each family's share of spending on regulatory compliance, the average family would "owe" some $8,000 annually over and above their taxes.

Regulations' coerced shift of resources results in a less productive economy to the extent that regulations fail a benefit-cost test. And, unfortunately, much regulation does not pass such a test.

Robert Hahn and Cass Sunstein conclude that adding some regulations while removing or improving others could save tens of thousands of lives and millions of dollars annually, thus giving simultaneous boosts to health, safety, and economic growth.

Restrictions on free trade, such as the recently announced quotas on steel imports, also fail a benefit-cost test. They are particularly burdensome on the many small businesses that now will be facing higher prices for the steel they purchase.

Our government routinely mandates inefficient uses of resources. This would be of limited significance if regulatory compliance costs in the aggregate were small. But they are not. Moreover, small firms face 60 percent higher regulatory compliance costs per employee than do large firms. Spending on tax compliance and environmental protection is especially burdensome for small firms.

The work that Dr. Crain and I have completed shows regulatory costs can be measured, and they are sizable in both absolute terms and relative to government spending.

Thus, any initiative aimed at improving government should ensure that spending programs and regulatory programs receive parallel and balanced attention. In the early 1990's, the Office of Management and Budget began moving in this direction, linking regulatory spending with fiscal spending in its Unified Budget documents. This early effort did not continued past 1993, however.

Timely annual regulatory accounting reports are needed, and they would benefit from more complete standardization of the data that agencies should be required to provide OMB. Regrettably, agencies routinely have ignored such requirements.

Another all too common problem is agency estimates that lack comparability in fundamentally important respects. OMB guidance to agencies, while generally sound, has not insisted upon common data formats and methods. Since agencies are not given discretion to utilize varying accounting practices in reporting their fiscal outlays, neither should they in reporting regulatory effects.

Our paramount need is for sound estimates of incremental effects of every major new regulation, and of each's most prominent components relative to alternatives. Armed with such information, it would be far easier to avoid inefficient regulatory action.

But, there also is merit in deriving aggregate measures which help citizens gauge the overall extent of government mandates relative to taxation. It makes little sense, for example, to advocate tax reduction if, as sometimes happens, we then get what amounts to an offsetting increase in regulatory requirements.

If budget constraints cause the government to step back from spending tax revenues on some new initiative, it now is all too easy for the same initiative to be accomplished through government regulation that forces business or State-local government to pick up the tab.

There are no aggregate constraints on, or even consistent measures of, overall regulatory spending. This committee's endeavor to improve regulatory accounting is most promising. It will require perseverance and common sense. I hope that my comments are helpful and constructive, and I thank you for the opportunity to participate in this hearing.

[The prepared statement of Dr. Hopkins follows:]

Statement of
Thomas D. Hopkins
Rochester Institute of Technology
Rochester, New York

Before the
Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs
Committee on Government Reform
House of Representatives
Congress of the United States

March 12, 2002

Mr. Chairman and Members of the Committee, I am pleased to have this opportunity to present my views on the regulatory accounting issues now before this Subcommittee. My name is Thomas D. Hopkins; I am Dean of the College of Business at the Rochester Institute of Technology. My work on these issues began with my service, 1975-84, in the Executive Office of the President, where my chief responsibility was regulatory analysis. It has continued through a variety of consulting assignments for, among others, the U.S. Small Business Administration, and includes a report, *The Impact of Regulatory Costs on Small Firms,* co-authored with George Mason University economist W. Mark Crain and released by the SBA in October 2001.[1]

Government regulation, however well-intentioned and effectively designed, necessarily imposes burdens on those who are regulated. When a burden is imposed without an accounting of its consequences, government operates with neither accountability nor transparency. Most of the costs associated with regulatory compliance are hidden from public view. The annual federal budget does include as an explicit cost of government the amount of tax revenues that our 60 federal regulatory agencies use to implement and enforce regulation; that explicit cost is expected to be in the $20 billion range this year, according to a report issued annually by the Weidenbaum Center of Washington University in St. Louis. However, this annually reported portion of total regulatory compliance costs is dwarfed by expenditures that business, state-local government, and families are required by regulation to make.

Mark Crain and I find that this hidden additional spending on regulatory compliance now exceeds $800 billion annually. Expressed differently, the hidden burden of regulation is more than half as large as the federal government's entire tax take each year. If the Internal Revenue Service mailed an "informational invoice" to every American family showing each's share of spending on regulatory compliance, the average family would "owe" some $8,000 annually, over and above all taxes. This can be seen in Chart 1, which also shows (a) that the combined burden of federal taxes and regulatory compliance hit nearly $28,000 per family in 2000, and (b) that this burden has been climbing (4 per cent per year) since 1995. The good news, for those who find solace in others' bad news, is that a similar study for Canada completed last year found

[1] This report is available at http://www.sba.gov/advo/research.

the average Canadian family faces an even larger regulatory bill--$8,600 in 1997 (the latest year studied), when expressed in U.S. dollar equivalents.[2]

I often am accused of unfairly attacking regulation by neglecting its many benefits and stressing merely the cost side of the ledger page. My reply is simple. This is precisely what the government's own accountants have been doing for over half a century in tracking fiscal policy, and I'm simply trying to foster comparable accountability for regulatory policy. One rarely hears criticism of the government's huge annual budget document on the grounds that it only measures costs. Nonetheless, I wholeheartedly concur that public policy would be sounder if we had both sides of the ledger page, tracking benefits as well as costs. The Office of Management and Budget recently has made some progress to this end, issuing, more or less annually, summary data on portions of the regulatory universe, but more comprehensive and consistent data are needed.

Regulations' coerced shift of resources results in a less productive economy to the extent that regulations fail a benefit-cost test. And unfortunately, much regulation does not pass such a test. Robert W. Hahn and Cass R. Sunstein conclude that "adding some regulations, while removing or improving others, could save tens of thousands of lives and millions of dollars annually, thus giving simultaneous boosts to health, safety and economic growth."[3] Turning to another regulatory dimension, most economists also would contend that restrictions on free trade, such as the recently announced quotas on steel imports, fail a benefit-cost test, and they are particularly burdensome on the many small businesses that now will be facing higher prices for the steel they purchase. Thus our government routinely mandates inefficient uses of resources. This would be of limited significance if regulatory compliance costs in the aggregate were small—but they are not. Our work is aimed at documenting the scale and pattern of those costs.

In the wake of September 11, and the more recent Enron debacle, the entire world is looking to Washington in a way never before experienced. New demands are being placed upon our government, new safeguards for our citizens. Inevitably, and indeed immediately, the tactics include tighter regulation across many facets of life. Given the imperative of adding to our nation's regulatory burdens in ways that protect us from terrorism, and that ensure transparency in corporate accounting, it is crucial to get our nation's priorities straight. Cutting back on needlessly costly existing regulations, and revamping regulations that unjustifiably hit some harder than others, will allow "breathing room," if you will, so that newer regulatory initiatives will not overwhelm businesses that already are struggling through the present economic turbulence. We're going to have to throw on some new regulatory costs, so it's all the more urgent to find ways to cut existing burdens and make them less uneven.

My point, in other words, is that our report on regulatory costs has nothing to do with allegations of over-regulation or overly-intrusive regulation, although such matters

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[2] Laura Jones and Stephen Graf, "Canada's Regulatory Burden," August 2001, Fraser Institute, Vancouver, British Columbia.

[3] "Regulatory Oversight Takes Exciting New Tack," *Policy Matters* 01-25, AEI-Brookings Joint Center for Regulatory Studies, Washington, DC, September 2001.

do warrant more attention than they now receive. Rather, we address our government's inadequately-met need for greater accountability and balance in burden-sharing.

Mark Crain and I group all federal regulations into four types and assess how they hit firms of various sizes across four major business sectors. We consider "regulation" to include any federal mandate having to do with (1) tax compliance (time spent, rather than taxes paid), (2) workplace practices, (3) restricting imports and domestic commerce, and (4) environmental protection. It is mandated spending that doesn't show up in the federal budget. These are shown as the white columns on Chart 2. On the far right in that chart is the total cost. For comparative purposes, while this amounts to 8 percent of our Gross Domestic Product, the burden in Canada is 12 percent.

Some regulation directly hits individual citizens – such as higher priced sugar. But most first trigger compliance efforts by businesses, and we've focused on just those regulations that face business. That brings the total annual business regulatory cost figure down from $843 billion to $497 billion. I should emphasize that, ultimately, all regulatory burden flows through business to individuals in their various roles as consumers, investors, workers. But there is understandably much interest in identifying the intermediate burden patterns, as firms differ sharply in their shares of these burdens.

We also provide an alternative perspective, relying on a narrower concept of regulatory cost, one that ignores what economists call "transfer costs." Our government often plays Robin Hood, or master pickpocket, depending on your vantage point, helping some firms at the expense of others. If we exclude all such transfers, regulatory costs drop to a $295 billion business burden, out of a national total burden of $495 billion. As shown in Table One, no change occurs for tax compliance or for environmental regulation—only for the other categories. You're free to take your pick between the larger and small estimate; either way we're talking large numbers. I lean toward the more comprehensive measure for two reasons. First, "rent seeking" behavior ensures that those who benefit from transfers will engage in defensive efforts to protect their subsidies, through hiring lobbyists, etc., and similarly, those adversely affected will seek to attack these payments; real resources will be consumed, in other words. Secondly, consider the reactions of those who must pay – I rarely hear a sigh of relief when I explain to a consumer or a business executive that they should feel better about paying higher prices attributable to transfers than when they are attributable to "real resource-using" regulation.

Table One Billions of dollars in 2000

Type of regulation	Business pays	Others pay	Total
Tax compliance	70	59	129
Workplace	24--82	0	24-82
Economic	72-217	72-217	145-435
Environmental	128	69	197
All regulation	**295-497**	**201-346**	**495-843**

For comparative purposes, projections I made for the U.S. Small Business Administration back in 1995, using less adequate data, put the probable 2000 total regulatory burden very close to what Mark Crain and I now find, rather much to my surprise and relief. My earlier estimate was $815 billion (restated in current dollars), just slightly under our new estimate of $843 billion. (This 1995 study also is available on-line at SBA.)

Because regulations don't affect all firms similarly, we compute regulatory burdens separately by type of industry. And then we estimate, for each sector, the burden per employee for small firms, mid-size firms, and large firms. Chart 3 presents overall results just for small firms and large firms; for clarity, this chart shows results only for "small" (under 20 employees) and "large" (over 500 employees).

What this chart shows is that small firms face 60 per cent higher regulatory compliance costs than do large firms. Spending on tax compliance and environmental protection is especially large for small firms. By contrast, spending on economic regulation is smaller for small firms than for large firms, but not enough so to offset the other burdens. The result for environmental regulation rests on entirely new data about scalar effects, so it is comforting that it confirms my alternatively-estimated burdens back in 1995.

Chart 4 provides a breakdown by industry. The most substantial difference between small and large firms occurs in the manufacturing sector, where a small firm faces a 140 per cent higher compliance cost than does a large firm. Small business bears a larger burden than large business in every sector, but much less dramatically outside of manufacturing. While my chart does not show mid-size firms, employing 20-499 workers, generally we find that such firms have patterns fairly similar to that of large firms. It is the employer of under 20 workers who is in considerably heavier burden territory.

The cost disadvantage on small business in each sector is driven largely by compliance with environmental regulations and with the federal tax code. However, the particular drivers differ somewhat across the four business sectors. Moreover, not all regulations fall more heavily on small firms than on larger firms. The cost of economic regulations falls most heavily on large firms in two major sectors – manufacturing, and "other." The cost of workplace regulations falls most heavily on mid-sized firms, which most likely reflects the fact that many workplace regulations explicitly exempt small firms. Finally, small manufacturing firms appear to bear a disproportionately large burden of regulations as measured by the cost per employee.

One basic conclusion I draw from these data is directly germane to this Committee's present deliberations about regulatory accounting. Regulatory costs can be measured and they are sizeable, in both absolute terms and relative to government spending. Thus any initiative aimed at improving government operation and effectiveness should ensure that spending programs and regulatory compliance programs receive parallel and balanced attention.

In the early 1990s, the Office of Management and Budget began moving in this direction, linking regulatory spending with fiscal spending in its Unified Budget documents.[4] This early effort did not continue past 1993, however. Then, starting in 1996, the Congress began requesting reports from OMB specifically on regulatory effects. OMB provided such reports of varying quality and scope in 1997, 1999, 2000 and 2001. Currently, Sec. 624 of PL 106-554 requires such an OMB report accompany the fiscal budget, but OMB did not meet that deadline in 2002.

Timely annual regulatory accounting reports are needed, and they would benefit from more complete standardization of the data that agencies should be required to provide OMB. Regrettably, agencies (especially the independent agencies) routinely have ignored such requirements. For example, OMB reports four independent agencies that issued ten major new regulations during the year ending March 31, 2000, provided NO monetized cost information at all.[5] Another all too common problem is agency estimates that lack comparability in fundamentally important respects such as discounting practices. OMB guidance to agencies, while generally sound, has not insisted upon common data formats and methods. Since agencies are not given discretion to utilize varying accounting practices in reporting their fiscal outlays, neither should they in reporting regulatory effects.

In my view, our paramount need is for sound estimates of incremental effects of every major new regulation, and of each's most prominent components relative to alternatives. Armed with such information, it would be far easier to avoid inefficient regulatory action.

But there also is merit in deriving aggregate measures, which help citizens gauge the overall extent of government mandates relative to taxation. It makes little sense, for example, to advocate tax reduction if, as sometimes happens, we then get what amounts to an offsetting increase in regulatory requirements. If budget constraints cause the government to step back from spending tax revenues on some new initiative, it now is all too easy for the same initiative to be accomplished through government regulation that forces business or state-local government to pick up the tab. A water treatment plant can be built either with federal funds or with federally-mandated use of local funds, for example. We have no analogous aggregate constraints on, or even consistent measures of, overall regulatory spending.

For all of these reasons, the improved regulatory accounting being pursued by this Committee is a most promising undertaking, one requiring perseverance and common sense. I hope the Committee finds my comments to be constructive and supportive. Thank you for the opportunity to participate in this hearing.

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[4] See, for example, three OMB reports issued early last decade that called for development of a regulatory budget: *Budget Baselines, Historical Data, and Alternatives for the Future*, January 1993, pp. 114-115; *Mid-Session Review: the President's Budget and Economic Growth Agenda*, July 1992, pp. 396-401; *Regulatory Program of the U.S. Government, April 1, 1991—March 31, 1992*, pp. 5-7.

[5] *Making Sense of Regulation: 2001 Report to Congress on the Costs and Benefits of Regulations*, p. 32.

Chart 1. Costs per household

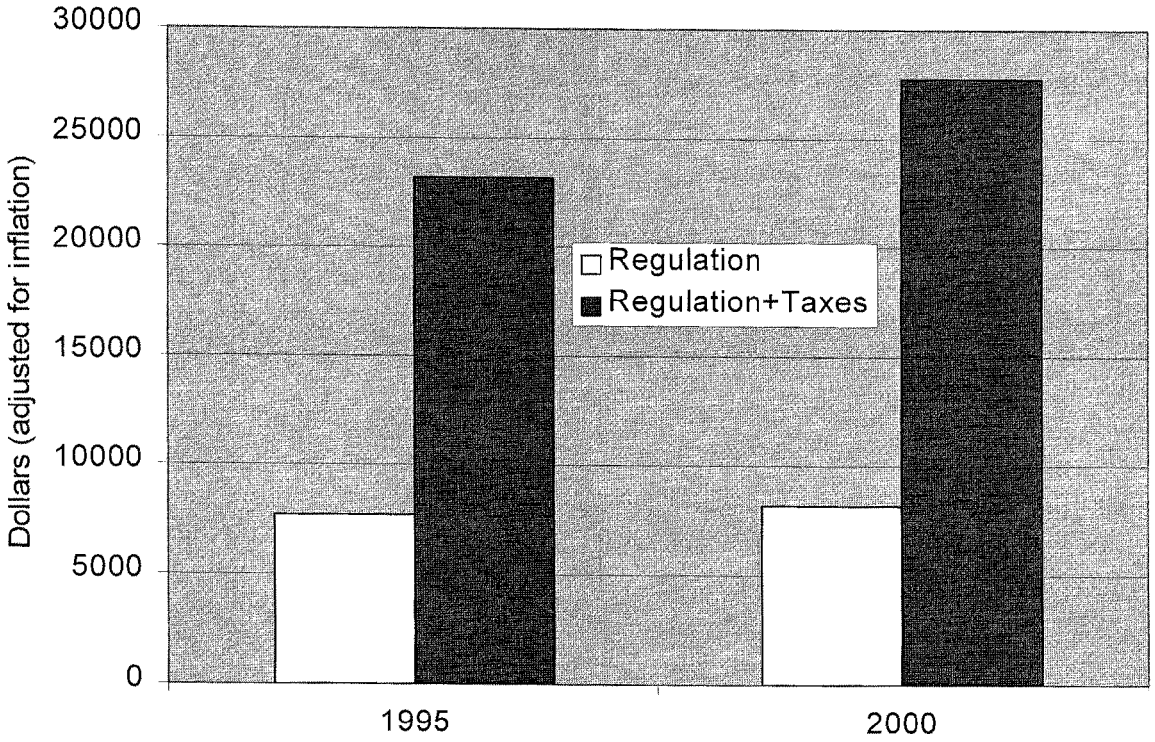


Chart 2. Aggregate regulatory costs, 2000

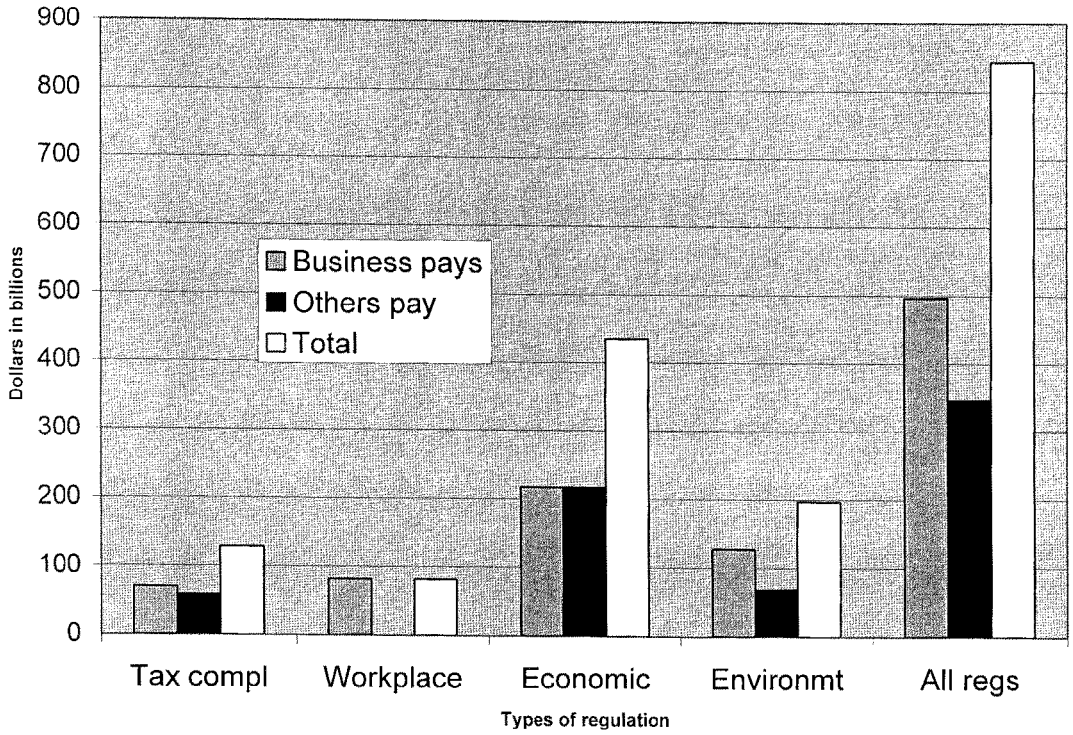


Chart 3. Regulatory costs per employee, 2000

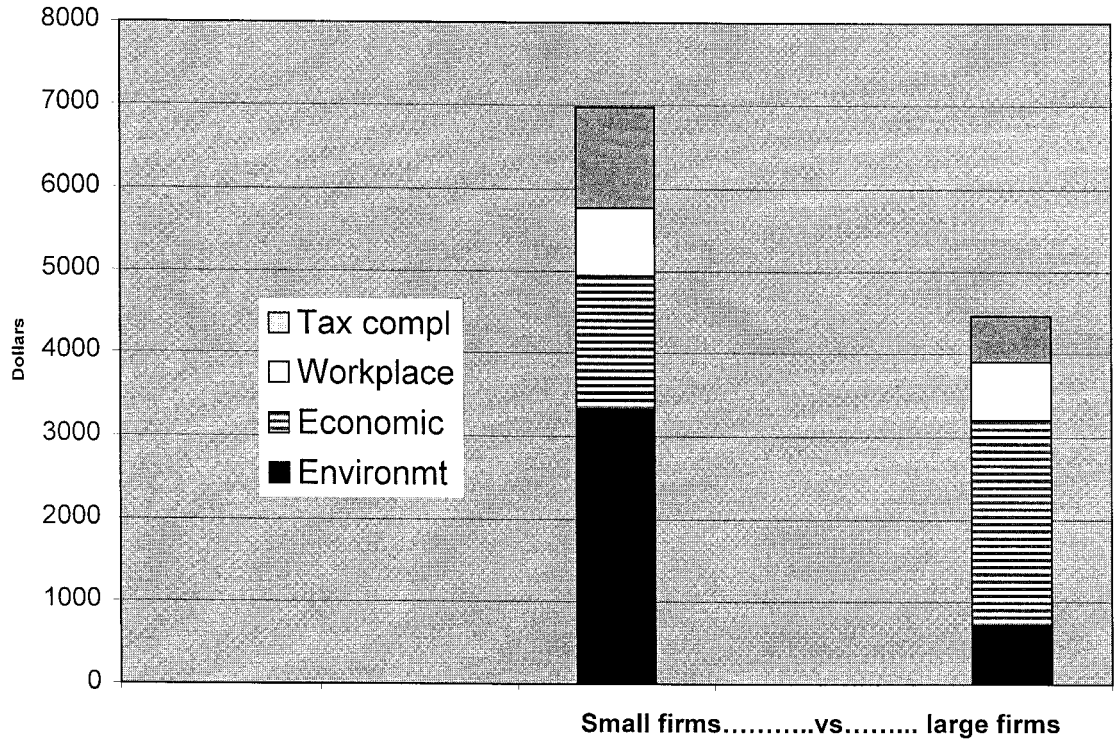
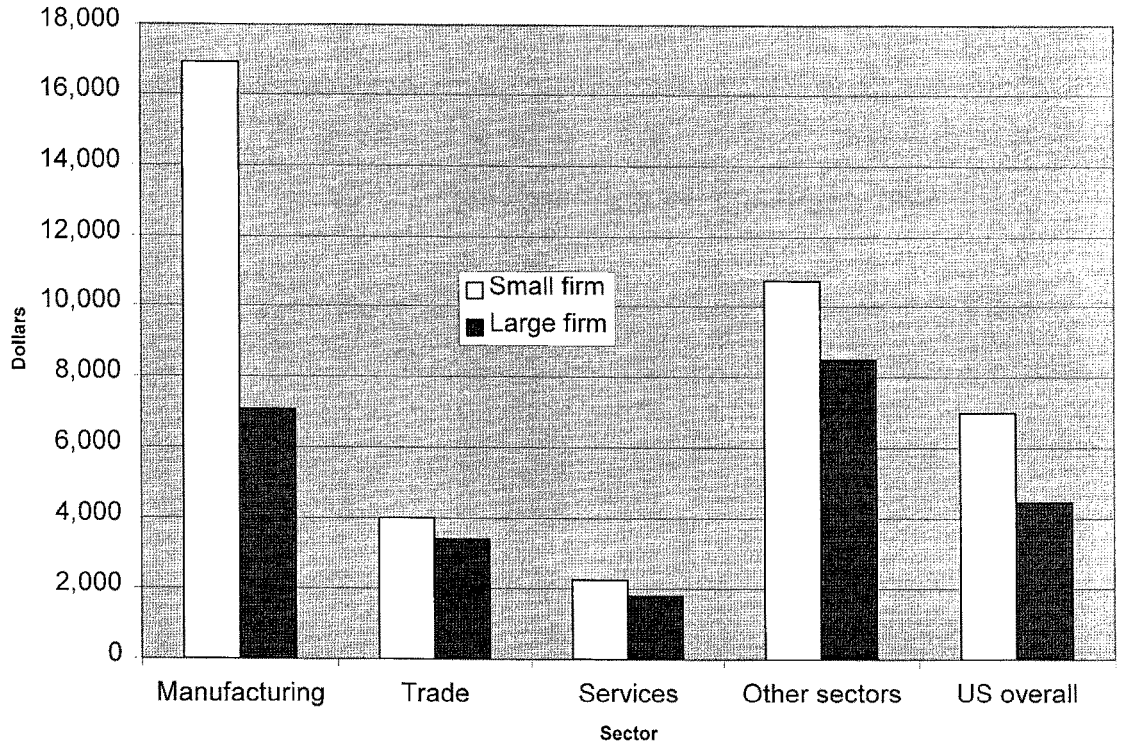


Chart 4. Regulatory costs per employee, 2000



Mr. OSE. Thank you, Dr. Hopkins. Our third witness on the second panel is Ms. Susan Dudley, who is the deputy director of the regulatory studies program at the Mercatus Center, George Mason University. Ms. Dudley, thank you for coming. We do have a copy of your testimony. As with the others, we would appreciate your summary within 5 minutes.

Ms. DUDLEY. Thank you. Mr. Chairman, and members of the subcommittee, thank you for inviting me to speak today on regulatory accounting. My name is Susan Dudley. As you said, I am a senior research fellow and deputy director of the Regulatory Studies Program at the Mercatus Center at George Mason University. Please note that the testimony today reflects my own views and not an official position of either Mercatus or George Mason.

Our program is dedicated to advancing knowledge of regulations and their social consequences. Through our public interest comment project, we have submitted comments to OMB on its 1998, 2000, and 2001 reports to Congress on the costs and benefits of regulation. We also have several regulatory accounting projects of our own underway.

Dr. Miller had nine points to make. I would like to make two. The first is on the importance of the analysis and information requested by Congress in these annual regulatory account reports. The second is on the timing of the submission of the reports. In my written testimony I also offer specific ways to improve the quality and value of the reports.

As Dr. Miller said, the Federal Government has two principal mechanisms by which it diverts resources from private sector use to meeting government-mandated goals. Those are taxation and regulation.

While tax revenues and the associated spending are measured precisely, tracked through the Federal budget, and subject to congressional oversight and public scrutiny, there is no corresponding mechanism for keeping track of the total cost of regulation.

To get a sense of the size of this hidden tax, we have had to resort to such proxies as the number of pages in the Federal Register or the size of the budgets of regulatory agencies. These statistics confirm that the number and scope of regulations has grown dramatically over the last three decades, but they cannot inform policymakers and the public about the costs or the benefits attributable to these regulations.

The Small Business Administration reports, as Mr. Sullivan and Professor Hopkins have discussed, offer the most reliable estimates of regulatory costs available. But those periodic snapshots do not fulfill the need identified by Congress for an annual accounting of both the regulatory costs and benefits by agencies.

Thus, I strongly support the regulatory accounting reports. These annual reports can begin to shed some light, not only on the magnitude and impact of this hidden tax, but also the benefits Americans are expected to derive from it as well. Submitting reports concurrently to Congress with the Federal budget will improve their effectiveness. Because regulations require off-budget expenditures to achieve government goals, integrating these reports with the Federal budget will provide valuable information about the full impact of government activities on American citizens.

Rigorous analysis of regulatory costs and benefits can significantly improve the allocation of the Nation's limited resources and can improve the effectiveness of our regulatory efforts. Like triage practices that are common in the public health field, directing resources to where they can do the most good depends on reliable information.

Having a better understanding of regulatory performance and results at the agency and program levels during the budget process will help appropriators allocate budgets toward regulatory programs that produce the greatest net benefits.

Thus, I strongly recommend that the annual regulatory accounting report be submitted to Congress simultaneously with the Federal budget. Though I recognize it will take considerable effort, at least initially, to get the reports on track for annual submission each February, the information would be valuable to Congress and other policymakers as they allocate available resources to various government programs.

Let me wrap up by pointing out that, for over 30 years, the White House has maintained in one form or another a centralized mechanism for executive branch oversight of regulations issued by Federal agencies. President Clinton's Executive Order 12866 continued this tradition, reinforcing the philosophy that regulations should be based on an analysis of the cost and benefits of all available alternatives and that agencies should select the regulatory approach that maximizes net benefits to society consistent with the law.

Over the last year, OMB has applied and enforced the principles of Executive Order 12866, and made its own analysis and decisions regarding agency regulations more transparent to the public. It should continue to hold agencies accountable for ensuring proposed regulations do more good than harm.

The annual regulatory accounting report to Congress can aid in this effort by providing rigorous and defensible estimates of the costs and benefits of regulations issued over time by agency. It can increase transparency, accountability and regulatory effectiveness. Thank you.

[The prepared statement of Ms. Dudley follows:]

UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON GOVERNMENT REFORM
SUBCOMMITTEE ON ENERGY POLICY, NATURAL RESOURCES AND REGULATORY AFFAIRS

REGULATORY ACCOUNTING

March 12, 2002

Testimony of Susan E. Dudley

Senior Research Fellow and Deputy Director, Regulatory Studies Program,
Mercatus Center, George Mason University[1]

The Regulatory Studies Program (RSP) of the Mercatus Center at George Mason University is dedicated to advancing knowledge of regulations and their social consequences. As part of this mission, RSP has several "Regulatory Accounting" projects underway to estimate the social costs of federal regulation. Two recent studies have examined the costs of regulations aimed at the workplace and we are beginning similar efforts in other areas.

RSP also produces careful and independent analyses of other regulatory issues and specific agency rulemaking proposals from the perspective of the public interest. Accordingly, we have submitted comments to the Office of Management and Budget (OMB) on its 1998, 2000, and 2001 reports to Congress on the costs and benefits of regulation.

I would like to take the opportunity today to express my strong support for the annual "Regulatory Accounting Reports" on the costs and benefits of regulation required by Congress. These annual Reports offer an opportunity for OMB to contribute significantly to the state of knowledge regarding the impact (both benefits and costs) of federal regulation.

My testimony today focuses on three issues: (1) the importance of the analysis and information presented in these Reports, (2) the timing of the submission of the Reports, and (3) ways to improve the quality and value of the Reports.

1. The analysis and information collected in these Reports can improve the accountability and effectiveness of government regulatory activity.

The federal government has two principal mechanisms by which it diverts resources away from private sector use towards government-mandated goals: taxation (and subsequent spending) and regulation. While tax revenues are measured precisely, tracked

[1] These remarks do not represent an official position of George Mason University.

through the federal budget, and subject to Congressional oversight and public scrutiny, there is no corresponding mechanism for keeping track of the total cost of regulation. Yet, this burden on businesses and consumers can be considerable and continues to grow.

To get a sense of the size of this hidden tax we have had to resort to such measures as the number of pages printed in the Federal Register, or the size of the budgets of regulatory agencies. (See Figures 1 and 2.) While informative – these statistics confirm that the number and scope of regulations have grown dramatically over the last three decades – these proxies cannot inform policymakers and the public about the extent to which regulations increase the cost of goods and services, and limit consumer choices.

Probably the most reliable estimate of the total *costs* of regulation is presented in a recent report for the Small Business Administration, by Professors Mark Crain and Tom Hopkins. They estimate that Americans spent $843 billion in 2000 to comply with federal regulations.[2] This updates earlier estimates (1996), but because these are periodic snapshots, and not based on a regulation-by-regulation accounting, as required in the OMB reports, they do not fill the need for an annual accounting of regulatory costs and benefits identified by Congress. Since the costs of regulations are not paid directly, as taxes are, Americans don't know how much this hidden tax actually amounts to each year.

OMB's annual report to Congress has the potential to shed some light not only on the magnitude and impact of this hidden tax, but the benefits Americans are expected to derive from it as well.

2. Submitting the Reports concurrently with the Federal Budget will improve their effectiveness.

Because regulations require off-budget expenditures to achieve federal government goals, integrating these reports with the Federal Budget will provide valuable information about the full impact of government activity on American citizens. Submitting these reports concurrently with the federal budget each February, as required by Congress, will prove valuable in the appropriations process.

While I argue above that Americans deserve to know the size of the hidden tax burden they are paying, understanding regulatory costs is important for another reason. Rigorous analysis of regulatory costs and benefits can significantly improve the allocation of the nation's limited resources and can improve the effectiveness of our regulatory efforts.

A better understanding of regulatory performance and results will help appropriators allocate budgets toward regulatory agencies that produce the greatest net benefits. Studies reveal that a reallocation of current spending from lower risk to higher risk problems could greatly increase the life-saving benefits of regulations designed to reduce health and safety risks and achieve other social goals.

[2]W. Mark Crain and Thomas D. Hopkins, *The Impact of Regulatory Costs on Small Firms*, Office of Advocacy, U. S. Small Business Administration, RFP No. SBAHQ-00-R-0027

Thus, a better understanding of regulatory impacts, or results, can help appropriators allocate budgets toward regulatory agencies and programs that produce the greatest net benefits. Congress and the Executive branch must always consider, implicitly if not explicitly, the costs and benefits of different programs as part of the budget process. If they are to allocate our nation's resources more efficiently and effectively to achieve greater benefits from our regulatory programs, information in OMB's Regulatory Accounting Report must be available during the fiscal budget process.

Thus, I strongly recommend that the annual Regulatory Accounting report be submitted to Congress simultaneously with the Federal Budget. Though I recognize it will take considerable effort, at least initially, to get the reports on track for annual submission each February, the information would be valuable to Congress and other policy makers as they allocate available resources to various government programs.

I would point out that this year's Federal Budget benefited from the integration of information regarding agencies' Government Performance and Results Act measures and plans. GPRA attempts to measure the results of different government programs. Integrating information on each department or agency's results with the fiscal budget process can provide Congress with valuable information about the cost-effectiveness of specific programs as they make appropriations decisions. Submitting the Regulatory Accounting Report during the annual fiscal budget cycle would bring the same accountability to regulatory programs.

3. OMB could improve its annual Report in seven key ways.

The data as presented to date in OMB's Regulatory Accounting Reports have been inconsistent and often fragmentary. Aggregate cost and benefit estimates rely on agency-reported estimates which are not made in accordance with accepted "Best Practice" guidelines issued by the Clinton Administration.[3]

The most recent (December 2001) report offered no new quantitative information on the aggregate costs and benefits of regulation. It did, however, raise some interesting issues regarding the estimation of aggregate costs and benefits, suggesting a willingness to consider alternative approaches for OMB's "longer run and permanent strategy to produce more comprehensive and higher quality reports." We endorse OMB's goal of developing comprehensive, reliable estimates of the costs and benefits of federal regulation, and have identified seven key areas in which OMB could improve future reports:

1. OMB should report best (i.e., expected value) estimates of aggregate benefits and costs, in addition to ranges. Covered regulations should be presented in a tabular format, by agency, with reasonable upper and lower bound estimates as well as best estimates of costs and benefits.

[3] U.S. Office of Management and Budget, *Economic Analysis of Federal Regulations Under Executive Order 12866*, January 11, 1996.

2. The report should present OMB's objective estimates of the benefits and costs of individual regulatory actions. These estimates should be based on consistent measurement techniques and a transparent explanation of assumptions.

3. OMB should continue to build a regulation-by-regulation database of the costs and benefits of regulations. In 1998 it began such a database, and a continuation of this effort (analyzing pre-1995 regulations) would contribute to the state of information on regulatory impacts.

4. When OMB must rely on other aggregate estimates of benefits and costs, such as those in EPA's Section 812 retrospective report, it should adjust them, as necessary, to correct for identified problems.

5. OMB should identify in a concise but comprehensive manner variations in agency methodologies used to estimate benefits and costs of individual regulations. It could present a "report card" for agency analyses that highlights their strengths and weaknesses. All of the reports submitted to Congress to date reveal that, despite the requirements of Executive Order 12866, agencies are still not following the Clinton Administration's "Best Practices" guidelines when preparing regulatory analysis in support of proposed rules.

6. OMB should present information on the effects of federal regulation on state and local entities. Many regulations fall disproportionately on local and state governments, and small business, despite the reforms of the Unfunded Mandates Reform Act and the Small Business Regulatory Enforcement Fairness Act (SBREFA). The recent SBA report mentioned earlier found that small businesses, particularly those employing fewer than 20 employees, bear a greater share of regulatory costs. Their regulatory burden per employee is $6,975, nearly 60 percent greater than the cost per employee in firms with over 500 employees.

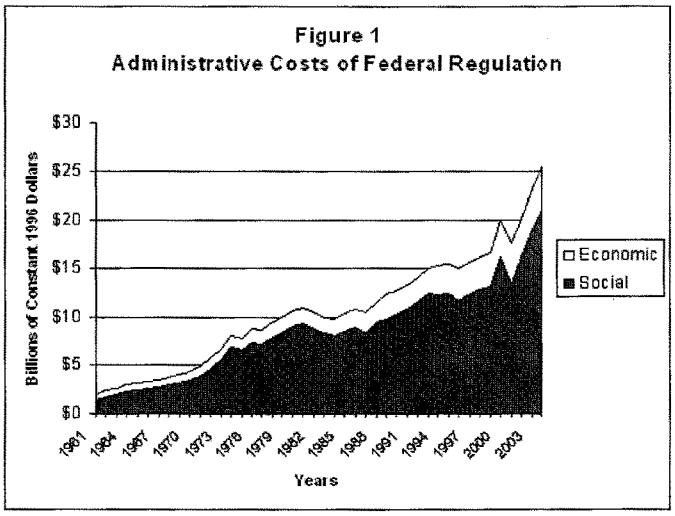
7. OMB should report aggregate costs and benefits in different ways. For example, the sheer growth in regulatory burden would be informative, as would estimates of the costs and benefits of regulation as a percent of GDP. OMB could distinguish regulations according to their goal, (i.e. protection of public health, safety, the environment, etc.). OMB could also present information along the lines of that provided by Hopkins,[4] who measures regulatory costs over time, and the incidence of those costs on households, and by type, and size of business. Since OMB has estimated total benefits, as well as costs, it could contribute valuable information on the distribution of those benefits.

Each of these recommendations is spelled out in greater detail in the Mercatus Center's comment on OMB's 2001 Report to Congress, which is attached for your reference.

[4] Hopkins, Thomas D. *Regulatory Costs in Profile*, Center for the Study of American Business Policy Study Number 132, August 1996.

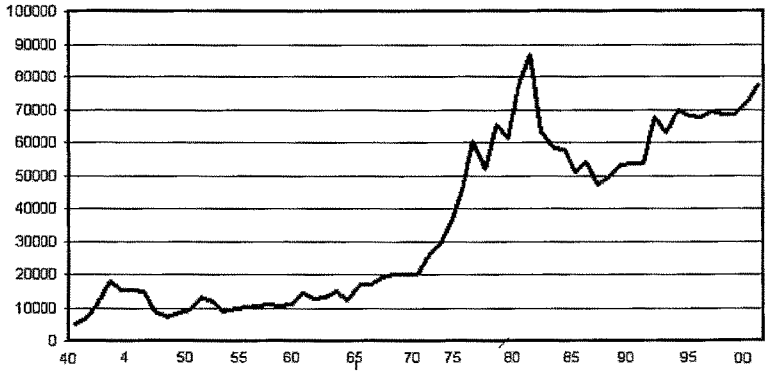
In conclusion, for over thirty years, the White House has maintained, in one form or another, a centralized mechanism for executive branch oversight of regulations issued by federal agencies. President Clinton's Executive Order 12866 continued this tradition, reinforcing the philosophy that regulations should be based on an analysis of the costs and benefits of all available alternatives, and that agencies should select the regulatory approach that maximizes net benefits to society, consistent with the law.

Over the last year, OMB has resolutely enforced the principles of Executive Order 12866, and made its own analyses and decisions regarding agency regulations more transparent to the public. It should continue to hold agencies accountable for ensuring proposed regulations do more good than harm. The annual Regulatory Accounting Report to Congress can aid in this effort. By providing rigorous and defensible estimates of the costs and benefits of regulations issued over time by agency, it can increase transparency, accountability, and regulatory effectiveness.



Source: Weidenbaum Center, Washington University, St. Louis, MO.

Figure 2:
Federal Register Pages (Annual Page Count, 1940-2001)



Source: Federal Register 1940- 2001

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REGULATORY STUDIES PROGRAM

Comments on:

OMB Report to Congress on the Costs and Benefits of Federal Regulations

Submitted to:

Office of Management and Budget

August 14, 2001

"A wise and frugal government, which shall restrain men from injuring one another, which shall leave them otherwise free to regulate their own pursuits of industry and improvement, and shall not take from the mouth of labor the bread it has earned. This is the sum of good government."

Thomas Jefferson, from his "First Annual Message," 1801

RSP 2001-12

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Public Interest Comment Series:

OMB Report to Congress on the Costs and Benefits of Federal Regulations

Agency:	Office of Management and Budget
Rulemaking:	Report to Congress on the Costs and Benefits of Federal Regulations
Stated Purpose:	Report on the costs and benefits of federal regulations and solicit comments on proposals for reform.
Submitted August 14, 2001	RSP 2001-12

Summary of RSP Comment:

Regulations impose a hidden tax on American citizens, yet, unlike the federal budget, the money spent and opportunities foregone to comply with government rules and regulations are not well-understood. Since OMB is in the best position to gather and synthesize government information on the costs and benefits of regulation, these reports offer an opportunity to remedy this deficiency and make Americans more aware of the positive and negative impacts of federal regulatory activity.

OMB's 2001 draft report to Congress on the costs and benefits of federal regulation provides little new information beyond that presented in previous reports. However, it does pose important questions, which suggest a willingness to improve future reports. In response to those questions, and based on our review of the 2000 and 2001 reports we make the following recommendations:

1. OMB should report best (i.e., expected value) estimates of aggregate benefits and costs, in addition to ranges.
2. The report should present OMB's objective estimates of the benefits and costs of individual regulatory actions. These estimates should be based on consistent measurement techniques and a transparent explication of assumptions.
3. OMB should continue to build its regulation-by-regulation database of the costs and benefits of regulations issued before April 1995. When OMB must rely on other aggregate estimates of benefits and costs, such as those in EPA's Section 812 retrospective report, it should adjust them, as necessary, to correct for identified problems.
4. OMB should identify in a concise but comprehensive manner variations in agency methodologies used to estimate benefits and costs of individual regulations. It should present a "report card" for agency analyses that highlights their strengths and weaknesses.
5. OMB should present information on the effects of federal regulation on state and local entities.
6. OMB should report aggregate costs and benefits in useful ways, e.g., by household, size of business, type of regulation, growth in burden, etc.

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Regulatory Studies Program

Public Interest Comment

Office of Management and Budget's Draft Report to Congress on the Costs and Benefits of Federal Regulations[1]

The Regulatory Studies Program (RSP) of the Mercatus Center at George Mason University is dedicated to advancing knowledge of regulations and their impacts on society. As part of its mission, RSP produces careful and independent analyses of agency rulemaking proposals from the perspective of the public interest. OMB's Report to Congress on the Costs and Benefits of Federal Regulations offers an important opportunity for the Executive branch, Congress, and the public to gain a better understanding of the effect of regulations. The program's comments on this report do not represent the views of any particular affected party or special interest group, but are designed to protect the interests of American citizens.

Section 628(a) of the FY2000 Treasury and General Government Appropriations Act requires OMB to submit "an accounting statement and associated report" containing:

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

This is the fourth OMB report to Congress on the costs and benefits of federal regulation. These reports have been required by a series of appropriations' riders; however, Section 624 of the Consolidated Appropriations Act of 2001 makes the requirement for an annual

[1] Prepared by Mercatus research fellows Susan Dudley, Joseph Johnson, and Jay Cochran. It is one in a series of Public Interest Comments from the Mercatus Center's Regulatory Studies Program, and does not represent an official position of George Mason University.

report permanent. OMB notes in this draft that the permanent "requirement gives us an opportunity to develop a longer run and permanent strategy to produce more comprehensive and higher quality reports."

The draft offers no new quantitative information on the aggregate costs and benefits of regulation, and instead, poses some interesting questions to commenters, which suggest a willingness to consider alternative approaches for OMB's "longer run and permanent strategy to produce more comprehensive and higher quality reports." In support of this effort, we offer these comments and responses to specific questions posed in the draft. We have also attached copies of comments RSP submitted on the 1998 and 2000 reports, which are relevant to this report and OMB's future efforts. We endorse OMB's goal of developing comprehensive, reliable estimates of the costs and benefits of federal regulation, and would like to support that effort with empirical and theoretical analyses. To that end, we have included in section I of this comment, suggestions for improving OMB's analysis, and summaries of recent analysis that can supplement OMB's information.

Our review of the 2000 and 2001 reports identifies six key areas in which OMB could improve future reports:

1. OMB should report best (i.e., expected value) estimates of aggregate benefits and costs, in addition to ranges.

2. The report should present OMB's objective estimates of the benefits and costs of individual regulatory actions. These estimates should be based on consistent measurement techniques and a transparent explication of assumptions.

3. OMB should continue to build its regulation-by-regulation database of the costs and benefits of regulations issued before April 1995. When OMB must rely on other aggregate estimates of benefits and costs, such as those in EPA's Section 812 retrospective report, it should adjust them, as necessary, to correct for identified problems.

4. OMB should identify in a concise but comprehensive manner variations in agency methodologies used to estimate benefits and costs of individual regulations. It should present a "report card" for agency analyses that highlights their strengths and weaknesses.

5. OMB should present information on the effects of federal regulation on state and local entities.

6. OMB should report aggregate costs and benefits in useful ways, e.g., by household, size of business, type of regulation, growth in burden, etc.

Both the 2000 and 2001 reports reveal that, despite the requirements of Executive Order 12866, agencies are still not following the Administration's "Best Practices" guidelines[2] when preparing regulatory analysis in support of proposed rules. OMB should consider a mechanism by which adherence to the guidelines and its "Best Practices" is enforced, or at least, measured and identified for the public.

The remainder of this public interest comment addresses specific issues presented within the chapters of the 2001 Report. Section I responds to questions regarding aggregate estimates of regulatory costs and benefits, and offers new research in some areas. Section II examines the benefit and cost estimates OMB has presented for the economically significant or major rules issued between April 1999 and March 2000. Section III discusses recommendations for regulatory reform, and Section IV concludes this comment. Appendix 1 provides hard copies of the Mercatus Center's comments on earlier OMB reports. Appendix 2 is the RSP Checklist, and Appendix 3 presents one-page summaries and Checklist evaluations for the 58 regulations on which the Mercatus Center has commented since 1996.

I. Estimating the Total Annual Costs, Benefits, and Impacts of Federal Regulations and Paperwork

Chapter 1 of OMB's 2001 report briefly reviews the issues involved in the aggregate estimates presented in its 2000 report, but does not update or modify those estimates. RSP's public interest comment on the 2000 report critiques those estimates. This chapter acknowledges, as previous reports did, "significant methodological concerns" with those aggregate estimates, and raises several questions toward identifying appropriate next steps in supporting a major overhaul of these estimates. We respond to each question below.

A. Should We Assess Older Regulation?

The law authorizing OMB's analysis does not appear to differentiate between old and new regulations and thus, OMB should make a good faith effort to assess the temporal sequencing of the costs and benefits of all regulations, not just the most recent ones. Regulations change incentives and/or constraints and thus change behavior and economic outcomes. This automatically implies that costs and/or transfers force the economy onto a different track than it would have occupied but for the regulation. (If this were not so, the regulation would be superfluous.) To have the fullest possible picture, therefore, of what that track change entailed in terms of costs, it is necessary to know the costs and timing of all rules. Of course, the economic concept of costs is at root counterfactual. That is, the value given up or not selected represents the opportunity cost of some endeavor that ultimately was chosen. Regulations force different outcomes than would have been voluntarily selected by individual citizens. Logically, therefore, to the extent possible all regulations should have their costs and benefits accounted for.

[2] U.S. Office of Management and Budget, *Economic Analysis of Federal Regulations Under Executive Order 12866*, January 11, 1996.

To be sure, society has adapted to the older regulatory requirements. Supply and demand adjusted a long time ago, and a new (second-best) equilibrium has been found. Thus, one could argue that the static or partial equilibrium costs of older regulations have already been absorbed and are therefore sunk. However, such a view can be misleading if it causes a confusion of static and dynamic effects, which then leads to an incorrect analysis. That is, the initial adjustment of supply and demand in response to a new regulation represents the static adjustment of costs, preferences, and incomes to the new regime represented by the rule change. However, this adjustment has also resulted in a changed growth trajectory for the economy. If the rule truly represents a Pareto improvement, the new (post-rule) growth trajectory will now be steeper. If, instead, the rule results in increased net costs, the trajectory will be lower than otherwise as inputs, for example, are diverted into lower valued uses as required by the regulation. Thus, regulations impart both one-time (static) readjustments to supply and demand, and long run (dynamic) changes in growth potentials. Both effects should be accounted for and analyzed.

In addition to the static/dynamic pitfalls of regulatory cost analysis, consistency and objectivity require either the inclusion of old regulatory costs, or the exclusion of old regulatory benefits. That is, if one includes the benefits attributable to old rules, such as those implemented under the Clean Air Act for example, then that rule's costs should be considered too. It is illogical to assume (and tantamount to the assumption of a free lunch) that perpetual benefits can accrue from the costs incurred many years ago.[3]

Finally, as a practical matter, so long as the costs and benefits of an individual regulation are separable in OMB's reporting of them (both temporally and from one another), an interested analyst can delete or attenuate appropriate values if the relevant modeling technique requires it. Without their inclusion in the proper temporal sequence, however, such a procedure is precluded from the outset.

B. Should We Focus on Specific Statutes or Categories of Regulations?

There is much to be gained by considering the costs and benefits of regulations in categories, such as environmental or workplace regulations. First, it presents a way to classify thinking about regulatory costs and benefits. If aggregate totals and individual regulations are the only levels considered, many regulations may fall through the gaps. The classification and measurement of regulatory costs should, ideally, be a mutually exclusive and jointly exhaustive assessment of all regulations. However, an estimation and aggregation of 75% of federal regulations is nearly as valuable as an estimate of all regulations, provided the reader knows that only 75% of all regulations are included, and which ones they are.

[3] One might be tempted to argue that regulations are in some respects like an investment: one invests once for continuing returns in the future. This analogy too can be misleading; in that, for the duration of the investment, each day a given investment is held represents an implicit or explicit decision that the alternative opportunities are not as desirable as those represented by continued holding of the existing investment—given a set of preferences and budget sets. The consideration of costs and benefits, in other words, is a continuous process.

Second, it is useful to understand groups of regulations that are often complementary. While individually they may seem insignificant, a different picture often emerges when viewed as a group. Furthermore, categorization is important when attempting to compare general areas of regulation against one another. For instance, one may be interested in knowing what areas of regulation have grown more rapidly, or slowly, compared to others. Finally, it is intuitively easier to consider broad categories of costs rather than specific regulations, which often times are technical and incomprehensible to most readers. Take for instance EPA's Clean Air Act. Most can relate more easily to the general idea of regulating air quality than a technical specification for the emissions of a certain type of internal combustion engine.

As a category, workplace regulations appear to be underrepresented in OMB's estimate of regulatory costs and benefits. While not as large as the costs and benefits of environmental regulations, for instance, the costs and benefits of workplace regulations nevertheless aggregate into significant impacts on the economy.

There has not been a great deal of academic or policy research carried out on workplace regulations, with the exception of OSHA standards and most of the federal contractor pay standards. However, Joseph Johnson of the Mercatus Center has recently compiled available information to develop an aggregate estimate of the costs of workplace regulations.[4] His working paper surveys government reports (including regulatory impact analyses, or RIAs) and academic studies that estimate costs for specific regulations issued under twenty-five statutes and executive orders, and identifies from these the most reliable estimates. Using transparent assumptions, Johnson derives a range of $32 to $135 billion per year for the total cost of workplace regulations with a best estimate of $81 billion per year (2000 dollars) for the total cost of workplace regulations. Of these annual costs, efficiency costs are approximately $24 billion and transfer costs are $57 billion.

The Mercatus Center has another project underway to estimate the costs of workplace regulation using a survey approach. This approach will complement the estimation presented above. By estimating the costs of the same set of regulations using completely different data as well as an unrelated methodology, the two estimates will provide independent observations on workplace regulatory costs. While neither of these methods attempts to estimate benefits, we believe they will provide reliable estimates of the range of costs workplace regulations impose on the economy, American workers, and consumers.

The costs and benefits of regulations issued under the Safe Drinking Water Act have been examined in regulatory impact analyses conducted by the EPA, as well as by other researchers. For example, Raucher et. al., estimate the annual compliance costs for drinking water rules issued between 1986 and 1993 at $4.1 billion (in 1992 dollars).[5] A

[4] Joseph Johnson, "The Costs of Workplace Regulations," Mercatus Center Working Paper (forthcoming).
[5] Robert S. Raucher et al. (Aug. 1994), "Cost-Effectiveness of SDWA Regulations." *American Water Works Association Journal*, 86 (8): 28-36.

forthcoming Mercatus Center working paper will update those estimates to include regulations issued since 1993.

Earlier OMB reports[6] provide solid examples of the type of information that can be gleaned from aggregate data on costs and benefits. OMB noted that disaggregation "of these data reveal several interesting and provocative features that are missing from the aggregate estimates..." including variations in the cost-effectiveness of rules issued by regulatory agency.

> Safety regulations promulgated by the major Department of Transportation regulatory agencies ... have remained consistently below $5 million per premature death prevented. In addition, there is no apparent trend in the cost-effectiveness of rules from these agencies over the past 20 years.
>
> In contrast, regulations promulgated by the EPA and the health standards division of the Occupational Safety and Health Administration (OSHA) are considerably more costly per unit of social benefit obtained. Many of these regulations have cost-effectiveness ratios in the tens of millions per premature death prevented; some have cost-effectiveness ratios that are well into the billions. Furthermore, for both agencies, the trend is clearly upward.[7]

The same report also separated regulatory actions into health and safety categories to illustrate the disparity in cost-effectiveness between actions aimed at reducing safety hazards (which consistently avoided premature deaths at less than $10 million), and those aimed at reducing environmental and occupational health risks (which avoided premature deaths at costs reaching into the billions and trillions per case). OMB concluded:

> From these data, it appears that safety regulation is far more cost-effective at reducing threats to life than regulations directed toward health-related mortality risks—especially cancer risks plausibly attributed to occupational or environmental exposure. If these regulations are representative, aggregate mortality risk would be substantially reduced at considerably less cost by shifting the Federal Government's regulatory focus away from relatively small occupational and environmental cancer threats toward other health risks and causes of injury.[8]

A study conducted at the Harvard Center for Risk Analysis reached similar conclusions. It found that a reallocation of current spending from lower risk to higher risk problems could more than double the life-saving results of regulations designed to reduce health and safety risks[9] even if each agency continued to impose the same total regulatory cost

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[6] U.S. Office of Management and Budget, *Fiscal 1992 Budget*, table C-2, and *Regulatory Program of the United States Government*, April 1, 1991 – March 31, 1992, pp. 8-13.

[7] U.S. Office of Management and Budget, *Regulatory Program of the United States Government*, April 1, 1991 – March 31, 1992, p. 11.

[8] Ibid, p. 11.

[9] Tammy O. Tengs and John D. Graham, "The Opportunity Cost of Haphazard Social Investments in Life-Saving," in R. Hahn (editor), *Risks, Costs, and Lives Saved: Getting Better Results from Regulation*

but merely targeted its efforts more efficiently. By using its collected data to focus attention on such risk comparisons, OMB could improve regulatory accountability, and contribute valuable gains to social welfare, the environment and public health.

The public also would benefit from information on the relative impacts (both benefits and costs) on different sectors of the economy. For example, it would be valuable to get a sense of the relative benefits and costs of regulations on different socioeconomic classes. With the growing interest in environmental equity, quantitative estimates of who bears the costs, and gains the benefits of regulatory activity would enlighten policy decisions. We recognize that information to support such disaggregation may not be robust. However, since both Executive Order 12866 and OMB's Best Practices guidance encourage agencies to evaluate the "distribution of the net effects of a regulatory alternative across the population and economy, divided in various ways (e.g., income groups, race, sex, industrial sector),"[10] more data should be available on which to base such analysis in future reports.

C. Should We Seek to Develop A Better Way to Estimate the Aggregate Cost of Federal Regulation?

In 1998, OMB began building a regulation-by-regulation database of the costs and benefits of regulations issued since April 1995. This is valuable analysis, and a continuation of this effort would contribute to the body of knowledge on regulatory impacts. This effort would be more valuable if OMB expanded the database by putting cost and benefit information into a consistent, comparable format, as discussed in Section I.E below. Moreover, as noted above in Section I.B, the ability to aggregate regulations by statute and category would also be useful.

In addition to this regulation-by-regulation approach, OMB can improve the understanding of trade-offs in regulatory regimes by providing a macroeconomic check on the aggregated estimates, similar to the approach the Mercatus Center is taking with respect to workplace regulatory costs. However, it should do so in a manner that does not add to social costs. In this connection, an increased reliance on new survey instruments to gauge regulatory costs is likely to *add* to the regulatory burdens faced by the subjects of regulation and should probably be avoided on efficiency grounds.

Alternatively, OMB might wish to avail itself of information that the government already collects. In fact, OMB—as the government's gatekeeper for information flows between the government and citizens—is uniquely situated to know the volume, types, and frequency of information gathered by government. For example, information collection requests (ICRs) represent a data source that is already available to OMB. Dollar values can be applied to ICR data to provide a first approximation of regulatory compliance costs (in terms of paperwork, as against physical compliance costs). To illustrate, subtracting the ICR estimate of compliance hours from the total number of man-hours

(New York: Oxford University Press, 1996).

[10] OMB, Economic Analysis of Federal Regulations Under Executive Order 12866," January 1996, p. 2.

worked in American businesses in a given year, derives a first approximation of the number of hours available for production purposes (i.e., for actually producing goods and services that Americans consume). Further, dividing an estimate of production (such as real GDP) by the number of production hours yields an estimate of the value of real output produced per productive labor-hour worked in a given year. Under a *ceteris paribus* condition, multiplying the estimated value of real output per hour by the hours estimated to have been used in paperwork compliance, yields a first approximation of the amount of production foregone by virtue of having to document compliance with regulations rather than producing real output.

Using this approach yields an estimate of more than $297 billion spent on complying with regulatory paperwork in 1999 alone.[11] This compares to a compliance figure of roughly $190 billion that OMB cites elsewhere. Of course there are a number of problems with this approach, including its implicit reliance on a labor theory of value standard (i.e., it excludes consideration of capital costs). Also, the ICR data are skewed heavily by IRS tax compliance estimates, and the overall ICR hourly estimates are probably understated. That is, the hours spent satisfying ICRs may reflect accurately the time required to fill out the given form, but may underestimate the time spent collecting, processing, and analyzing the data that go into formulating a response. In spite of these weaknesses, emergent estimates tend to be of roughly similar magnitude to estimates derived from alternative sources. In addition, the estimates have the value of being simple to compile and relying on a straightforward methodology.

Another source of information might be data routinely captured by the IRS on a firm-by-firm basis through tax return filings. These data have the potential to be used on an aggregate basis to capture some elements of regulatory costs. As another example, the Federal Communications Commission (through its Form M filing) regularly collects highly detailed estimates of costs incurred by regulated telephone companies, and so Form M can be an invaluable source of information on the regulatory burden faced by these firms. In addition, the Department of Commerce periodically conducts an Economic Census, and through this instrument collects information on business performance.[12]

It might also be possible to estimate certain elements of the regulatory costs and benefits problem by reverse engineering: That is, rather than surveying firms to obtain the costs they incur to comply with regulations—such as pollution abatement expenditures—it may be possible to examine instead the revenues of firms that supply such services. This

[11] Relying on 1999 ICR data, the total number of hours spent documenting paperwork compliance amounted to roughly 7.2 billion hours. The total number of non-governmental labor hours in 1999 amounted to 1.952 trillion hours (or 34.5 hours in the average 1999 workweek multiplied by 50 workweeks multiplied by 113 million non-governmental workers). From this figure, we subtract the hours spent documenting compliance and the remainder is 1.88 trillion hours available for real production. In 1999, GDP amounted to $7.78 trillion (in 1992 dollars), yielding an average value of real output per hour of $41.32. Multiplying this figure by the hours spent in compliance yields an estimate of more than $297 billion spent in regulatory paperwork compliance in 1999.

[12] Though the Census Bureau only conducts its Economic Census every five years, the data can be nevertheless important for periodically benchmarking aggregate estimates derived from other sources.

approach may involve problems of separability, but it has at least the potential to operate as a check on other estimating methods. This last example also points to possibility of relying on non-governmentally supplied information, such as corporate annual reports, SEC 10-Q filings, rating agencies' data such as that available in Standard & Poors reports, and so on.

We list here just a few examples of existing data sources and analytical methods that OMB might draw upon in its quest to gauge the aggregate costs of regulations on American society. There are many others, and thus new requests of industry and individual citizens for additional information ought to be pursued as a last rather than as a first resort.

D. How Should We Estimate Effects on State, Local, and Tribal Government, Small Business, Wages, and Economic Growth?

This is an important question. Many regulations fall disproportionately on local and state governments, and small businesses, despite the reforms of the Unfunded Mandates Reform Act and the Small Business Regulatory Enforcement Fairness Act (SBREFA). Unlike large corporations that are politically active and often involved in the rulemaking process, usually the only representation state and local governments and small businesses have in the rulemaking process comes through these mandates to analyze regulatory cost burdens with respect to them. Very often the agencies' analysis of regulatory impacts on, say, small business is cursory at best and does not represent the reality for small businesses in affected sectors of the economy.

In a forthcoming report for the Small Business Administration, Professors Mark Crain and Thomas D. Hopkins estimate that Americans spent $843 billion in 2000 to comply with federal regulations.[13] They find that small businesses, particularly those employing fewer than 20 employees, bear a greater share of those costs than do larger firms. Their regulatory burden per employee is $6,975, nearly 60 percent greater than the cost per employee in firms with over 500 employees.

The National Federation of Independent Business has developed a model to estimate the distributional effects of regulatory costs, which could aid OMB in its analysis.

We would also like to see OMB's total cost and benefit estimates expanded to include more information and other classifications of interest. For example, the sheer growth in regulatory burden would be informative, as would estimates of the costs and benefits of regulation as a percent of GDP. OMB could distinguish regulations according to their goal, (i.e. protection of public health, safety, the natural environment, etc.). OMB could also present information along the lines of that provided by Hopkins,[14] who measures regulatory costs over time, and the incidence of those costs on households, and by type,

[13] Crain, W. Mark, and Thomas D. Hopkins. *The Impact of Regulatory Costs on Small Firms,* U.S. Small Business Administration, (SBAHQ-00-R-0027) (forthcoming).

[14] Hopkins, Thomas D. *Regulatory Costs in Profile,* Center for the Study of American Business Policy Study Number 132, August 1996.

and size of business. Since OMB has estimated total benefits, as well as costs, it could contribute valuable information on by estimating the distribution of those benefits as well.

E. How Can We Improve the Estimates of Costs and Benefits of Major Regulations?

The current report and previous OMB reports present agency estimates of the costs and benefits of significant rules without ensuring that they are based on consistent assumptions or methodologies. OMB offers no independent assessment of the quality or usefulness of agency analyses, although past reports have commented that agencies' compliance with OMB's Best Practices guidance is variable.

The majority of regulatory analyses supporting rules issued over the last year appear to have deviated from the guidelines in important ways. The listing of agency rules, and OMB's discussion reveals that agencies are still not following OMB's sound "Best Practices" guidance. (See discussion in section II below.)

At a minimum, OMB's reports to Congress should provide more detailed information about the assumptions underlying the benefit and cost estimates of the individual regulations that comprise the aggregate figures. This would be a starting point for encouraging agencies to follow OMB's Best Practices in future regulatory analyses.

OMB is in a unique position to provide some useful analysis; it has access to agency analyses, interagency discussions, and public comments on individual rules. In the course of its own reviews of significant regulations under Executive Order 12866, OMB analysts identify the methodologies agencies use to estimate benefits and costs. It should include those observations in this report in the form of a "report card" that highlights strengths and weakness of each analysis. OMB could present a table, along the lines of that produced in its 1988 Regulatory Program, that summarizes how each regulatory analysis addressed key criteria.[15]

That table briefly evaluates the analysis supporting nine agency actions against each of five criteria. For example, under the criterion "evaluation of suitable alternatives to selected option" the table reveals that the agency proposing one rule evaluated six options, while another failed to consider any viable alternatives. This table is a valuable model for the kinds of information future reports to Congress could contain.

In addition to disclosing the strengths and weaknesses of agency analyses, as suggested by the report card approach, OMB would contribute more to an understanding of the true social impact of federal regulations if it offered its own best estimates of the costs and benefits of individual rules. The following principles will help introduce transparency, consistency, and comparability into regulatory cost-benefit accounting.

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[15]U.S. Office of Management and Budget, *Regulatory Program of the United States Government*, April 1, 1987-March 31, 1989, pp. xv-xvii.

First, to the extent possible, each OMB report should contain an aggregate cost and benefit of all government regulations. Second, previous regulations as well as new regulations added during the preceding year should be categorized into cost categories, i.e. workplace regulations as noted in section I.B above. Next, all regulations included should be presented in a tabular format with high and low as well as best estimates of cost. In addition these estimates should be consistent, stated in constant, preferably current, year dollars and using the same estimation parameters, e.g. discount rates, values assigned to extending statistical lives,[16] etc. Finally, important assumptions made by the agency or outside researchers in the process of determining costs and benefits should be stated up front.

The first two requirements above ensure that the estimate will present data on all regulations rather than a select group. As noted earlier, it is not necessarily important to have estimates for all regulations as this may be impossible, but when presented in tabular form and categorized, it is easier to identify missing values or gaps in knowledge. This type of presentation will make the data both more valuable and more clear, which translates to easier use.

The second two requirements speak to the desirability of cost and benefit estimates to be transparent, consistent, and comparable. Both the format of the presentation and the identification of assumptions underlying the estimates increase transparency and facilitate understanding of what the estimates actually mean. Very often critical assumptions in economic analyses are left out of final notices in the Federal Register. Reporting all estimates in constant dollars improves the consistency and comparability of estimates, as does standardizing the estimation parameters such as discount rates and valuation techniques. Agencies may choose parameters that put the best face on their desired programs, but making critical policy choices about regulation and regulatory reforms requires stable, consistent, and known estimation methods.

While all of the above reform recommendations carry costs, they are necessary for meaningful regulatory analysis. Most of the costs in implementing this system of reporting are fixed, and once implemented are relatively easy to follow with future annual updates.

F. How Should We Treat EPA's Aggregate Estimates of the Benefits of the Clean Air Act?

OMB noted in its 1998 report, when it first presented the estimated costs and benefits of the Clean Air Act based on EPA's Section 812 Retrospective report,[17] that:

> The magnitude of EPA's benefit estimate, $22 trillion over the 1970 to 1990 period is very large. The expected value of the estimated monetized benefit for

[16] Methods for valuing statistical life-saving benefits of regulations should reflect age, number of years of life saved, and quality of life.

[17] U.S. Environmental Protection Agency, *The Benefits and Costs of the Clean Air Act, 1970 to 1990.* October 1997.

> 1990 is $1.25 trillion per year. This estimate implies that the average citizen was willing to pay over 25 percent of her personal income per year to obtain the monetized benefits of the Clean Air [Act].[18]

The OMB report also observed that the Section 812 Retrospective reflected EPA's estimates rather than a consensus within the administration, and highlighted unrealistic assumptions and methodologies underlying the estimates. Key problems with the EPA report's benefit estimates are summarized below.

a) Unrealistic Baseline

A baseline estimate of "what would have happened" between 1970 and 1990 in the absence of the Clean Air Act is necessarily uncertain, and as OMB noted in its 1998 report, that uncertainty renders "all attempts to construct aggregate benefit and cost estimates somewhat speculative."[19] However, EPA's choice of a baseline apparently overstates by a large amount the true social benefits of federal air regulation over the 20-year period. It attributes benefits to federal regulation that, in fact, were due to state and local government and private initiatives. More significantly, a large portion of the alleged benefits is due, not to improvements in air quality, but to the model's assumptions about how air quality might have degraded between 1970 and 1990.[20]

b) Uncertainties in magnitude and causation of effects

Ninety percent of the total benefits estimated in the Section 812 Report are associated with reducing exposure to fine particulate matter (PM). However, a causal relationship between PM and mortality has not been established, and there are significant uncertainties regarding the epidemiological studies that suggest a correlation between PM and mortality. As discussed in detail in the Regulatory Studies Program's comments on EPA's national ambient air quality standard for PM (Regulatory Studies Program Public Interest Comment on "National Ambient Air Quality Standards for Particulate Matter), the scientific community—including some members represented on EPA's Science Advisory Committee—has serious doubts about the causal connection between health effects and PM and the nature of the dose-response function.[21] Some analysis of the sensitivity of these estimated PM benefits to EPA's assumed mortality dose-response relationship would aid readers in understanding the total estimates. For example, does

[18] OMB 1998 *Report to Congress on the Costs and Benefits of Federal Regulations,* p.26.

[19] *Ibid.*, p.29.

[20] "...a substantial fraction of the estimated benefits are attributable to the degradation in modeled air quality from 1970 levels, rather than the result of an improvement in air quality from the levels that existed in the United States in 1970." Ibid., pps. 28-9.

[21] Our March 1997 comments stated: "No generally accepted medical explanation exists of how current PM concentration levels could harm health. In the CASAC Chair's words: 'There is no biologically plausible mechanism that could explain the apparent relationship between acute mortality and PM at concentrations that are a fraction of the present PM 10 NAAQS.' Some studies question the significance of reported correlations between PM and respiratory-related deaths, and in any event correlation and causation are quite different concepts. The strength of the causal connection between health effects and particulates remains in doubt."

the wide range of EPA estimates reflect different assumptions regarding the mortality effects of PM? What assumptions are inherent in the upper and lower bound estimates? What consensus exists as to a best estimate of mortality effects?

c) Improper accounting for latency of effects

As OMB's 1998 report observes, the Section 812 Report's assumption of a zero lag in the mortality and chronic health risks associated with chronic exposure to PM "represents only one end of a range of possibilities." OMB estimates that a more reasonable assumption of a 15 year latency "would reduce the present value of the mortality benefits by a factor of two..."[22] This is useful information. OMB should present such estimates for all the questionable assumptions it discusses, and develop its own best estimate or expected value of benefits and costs based on more realistic assumptions.

d) Exaggerated valuation of health benefits

In its 1998 report, OMB made two interesting observations regarding EPA's selection of a value of $4.8 million per statistical life. First, OMB noted that the standard deviation surrounding EPA's estimate was $3.2 million. In other words, significant uncertainty surrounds this estimate. Second, EPA's value is based on a review of studies that suggest a willingness-to-pay of $5 for a one-in-a-million reduction in mortality risk. However, application of the $5 estimate, which is based on studies of risks that are much smaller than those EPA attributes to PM exposure (between 1/10th to 1/100th the size), suggests a willingness-to-pay to reduce PM exposure that is a large portion of a household's budget. Thus, these values are likely to overstate the actual willingness-to-pay for reducing the health risks of PM.

Other reviewers of the Section 812 report—including EPA's Clean Air Scientific Advisory Committee (CASAC) and other agencies—raised important issues. For example, CASAC was concerned that EPA's use of a statistical-life-saved metric, rather than additional years-of-life-saved, tends to overstate benefits for regulatory actions, such as particulate matter controls, which prolong lives by a few years (or less).[23] Also, EPA's estimates do not reflect offsetting health risks, such as the increased exposure to ultraviolet radiation that would result from a reduction in particulate matter and ground level ozone.

Though necessary, the caveats OMB presented in 1998 are not sufficient to balance the presentation of the Section 812 Report estimates. The numbers OMB presents in these annual reports are reported and repeated, while the discussion of the apparent bias and uncertainty inherent in those numbers has been lost in subsequent discourse. As EPA noted in the Section 812 Report, due to a statutory deadline, the agency was unable to respond to concerns raised by other agencies, and the resulting estimates do not reflect

[22] OMB 1998 *Report to Congress on the Costs and Benefits of Federal Regulations*, p. 31.
[23] An interagency working group has recommended that OMB report mortality benefits in terms of life-years saved, as well as lives saved.

the best judgment of the administration. OMB should take the opportunity these annual reports offer to set the record straight by adjusting EPA's estimates along the lines suggested by the interagency review and OMB's own analysis.

II. Estimates of Benefits and Costs of This Year's "Economically Significant/Major" Rules

Chapter II of OMB's report presents available agency estimates of 31 final rules issued between April 1, 1999 and March 31, 2000 that it classified as "major." OMB defined "major rule" to include all final rules promulgated by an executive branch (as opposed to independent) agency that were (1) designated as "economically significant" under section 3(f)(1) of Executive Order 12866, (2) "major" under 5 U.S.C. 804(2) (Congressional Review Act), or (3) met the threshold under Title II of the Unfunded Mandates Reform Act (2 U.S.C. 1531 - 1538).

The report summarizes agency estimates of the costs and benefits of these 31 rules, along with a brief qualitative discussion. Though the regulations reported on in this section appear to have deviated from OMB's guidelines in important ways, as in previous years OMB again merely summarizes agency cost estimates and offers little independent analysis.

Furthermore, many of the 31 major rules include no estimates of costs or benefits. Of the 31 major rules OMB reviewed during the last year, only 12 were considered non-transfer rules, and agencies quantified and assigned dollar values to the benefits and costs in only 8 out of the 12 cases. [24] In only 6 cases were both costs and benefits estimated so that a net benefits test could be applied.

Unfortunately, OMB did not pursue a cost-benefit review for any of the transfer rules in its draft report. While transfer regulations may not require a direct use of resources by private parties for compliance—the test OMB applies for determining transfer and non-transfer major rules—transfer rules impose economic costs nonetheless. In fact, to economists there is no difference between giving money to another party and paying another party for smog reduction equipment, for instance. Both are transfers, but both also impose "deadweight losses" in their implementation. In past reports, OMB has addressed these difficulties up front. While we realize that accurate estimation of all associated costs is difficult if not impossible, the discussion of what is missing from the estimates provided is important. Sections I.C and I.E above discuss these issues in greater detail.

Presenting agency estimates of the costs and benefits of the most significant regulations issued during the past year is useful in itself. A more thorough discussion of the variation

[24] OMB characterizes 19 of the 31 major rules as "transfer" rules because they "set terms for monetary payments from one group to another that do not directly affect total resources available to society." The other 12 rules are those "requiring substantial additional private expenditures and/or providing new social benefits" (OMB Draft Report FR 66 22044).

in assumptions, methodologies, and valuation techniques used by different agencies, and even within the same agency for different rules, would offer relevant insights into the regulatory decision-making process. Further, we would like to see OMB's analyses of these regulations extended to provide greater uniformity and consistency in the methods used, so that the resulting estimates of benefits and costs would be more comparable and meaningful.

III. Recommendations for Regulatory Reform

Section 628(a)(3) of the FY2000 Treasury and General Government Appropriations Act requires OMB to submit "recommendations for reform" with its report on the costs and benefits of federal regulations, and OMB in turn has asked commenters for recommendations. Specifically, OMB has asked for "suggestions on specific regulations that could be rescinded or changed that would increase net benefits to the public by either reducing costs and/or increasing benefits." Commenters are asked to identify "regulations that are obsolete or outmoded, and could be rescinded or updated."

The Mercatus Center has examined and submitted public interest comments on 58 regulations since the inception of the Regulatory Studies Program in 1997. It is clear from these reviews that agencies are not following the Best Practices or guidelines OMB has set forth for regulatory analysis. Compliance with these guidelines would yield significant regulatory improvements.

Since 1999 we have evaluated each regulation on which we submit comments according to the RSP Checklist, the seven elements of which are consistent with OMB's guidelines (See Appendix 2 of this report). Appendix 3 of this report presents a one-page critique that summarizes our review of each of these 58 regulations along with the RSP checklist evaluation. These summaries and checklists provide suggestions for regulatory reform.

IV. Conclusion

OMB has an opportunity through these annual reports to Congress to contribute significantly to the field of knowledge regarding the impact (both benefits and costs) of federal regulation. However, the data as presented are inconsistent and often fragmentary. In addition, the estimates reported by agencies are not made in accordance with the Administration's Best Practices. In order for the Legislative and Executive branches to understand better the effects of regulations on society, a sober and rigorous analysis of regulatory costs and benefits is vital. We therefore urge OMB to continue this process and include the refinements to it that we have suggested.

Our review of the 2000 and 2001 reports suggest six key areas in which OMB could improve future reports:

1. OMB should report best (i.e., expected value) estimates of aggregate benefits and costs, in addition to ranges.

2. The report should present OMB's objective estimates of the benefits and costs of individual regulatory actions. These estimates should be based on consistent measurement techniques and a transparent explication of assumptions.

3. OMB should continue to build its regulation-by-regulation database of the costs and benefits of regulations issued before April 1995. When OMB must rely on other aggregate estimates of benefits and costs, such as those in EPA's Section 812 retrospective report, it should adjust them, as necessary, to correct for identified problems.

4. OMB should identify in a concise but comprehensive manner variations in agency methodologies used to estimate benefits and costs of individual regulations. It should present a "report card" for agency analyses that highlights their strengths and weaknesses.

5. OMB should present information on the effects of federal regulation on state and local entities.

6. OMB should report aggregate costs and benefits in useful ways, e.g., by household, size of business, type of regulation, growth in burden, etc.

Mr. OSE. Thank you, Ms. Dudley.

Our fourth witness joining us today is Joan Claybrook, who is the president of Public Citizen. We have your testimony also, which we appreciate you submitting. If you could summarize within 5 minutes, that would be great.

Ms. CLAYBROOK. Thank you so much, Mr. Chairman. I appreciate this opportunity to testify. We have heard a lot about costs today. I would like to talk about three points.

One is the issue of the regulatory accounting system and the report, and the use of cost-benefit analysis.

Second is, why this report is so fundamentally flawed, because it is based on very inadequate information.

And third, the use of return letters by OMB most recently.

First of all, we have heard a lot about cost this morning, and it is interesting we haven't heard a lot about benefits. But, if you look at the—despite all of the deficiencies in the numbers, if you look at the reports put out by OMB in the last several years, you find that the range of net benefits in 1999 was $25 billion to $1.6 trillion for regulation, and in 1998, it was $30 billion to $3.3 trillion.

I would say that is one of the best deals going in the United States of America. I doubt that any business could boast those returns. We have serious objections to the regulatory accounting system, as does, we believe, just about every other public interest, consumer, environmental, public health, labor organization.

Doubts regarding the overall cost-benefits were noted by OIRA itself in its report. I shall expand on that. First, however, the problem with regulatory accounting is that it implies that the overall numbers are reliable, which they are not, and I will explain that in more detail.

Second, the number for prior years, if you include prior years and not just the most recent current year, those numbers are grossly out-of-date because the regulatory agencies do their analysis when they issue a rule. They don't go back every year and recalculate those numbers. So, if you include, let's say, 1981 to the year 2001, everything but the last year or two could be completely and grossly out-of-date. So I don't know that those numbers would provide you any value at all. Surely you wouldn't have them go back and recalculate all of those numbers. I am sure a business wouldn't want to have to answer the myriad of questions the agencies would ask in order to get those updated.

Third, it is biased toward cutting regulations opposed by industry because the government agencies do not have the funds to adequately gather the benefits data. The agency I used to head, the National Highway Traffic Safety Administration, has a data collection operation, but it has got one-third of the funding it did when I left there in 1981 because it hasn't been increased, and inflation has taken it away.

Fourth. The conclusions are highly manipulable because they are based on a raft of assumptions, a change in any one of which could affect the outcome.

Fifth. By relying on discounting, regulatory accounting subverts the importance of longer-term goals and protections.

Sixth. It ignores the critical side benefits of regulation that help industry, for example, by limiting the risk of developing new prod-

ucts, such as environmental or consumer products. Or forcing industries to update and upgrade their manufacturing processes as in the case of textiles, which essentially saved that industry so that it could compete with imports, and made them more competitive with imports as well, and improved products to help ride out market disruptions.

For example, fuel economy in cars. Our industry did not want to improve the fuel economy. Standards helped to save this industry.

Seventh. It does not reflect the public values and advances of the quality of life, the standards of living that are fostered by regulation. We see that difference when we go to foreign countries and yet we accept it as the normal way of living here. That is why the public so deeply appreciates regulation.

Eighth. It is impossible to present meaningful conclusions in an accounting format, because so many of the values are nonquantifiable.

Ninth. The underlying purpose to set a regulatory budget would impose false limits on safeguards across the Federal regulatory system, undermining public health and safety.

Ten. It is a waste of public resources, I believe, in the long run, because of all of those facts.

Now, as to the cost-benefit issues. Abstract cost-benefit studies suffer fatal flaws. They are not neutral. They are highly discretionary. They are subject to manipulation. They are biased in terms of trying to improve our quality of life.

When you put garbage in, you get garbage out. A number of these numbers are inherently unreliable. The agency estimates of costs are badly inflated due to poor and inadequate information from the regulated industry, which hypes numbers them when they submit them, and there are some studies that I could submit for the record on that, because industry has strong financial incentives to skew the data.

And, the agencies themselves have very little resources to develop the benefits data. Agencies base their estimates on conservative or inappropriate assumptions often because they are forced to do so. And, agencies only apply a static market analysis, failing to consider new and innovative ways that the industry can and, when the rule is issued often do, innovate to save cost.

The benefits can't be calculated because some of them are incalculable. Often the numbers are hard to get, and there are not the resources to do it. There are also many subtle quality-of-life issues, such as asthma sufferers being able to breathe because of clean air standards, that aren't taken into account.

Third. Discounting distorts priorities and devalues human suffering. The entire regulatory regime at OMB requires a 7-percent discount rate. It should be 3 percent at most, if at all. That makes a huge difference in dollar terms.

Fourth. Rigid cost-benefit calculations undermine democracy and the legitimacy of regulation because only so-called experts can play the game. The public is completely left out of this obscure, complex, and often secret process. Companies often submit data and refuse to provide the basis for it.

And my last point, Mr. Chairman, if I can just have 1 or 2 more minutes. Is that possible?

Mr. OSE. We are going to have to cover it in questions.

Ms. CLAYBROOK. Well, I would like to, in the question and answer period, talk about the tire monitoring return letter, because I do believe that it is a great example of this process. Thank you very much for letting me testify.

[The prepared statement of Joan Claybrook follows:]

Statement of Joan Claybrook,
President, Public Citizen,
On the Office of Management and Budget
2001 Report to Congress on the Costs and Benefits of Regulations
and Unfunded Mandates on State, Local and Tribal Entities

United States House of Representatives
Committee on Government Reform
Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs
Washington, D.C.
March 12, 2002

Mr. Chairman and Members of the Committee:

I am pleased to offer this testimony on the Office of Management and Budget's (OMB's) 2001 Report to Congress on the Costs and Benefits of Regulations and Unfunded Mandates on State, Local and Tribal Entities. I am President of Public Citizen, a national public interest organization with 150,000 members nationwide that represents consumer interests through lobbying, litigation, regulatory oversight, research and public education.

Based on our extensive experience advocating for health, safety and environmental safeguards, Public Citizen has consistently opposed attempts to impose standardized, uniform cost-benefit super-mandates that would override the decision criteria in existing statutes. At best, such requirements waste scarce agency resources and time through "paralysis by analysis." At worst, they so distort the regulatory decision making process as to produce bad real outcomes, causing serious harm through the unnecessary and unwarranted delay or weakening of important regulations.

In keeping with our long-standing opposition to the misuse of cost-benefit analysis in setting regulatory priorities, Public Citizen led a campaign last spring in opposition to the nomination of John Graham to be Administrator of the Office of Information and Regulatory Affairs (OIRA) within the OMB. We opposed his nomination on the basis of Dr. Graham's years of advocacy in opposition to health, safety and environmental regulation on behalf of the polluting industries, trade associations, and other regulated interests, which provided the majority of funding for the Harvard Center for Risk Analysis, where he was Director.

Given Dr. Graham's long track record of promoting cost-benefit analysis with little consideration of its inherent deficiencies or its ongoing use as a tool to block, delay or squash regulatory protections, we doubted he could serve as an impartial reviewer of the agencies' execution of statutory mandates. As I will discuss, his record thus far in office at OIRA more than bears out these serious concerns.

The subject of this testimony is OIRA's annual Report to Congress. This requirement provides an unparalled opportunity for over-reaching by OMB and interference in agency

mandates. The Report released by OMB December 21, 2001, reveals a highly ambitious view of the oversight role played by OMB and launched a new tool in the form of a list of 23 recommendations of regulations for agencies to change or make subject to rescission. While the "public" was invited to provide suggestions for this list, the vast majority of recommendations were from industry-funded front groups such as the energy industry-supported Mercatus Center and anti-labor trade associations. This "free-for-all" allowing pot shots at regulations, all of which have undergone labor-intensive research, public notice-and-comment periods and multiple agency revisions, represents an innovative power grab by OMB, and should be the focus of intense Congressional scrutiny and censure.

Consumer, environmental and health groups did not submit recommendations. While I can only speak for Public Citizen, we view this as an illegitimate exercise and as an end run around the public process in which we avidly participate regarding particular agencies and rules. We did file public comments last summer on the general methodological deficiencies raised by the report.

In my testimony, I will first outline our critique of the 2001 Report to Congress and the mandate for regulatory accounting. Then I will describe our continuing objections to cost-benefit analysis, including an exploration of the many factual deficiencies which continue to plague the practice and to diminish the practical applicability and meaning of its results.

The third part of my testimony briefly explores the controversy surrounding a single rule required by the Transportation, Recall Enhancement, Accountability and Documentation (TREAD) Act regarding dashboard tire pressure monitoring systems by including a letter I recently sent to Dr. Graham on this topic. The rule, which is the subject of an ongoing dispute between the National Highway Traffic Safety Administration (NHTSA) and OMB, is a case study on the real complexities and imprecision of cost-benefit thinking. The dispute illustrates how any generalization of regulatory cost-effectiveness that used OMB's, rather than NHTSA's, conclusions regarding the overall monetary value of the rule would simply be wrong on the facts.

An appendix examines several of the rules recommended for change or rescission in the 2001 Report and describes the considerable public and agency investment in the public rulemaking process that established the rules in each case. In addition, I am attaching a recent news investigation of the activities of the anti-regulation Mercatus Center.

History Demonstrates the Potential for Grave Misuse of OIRA's Review Powers

The development of new regulatory safeguards by federal agencies requires skilled experts, scientists and professionals to conduct extensive studies, testing, research and economic analyses. The federal agencies also conduct a formal notice and comment process, in which stakeholders, including members of the public and representatives of industry, submit written comments and, sometimes, testify at public hearings. As a result, regulatory agencies often take years to develop new rules.

A series of presidential executive orders has provided that all significant new rules are reviewed by OIRA, although Congress has never granted this authority to the OMB and OIRA. In theory, the OIRA director should serve as an honest broker, reviewing regulatory proposals from federal agencies and deferring to agency expertise on most technical and scientific matters. Federal safeguards on industrial chemicals, fuel economy standards, air and water pollution levels, tobacco regulation, implementation of a Patients' Bill of Rights, and virtually every other issue that is critical to human and environmental health fall under the office's purview.

In practice, the review power given to OIRA by the president means that its Administrator can serve as a last-minute chokepoint on agency action and has, in the past, enabled anti-regulation political appointees to intervene behind the scenes in the regulatory process. In addition, under the Paperwork Reduction Act, no government agency can gather information from ten or more entities, a request that is often essential for the research that justifies regulation, without approval from OIRA. Also, OMB's budget analysts often place unrealistic limits on agencies' financial resources to collect data needed for effective analyses.

Through these mechanisms, OMB can slow, stall, weaken or stop regulatory proposals and final rules that regulated industry opposes. For example, OIRA has sought to control the agencies' economic analyses so that the costs of a regulation appear greater and the benefits less; ordered agencies to consider decisions on cost-benefit calculations even when prohibited to do so by Congress, which under the law put safety and public health first; and required agencies to reconsider data it had already disregarded as scientifically unhelpful or flawed.

From its origins in late 1980, OIRA has played this role. Under the Reagan and Bush I administrations, OIRA was viewed as a "black hole," and many needed standards were revoked or delayed for long periods, altered to be less protective of the public, or blocked altogether. OIRA was the home of last resort for regulated industries: whenever industry's arguments did not prevail in the public rulemaking process conducted by agency experts, industry came through OIRA's back door to quash a rule. During the Reagan years, Vice President Bush headed the "Task Force on Regulatory Relief," which played a similar role, and many rules were eliminated. President Bush I created the Council on Competitiveness, the so-called "Quayle Council," headed by Vice President Dan Quayle, to work with OIRA in facilitating industries' anti-regulation objectives.

The terms of the executive order and other OMB documents directing its implementation are critical because, although numerous bills have been proposed throughout the years, Congress has never approved regulatory reform legislation that would make every new, significant regulation dependent upon the outcome of a cost-benefit analysis. Also, in legislation and in mandates to the individual federal agencies, Congress has repeatedly authorized many statutes, such as the Clean Air Act, which state that public health should be considered paramount when drafting the goals of protective regulation. One prominent concern, therefore, is that OMB could undermine these mandates by instituting analytic requirements previously and explicitly rejected

by Congress in the democratic process. There are already compelling examples of this problem.

This risk is heightened by the fact that Graham and others at OIRA appear committed to the expansion of economic evaluation tools that contain an intrinsic bias in favor of industrial interests and against public health. We are deeply concerned that, in defiance of both express and implicit directions from Congress, an unaccountable OIRA will be able to overturn years of investment by the public, stakeholders, scientific experts and the agencies, and that the OMB will once again become a "black hole" which swallows sorely needed health and safety regulations, turning laws made by Congress into mere paper promises.

I. The Pitfalls and Shortcomings of Regulatory Accounting

Regulatory accounting – the exercise of aggregating and monetizing the total costs and benefits of disparate public protections and then subtracting one from the other in an attempt to calculate the net benefits of all federal health, environmental and safety protections – in fact suffers from many fatal flaws. It would be fair to say that OMB's past attempts at this over-ambitious exercise have been a monumental waste of time and resources. Of what earthly use is it to the public or policy makers to know – for example – that OMB "estimates for the existing costs of social regulation as of the first quarter in 1999 . . . shows that health, safety and environmental regulation produces between $25 billion and $1,653 billion of net benefits per year"? Indeed, I doubt that you have ever heard these net benefits touted by regulated interests. This range of estimates is so large, and, due to persistent uncertainties and inadequate and often biased data, must remain so large, as to render it ludicrous as a priority-setting mechanism. Moreover, when all of the assumptions and methodological leaps of faith necessary to arrive at that result – or any such result – are considered, one is indeed left holding a very empty bag.

Unfortunately, however, such regulatory accounting is more than a waste of time and resources. Regulatory accounting is intended by its proponents to become a basis for making decisions about federal health, safety and environmental protections that could choke the public's investment in these priorities and, ultimately, be used to overturn Congressional mandates based upon a false "scarcity." Supporters would use figures aggregating costs and benefits as the first step towards a "regulatory budget," in which federal agencies would have to compete with each other in order to impose a tightly-controlled amount of costs upon the private sector. If costs to the private sector exceeded the cap established in the budget, some agency rules may be brought up for elimination and no new rules could be issued, no matter how pressing the need. Furthermore, a "budgetary" year would establish opportunities for arbitrary game-playing regarding the issue date of regulations, given their cost consequences.

In the typical discussions of these so-called "off-budget" costs for regulated interests, the issue of countervailing benefits regularly fails to enter the discussion. It never appears to matter, for example, that in every year that OMB has attempted the hocus-pocus of regulatory accounting, the benefits of health, safety and environmental regulation have vastly outweighed the costs by billions of dollars. Rarely do we hear from anyone in Congress that regulation,

overall, in fact is a bargain. And it is very likely to be far more of a bargain than even these estimates allow. Because of the default assumptions used in cost-benefit analysis as it is currently practiced, the process systematically overstates the costs of regulation and understates its benefits in myriad ways, discussed below in some detail.

Overall, the underlying hostility to protective regulations that animates this debate is unfortunate and short-sighted. While it is a well-known truth that corporations will act in their own short-term best interests to maximize profit, it is just as well-known, and just as true, that governmental regulation is necessary to stop the unfettered despoilment of public lands and to protect the public from corporate negligence. It is therefore outrageous that government would abandon its rightful role in providing a balance to market excesses, and collude in a form of bean-counting that systematically indulges an undue deference to corporate profits, while making little attempt to investigate, catalog or fund the collection of the real-world benefits of regulations. In contrast, I applaud the high quality of life that health, safety and environmental regulation has produced. It is far past time for an enlighted private sector, and enlighted government, to cease doing battle over every incremental regulatory requirement and act in our shared, long-term best interests.

Overall, the use of regulatory accounting is deeply suspect for the following important reasons:

- It implies that the overall numbers are reliable, which they are not.
- It is biased toward cutting regulations opposed by industry because government agencies do not have the funds to fully evaluate claimed industry costs or to gather information on the full range of benefits.
- The conclusions are highly manipulable because they are based on a raft of assumptions, a change in any one of which could affect the outcome.
- By relying on discounting, it subverts the importance of longer-term goals and protections.
- It ignores tangential but critical benefits of regulation that help industry by limiting the risk of developing new products (for example, in environmental and product standards), forces industries to update and upgrade manufacturing processes (in the area of textiles) and making them more competitive with imports, or to improve products to help ride out market disruptions (*i.e.*, fuel economy in cars).
- It fails to document the public value attached both here and abroad by businesses as well as the public to advances in the quality of life and standard of living that are fostered by regulation.

- It is impossible to present meaningful conclusions in an accounting format because of the many values that are not quantifiable.

- The underlying purpose — to set a regulatory budget — would impose false limits on safeguards across the entire federal regulatory system, undermining public health and safety. This purpose makes little sense given the excess of benefits over costs documented today and the lack of evidence that protective regulation has inflicted irreparable harm on any industry or sector of society.

- It is a significant waste of public resources, particularly for those agencies charged with protecting the public health, which are already starving for funds.

- The practice is profoundly out-of-step the necessary protective role of government as a check upon market excesses.

II. The 2001 Report to Congress Represents an Exercise in the Impossible

The OMB has been asked by Congress to provide an "accounting statement and associated report" on an annual basis containing estimates of the "total annual costs and benefits (including quantifiable and nonquantifiable effects) of Federal rules and paperwork, to the extent feasible."[1] The requirement asks for numbers in the aggregate, by agency and agency program and by major rule. Subcommittee Chairman Doug Ose (R-CA) indicated in a letter sent March 5th, 2002, that he was disappointed in the report produced in December 2001 by OIRA, and that he would like to see the results of the analysis presented in a more formal accounting statement.

Attempts to move OIRA further in this direction are deeply misguided. In view of OIRA's current report, it is certainly arguable that OIRA has complied with, or even exceeded, its mandate "to the extent feasible" and that any limitations of the report simply reflect the serious limitations of the tools involved. Furthermore, it is not at all clear how an accounting format could even begin to accommodate or appropriately consider the "nonquantifiable effects" of rules and programs, as the statute requires. Nor is this format likely to encompass any distributional, or social equity, consequences of rules, yet these factors are often the precise motivation for corrective legislation and regulation.

The massive undertaking implied by these objections would, if taken literally, further squander government resources and produce little valuable additional knowledge. In my work with the public, I have never heard consumers suggest that a lack of detailed information regarding the costs and benefits of regulation bothers them; on the contrary, most consumers complain that government is not doing enough to protect them and preserve the environment.

[1] *See* P.L. 106-554 Sec. 624 (2000).

We differ from Chairman Ose's desire for OIRA to produce more analysis. It is entirely consistent with the statute for OIRA to allow agencies to produce their own estimates and to act as a repository for these estimates, as they now do. Given the immense gaps in data and glaring uncertainties, this limited role for OIRA may help to minimize the potential for damage to regulatory programs from misleading and inaccurate conclusions.

It is also perfectly consistent with the legislative history of this provision. Floor statements in the Senate regarding this statute, and identical language in the previous year's appropriations bill, demonstrate that the legislators who backed these measures did not intend for OIRA to spend tax dollars generating new data. During the debate on the initial measure, Section 628 of the Treasury and General Government Appropriations Act for 2000 (P.L. 196-58), a colloquy between Sen. Ted Stevens (R-AK) and Sen. Carl Levin (D-MI) focused on this topic. Sen. Levin stated that:

> The amendment does not, and this is why I am able to support it, does not require OMB to conduct new studies or analyses or develop new data or information. That would be a time-consuming, and expensive use of taxpayer money. Better that the OMB staff use its time and money to help make sure new regulations follow the dictates of common sense and be cost-effective regulations. No, this amendment simply directs OMB to put together the already available information that it has on existing Federal regulatory programs and use that to estimate the total annual costs and benefits of each.

When the current statute creating an ongoing annual reporting requirement, Section 624 of the Treasury and General Government Appropriations Act for 2001 (P.L. 106-554), was passed, Sen. Fred Thompson (R-TN) sounded a similar note, saying that "OMB is not mandated to devote vast resources to create such models. Instead, OMB may use available reports, studies, and other relevant information to assess the direct and indirect impacts of Federal rules."

Dr. Graham indicated his own reservations about the validity of OMB's overall cost-benefit figures in several places in the December 2001 Report. In discussing the report's aggregated cost-benefit estimates, he noted that:

> Most analyses of the impacts of regulation are not simple or clear cut. Many equally implausible assumptions exist and when strung together can provide widely divergent results. Guidelines call for sensitivity analysis when more than one reasonable assumption or estimating technique exists. Moreover to be credible and to assure high quality, the Guidelines require transparency. All assumptions and results should be described and explained. *This is difficult enough for one regulation and herculean for all.* (p 9) [Emphasis added.]

Also in this report, Dr. Graham explained, costs and benefits did not appear to be much changed

from the year before and there was a lack of new data; therefore, OIRA staff reasoned that a new statement on aggregate effects was unwarranted:

> Since only a limited amount of additional information on aggregate effects has become available since the third report was issued on June 2, 2000, we are not revising our estimates of aggregate, agency and program costs and benefits. Several commentators and a peer reviewer suggested that this not be a high priority relative to cost benefit information on recent individual regulations. (p.7)

This decision by OIRA appears particularly reasonable in light of continuing doubts about the utility of aggregate estimates. As Dr. Graham noted, uncertainties intrinsic to that exercise continue to produce a broad range of plausible conclusions:

> Because of uncertainty, we characterize the estimates with wide ranges. Even with these ranges, wide gaps remain in both cost and benefit estimates due to our inability to quantify and monetize many types of costs and benefits. Many commentators (past and present) including the peer reviewers, expressed doubts about the accuracy of the estimates and suggested ways to improve the estimates, but few offered alternative estimates. (p.9)

The aggregation of estimates by *category* of rules is similarly problematic. In the Report, Dr. Graham described objections to this practice:

> Two commentators recommended against a focus on aggregation by category because the underlying information on individual rules is too uncertain to justify aggregation and OIRA's expertise is better suited to assessment of specific rules rather than the aggregation of multiple rules. (p.54)

However, even when it comes to what OIRA allegedly does best, serious doubts about the validity of its conclusions remain. According to Dr. Graham, even the cost-benefit analysis of *specific major regulations*, as required by the statute, is plagued with severe difficulties:

> Our current approach relies primarily on agency estimates of the costs and benefits of rules. There are analytic weakness in these estimates and thus the question becomes how such estimates can be made more valid and precise. (p.55)

What are we to take from this lack of confidence in the results of aggregated estimates, aggregated estimates by category, and even, estimates restricted to a specific major rule? I would suggest that these are red flags indicating that our expectations for the tools Dr. Graham and OIRA apply are far too over-reaching, and acknowledge that these tools are currently being pushed far past their value as input for decision makers.

Given the limited value of conclusions thus far, Congress should resist imposing further

analytic requirements on agencies and OIRA. As it is, agencies now are forced to redirect limited resources away from enforcement and other Congressionally mandated roles in order to meet reporting requirements that serve little or no purpose. If, however, Congress does insist upon asking more of this process, agencies must be funded in a manner that assures that meaningful cost and benefit information will be available. OMB and the Congress must prioritize these goals in the budgetary process, enabling agencies to gather useful benefit information and their own information on the costs of regulation, rather than relying on that generated by industry, or to conduct an impartial evaluation of industry information. It is entirely unreasonable to force agencies, hat in hand, to beg OMB for the resources necessary to carry out information requirements required of them by another arm of OMB. Also, funds must be available to impartially assess whether aggregation can ever truly be informative

Another problem is that OIRA applies differential scrutiny to various categories of laws, saving its most exacting lens for health, safety and environmental regulation and virtually ignoring the impacts of other government activities. A recent report by OMB Watch found that agencies charged with protecting public health and safety, such as USDA, HHS, DOT and EPA, are subjected to disproportionate oversight by OIRA.[2] For example, the report states that "USDA's [U.S. Department of Agriculture's] paperwork burdens account for 0.9 percent of the total burden imposed by government paperwork, yet six of 34 desk officers at OIRA (18 percent of OIRA's desk officers) are assigned to the agency." Similarly, the report found that "EPA's paperwork burden consists of 1.7 percent of the total government paperwork, yet it also has six desk officers overseeing its work." OMB Watch contrasts these findings to OIRA's oversight of the Treasury Department, noting that only one OIRA staffer is assigned to the Treasury Department despite the fact that the agency generates over 82 percent of government's paperwork burden.

OIRA's decision to publish "return letters," issued following the rejection of a proposed rule by OIRA, as discussed in the Report (p.42), is an improvement over the Reagan and Bush I system, in which the lack of transparency at OMB was a major impediment. While we disagree with much of OIRA's oversight role and question OIRA's legal authority to issue such letters, we do agree that the legitimacy of OIRA's activities depends at least in part upon the openness of its decision making process, and hope that Dr. Graham will continue in his efforts to make more of OIRA's docket available over the Web.

These significant improvements, however, may be more than subsumed in practice by a new emphasis at OIRA on involvement at the so-called "front end" of the regulatory process. Dr. Graham has been very clear about his intentions to increase OIRA involvement in rulemaking at the earliest stages, and this, by itself, raises serious questions of transparency and accountability. In an interview with *Congressional Quarterly*, Dr. Graham stated that agencies are now operating under a thinly veiled threat of return letters if they fail to consult with OIRA at the formative stages: "What we've been working on [] is to create an incentive for agencies to

[2] Http://www.ombwatch.org/article/articleview/416/1/4.

come to us when they know they have something that in the final analysis is going to be something we're going to be looking at carefully. And I think that agencies that wait until the last minute and then come to us – well, in a sense, they're rolling the dice."[3]

The statutory requirement for the production of the report by OMB also provides for independent and external peer review of the guidelines but fails to specify conflict of interest disclosure requirements for peer reviewers. Given the history of intense industry interest in the conclusions of the report, the need for such requirements is acute.

The History of Regulatory Accounting is Littered With Grand Experiments That Have Flopped

The temptation to erect grand organizational schemes under the false guise of introducing analytic rigor to the process is somewhat understandable, but it is an idea in servitude to Henry David Thoreau's "false consistency." In fact, every attempt, by wave after wave of regulatory accountants, to "crunch" cost-benefit numbers across sets of government programs, has subsequently and convincingly been shown to be a castle built on sand. This failure is in fact inevitable, due to the meaninglessness of the information used as inputs for the calculations, their contestability in each particular regulation, and the fact that the exercise requires such gross generalizations across such very different categories that it is like using binoculars to examine microbes.

OMB itself has acknowledged the multiple shortcomings of Hahn and Hird's 1990 cost-benefits assessments of regulations, flaws that were not corrected in Hahn's 1996 update.[4] Nevertheless, OMB stubbornly continues to rely on Hahn's ratio of benefits to costs to calculate the benefits for regulations between 1987 to 1996, based on the weak assertion that there are no reasonable alternatives.

The original 1990 Hahn and Hird estimates are deceptive in part because they were based on old studies. Thus, these estimates tended to deflate net benefits since they were unable to account for adaptive effects that occurred over time. Also, the 1990 estimates covered a limited scope of regulations, a problem compounded by the fact that Hahn and Hird astonishingly failed to account for any regulatory benefits in five of the seven areas in which they recorded costs. As a result, these estimates vastly understated the aggregate benefits of regulation. Finally, the benefits data Hahn and Hird did utilize was riddled with holes. For example, they failed to capture the enormous health benefits resulting from reduced levels of airborne lead, or the growing body of work that led to the recent regulation of fine particulates.

Hahn's 1996 update is replete with many of the same weaknesses that compromised the

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[3] *See* Rebecca Adams, "Regulating the Rule-Makers: John Graham at OIRA," *Congressional Quarterly*, Feb. 23, 2002, at 521.

[4] The following analysis of Hahn and Hird's cost-benefit estimates is indebted to the analysis of the Comment on OMB's 2001 Draft Report to Congress on the Cost and Benefits of Regulations, submitted by Reece Rushing, Policy Analyst, OMB Watch [hereinafter Comments of OMB Watch].

original estimates and is plagued by problems stemming from its own recklessness. For example, the title of Hahn's update, *Regulatory Reform: What Do the Government Numbers Tell Us?*, is deceptive since Hahn substituted his own benefits measurement for governmental estimates when agencies refused to monetize the value of a life.[5] Additionally, Hahn "threw out" two EPA rules, incredibly arguing that their benefits were non-existent since, within the next twenty years, there was likely to be a cure for the cancer reduced by the rules. Clearly, this omission dramatically altered the benefits estimates of Hird's update.[6]

Despite the egregious shortcomings of the Hahn estimates described above, OMB continues to rely upon them in calculating the benefits of regulation between 1987 to 1994. OMB's weak assertion that it knows of no other way to calculate benefits for this time period is unacceptable and simply serves to underscore the meaninglessness of reducing regulatory benefits to quantifiable values.

In her 1998 article, *Regulatory Costs of Mythic Proportions*, Professor Lisa Heinzerling deconstructed a highly influential and oft-cited table which purported to illustrate the overly burdensome cost of regulations.[7] Prepared by John Morrall, an OIRA economist, the table showed a dramatic variation of cost per life saved by numerous risk reducing regulations, ranging from $100,000 to $72 billion.[8] Critics of regulatory safeguards capitalized on Morrall's shocking calculations and utilized them to bolster their arguments that more cost-effective strategies were available to reduce risk and that regulatory priorities were not based on rational analysis.[9] Since Professor Heinzerling devastating critique pointed out that Morrall's results were skewed because he substituted his own, invariably lower, figures for benefits estimations wherever he disagreed with agency estimates and discounted the value of lives saved in the future, few citations to this study have appeared.

The most recent example of this phenomenon is even more disturbing. In testimony submitted to the Senate Governmental Affairs Committee regarding his nomination, Professor Heinzerling debunked Dr. Graham's most renowned scholarly work — an article that claimed his analysis of life-saving programs, completed with a graduate student, showed that every year

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[5] Comments of OMB Watch, citing Testimony of Sidney A. Shapiro, Committee on Governmental Affairs, United States Senate, April 22, 1999.

[6] Comments of OMB Watch, citing Thomas O. McGarity, A Cost-Benefit State, 50 ADMIN. L. REV. 7, 35-36 (1998).

[7] Lisa Heinzerling, "Regulatory Costs of Mythic Proportions", 107 YALE L. J. 1981, 1983 (1998) [hereinafter Mythic Proportions].

[8] *Id.*

[9] *Id.*

60,000 people die because the nation has chosen less cost-effective programs. Professor Heinzerling established in her testimony that many of the cost-ineffective "programs" Dr. Graham counted in fact were never implemented by any government body, and Dr. Graham has since conceded that this is true.

Heinzerling also established that Dr. Graham perpetuated and encouraged a misinterpretation of his own research data, one that wrongly concludes that Graham's data show that actual federal regulations result in the "statistical murder" of 60,000 Americans every year. This was a misleading overstatement of the results of his studies, which in fact covered proposed but unimplemented programs, as well as medical interventions, which are not typically part of a federal program at all.

In contrast, Dr. Graham's "statistical murder" hypothesis required that money saved by regulation be available for other government programs, yet compliance costs "saved" through the deregulation of the environment or a diminution in health or safety standards lines the pockets of company shareholders, rather than the government's or the public's at large. Prior to Professor Heinzerling's exposure of its infelicities, this bit of misinformation had become legend among opponents of regulation and has been repeated more than dozens of times by the media, anti-regulation analysts, and by members of Congress.

II. Junk Economics: The Fallacy of Attempts to Estimate Costs and Benefits In Setting Cross-Governmental Priorities

Regulatory accounting tools are severely limited in their usefulness to policymakers because cost-benefit analysis systematically short-changes public health and environmental goals and can easily be manipulated on behalf of industry opponents to regulation. The value of any cost-benefit analysis is also limited by the available scientific or other factual data — garbage in, garbage out. Overall, analyzing the entire federal regulatory program along cost-benefit lines requires so many assumptions and extrapolations that the report's conclusions are most appropriately characterized as myth. At the level of abstraction required to include all health, safety and environmental government programs in the analysis, the exercise is literally meaningless.[10] Some of the persistent practical problems are described below.

Cost Estimates Are Badly Inflated

There are serious factual deficiencies which plague and confuse this analysis. For example, analysis often uses the industries' own cost estimates, yet studies have shown that industries' numbers are badly inflated, that companies often find highly cost-effective means of complying with regulations once they are implemented, and that many regulations may even stimulate productivity through the development of sustainable technologies.

[10] Ironically, close examination of financial laws and regulations is often lacking.

According to a pre-publication draft of an exhaustive study prepared by Ruth Ruttenberg and Associates, Inc.,[11] entitled *Why Do Regulatory Agencies Overestimate the Compliance Costs of Their Regulations*, agencies regularly, and admittedly, overestimate regulatory costs, thus weighting the scales of cost-benefit analysis against regulation.

The following examples are excerpted from the study:

- An industry-financed economic impact study estimated that the cost of compliance with the OSHA Vinyl Chloride Standard would be $65 billion to $90 billion. The Congressional Research Service found the cost to users was $300 million and the cost to producers only $25 million to $35 million.

- A utility industry study predicted that the cost of implementing an acid rain SO2 program would be $4.1 billion to $7.4 billion per year. Recent estimates by EPA and the General Accounting Office (GAO) put the cost at approximately $2 billion, and estimates from independent economists and researchers range as low as $1 billion.
- A pre-regulatory estimate by an OSHA consultant found the cost of asbestos abatement in workplaces would be $150 million. The actual cost of compliance was later estimated at $75 million by a leading OSHA consultant, John Mendeloff.

- OSHA estimated that industry's workplace compliance costs for limiting exposure to formaldehyde would be $11.4 million per year. Actual costs were $6.0 million per year, according to the Congressional Office of Technology Assessment (OTA).

In evaluating numerous examples of agency cost estimates, Ruttenberg finds that cost exaggerations are the result of three inherent flaws in agency practice: (1) the use of poor and inaccurate information; (2) the use of conservative assumptions throughout the information gathering process; and (3) employment of static, rather dynamic, market analysis. In light of these systemic flaws, Ruttenberg concludes that industry's oft-stated concerns about the cost and feasibility of regulation are frequently unfounded, since regulatory compliance typically is far less expensive than originally claimed by industry and predicted by agency cost estimates.

The study reviews regulations and their associated estimated cost across several agencies, including EPA, OSHA, NHTSA, and the Department of Interior. Significantly, Ruttenberg notes that agencies generally acknowledge that there is this tendency to overestimate costs, attributing the problem, in part, to the desire to avoid potential legal challenges by industry and to a political reticence to incur costs at the present time that yield benefits in the future.

Ruttenberg finds that regulatory cost overestimations are caused by three major flaws in

[11] Ruth Ruttenberg, Ph.D, is an economist with 28 years of experience on the economics of regulation. She has been a senior economist at OSHA, a consultant to OSHA, EPA and the Congressional Office of Technology Assessment, and regularly testifies before the U.S. Congress and federal regulatory agencies and advisory bodies.

the analytic framework within which agencies operate, and the limited sources for cost information and evaluation. First, cost information is normally provided to agencies by regulated industry, which has financial incentives to skew the cost-benefit analysis against the proposed regulation. Additionally, informational surveys on cost are often limited to a small number of companies, meaning that the results may not be representative of industry as a whole. This problem is compounded by the fact that industry data sources are often confidential, making it difficult or impossible to verify their factual validity. Moreover, there are very limited sources, other than regulated industries, from which agencies can obtain cost information.

The second major flaw is the agencies' tendency to base estimates on conservative and/or inappropriate assumptions. Numerous problems present themselves in attempting to determine cost, the resolution of which invariably reflects the decisionmaker's bias. For example, it may be difficult to distinguish regulatory compliance costs and other capital expenditures by the company, or to avoid double counting regulatory costs when more than one regulation is involved. Problems also arise in measuring incremental cost differences between what would have been spent prior to regulation and what must be spent after regulation.

Finally, agencies apply only static market analysis, failing to consider new and innovative ways that industry can, and often does, comply with new regulations. Yet there is substantial evidence that new processes and improved products are the result of new regulation and subsequent new profits to the company. Also, costs often fail to consider the offsetting economic gains caused, for example, by the license and sale of pollution abatement equipment or the avoidance of problems arising later in the marketplace. Similarly, cost savings resulting from safer substitutes and the elimination of hazards are often omitted from regulatory cost estimates.

All of these omissions and distortions impoverish the usefulness of cost-benefit analysis and result in cost figures which are significantly inflated.

Benefits are Devalued Because Information is Unavailable, Incalculable or Discounted

Government agencies rarely put a premium on gathering and refining benefit data for existing or planned regulatory programs. This is unfortunate, because these benefits, in terms of lives saved, injuries and diseases avoided, property damage avoided, as well as the more subtle quality of life issues, can possess a self-effacing quality. As our expectations are updated, it becomes more difficult to notice the considerable success of these society-altering improvements. Over time, we learn to take clean air and water for granted; we assume that government programs will protect us from workplace hazards and will help us to survive automobile crashes that would have killed us twenty years ago.

On the more practical level, the full appreciation of regulatory benefits is made more difficult by the lack of funding for research necessary to study these effects, or even to understand the health and environmental effects of unregulated or insufficiently regulated business practices. For example, because there are not accurate epidemiological exposure data

for diseases other than cancer, benefits such as a reduction in gastrointestinal or reproductive ailments are usually left out of these types of calculations altogether.

Due to a near-exclusive focus on the number of human lives that are saved by a regulation, and the difficulty of deriving a definitive value for so-called "non-tangible" benefits, such as a view of the Grand Canyon, the practice of cost-benefit analysis also often fails to take these factors into account. Yet the focus of much protective environmental legislation is precisely to protect and preserve the value of a healthy ecosystem, or to minimize the effect of human activities upon animal life and habitat. To the extent that OIRA demands precise quantification of a benefit before it can be included in the analysis, the real benefits of much regulation will be greatly understated.

In addition, translating the value of life into dollar amounts, as a basis for societal decision-making, is morally reprehensible and represents an unwarranted incursion by economists into profound questions of social, cultural and ethical value. Calculating the impacts of a rule in preventing human suffering and death in monetary terms is a practice that is utterly out of touch with public notions of the value of life, and this deep discontinuity should matter to democratic decision-makers. In fact, these regulatory decisions must be a matter of human judgment, relying on shared notions of value, as well as data and other quantitative calculations.

Another good example of the bias inherent in both cost-benefit analysis and comparative risk analysis, as they are currently practiced by OIRA, is the devaluing of future generations and the environment which is caused by inappropriately "discounting" the value of the future benefits of regulation. This occurs when the value of goods received in the future are reduced to an estimate of their "present value." If, as Graham has proposed, reviewers give cost-benefit analysis and comparative risk analysis substantially more weight in the regulatory process, this highly technical aspect of the process alone will systematically skew regulatory decisions in favor of regulated industries, and against protecting future generations and the environment.

The practice of "discounting" is perhaps most easily explained by reference to the present and future value of money. In financial terms, it is correct that receiving $1,000 today is worth more than receiving $1,000 in ten years because the $1,000 received today can be invested, and thus would be expected to be worth more ten years from now. This fact requires an adjustment in the estimate of that sum's value in the present, which is why discounting is appropriate for financial transactions.

However, it is not true that *non-monetary* benefits, such as health, safety, and environmental benefits, are worth less tomorrow than if they were immediate. Discounting the value of future health, safety and environmental benefits, which cannot be invested, at the same rate used to discount money is illogical because such benefits do not become less valuable over time, the way that money does.

The practice also makes regulations with long-range benefits appear to be far less beneficial than they actually are. By discounting health, safety and environmental benefits

received in the future, we underestimate their true value to society. Such a system will therefore produce policy decisions that are fundamentally out of step with environmentally sound regulation and with Congress' expressed desire, in legislative mandates to the federal regulatory agencies, to preserve the earth for our children and future generations.

Discounting can have an enormous effect upon whether a rule appears sensible or ridiculous. For example, because there is typically a 30- to 40-year lag time between exposure to a harmful substance such as asbestos and a person's resulting death from cancer, "discounting" a life saved 40 years from now is calculated to a mere fraction of that person's present value. Moreover, the higher the discount rate that is used, the greater the bias against protecting future generations and the environment.

Although experts disagree over whether health, safety, and environmental outcomes may properly be discounted, among academic economists who do support discounting such benefits, the consensus is to use the so-called "social rate of time preference," estimated to be a real rate of approximately three percent.[12] However, the agencies are currently urged by an OMB circular to discount all goods at a rate of seven percent, which represents the "opportunity cost of capital," or the rate that money could likely earn if invested. That means that each dollar of benefits that become evident in thirty years – including lives saved by regulations – are considered to be worth 87 percent less than they would be worth today.

An example of how the choice of discount rate can affect cost-benefit results is a 1996 Housing and Urban Development (HUD) regulation of lead-based paint.[13] This regulation was estimated by the agency to have net benefits of $1,080 million when a three percent discount rate was used, even though it showed net benefits of only $39 million at a seven percent rate. As agencies are pressured by OIRA to identify the most "cost-effective" regulatory option, or the option with greatest "net benefits," the discount rate that is used could determine which regulatory option survives – hardly a "sound science" methodology.

Priority-Setting Should Be Left To Congress and Agency Heads Appointed by the President

As Administrator of the National Highway Traffic Safety Administration, I testified before Congress on this issue. A segment of that testimony was printed in the House Commerce Committee's 1980 Congressional Report on cost-benefit analysis, in which I discussed the many serious problems faced by regulators in trying to quantify the costs and benefits of regulation:[14]

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[12] Richard O. Zerbe, Benefit-Cost Analysis in Theory and Practice 281, 287 (1994).

[13] Comment: Judicial Review of Discount Rates Used in Regulatory Cost Benefit Analysis, 65 U. Chi L. Rev. 1333, 1337 (1998) (citing 61 FR 29170 (1996)).

[14] Statement of Joan Claybrook, Administrator of the National Highway Traffic Safety Administration, "Cost-Benefit Analysis: Wonder Tool or Mirage?" Report by the Subcommittee on Oversight and Investigations of the Committee on Interstate and Foreign Commerce, United States House of Representatives, December 1980.

We attempt to quantify the life saving potential of our regulations, but imperfect data makes it impossible for us to assess all of the benefits ranging from the saving of lives, reduction of trauma, the maintenance of family relationships, the achievement of employment goals, the reduced cost for state and local governments in emergency medical services, police traffic services, hospital care, rehabilitation, unemployment and welfare, continuing medication, special transportation services, and so on. . . .

Even when we can quantify benefits we are mainly able to do so in terms of fatalities avoided but much less so the reduction in injuries. We are faced with judgmental decisions in comparing the cost with the benefits. How much should consumers or automobile manufacturers spend to save a child's life? Regulatory analysis will never be able answer such a philosophical question.

Just as important are the effects which can never be quantified, pain, suffering, crushed dreams, guilt. How do we place a value on a victim never being able to walk, what number do we pick to represent the inability to purchase that home the victim otherwise could have afforded, how much should society spend so as to avoid a mother's grief because one of the thousand little children killed in auto accidents each year was hers?

Cost benefit analysis will never be able to reduce these intangible foregone opportunities to a simple numerical ration, and ignoring them in our decision making simply because we cannot quantify them would be an abrogation of our responsibilities under the statutes which govern our program.

III. Contestable Benefits and Arguable Costs: A Case Study of the Difficulty in Generalizing Costs and Benefits Across Government Programs

To further emphasize the unreliability of cost-benefit estimates, we are attaching as part of the testimony a letter I recently sent to Dr. Graham regarding his decision to return a draft final rule regarding tire pressure monitoring systems, as required under the TREAD Act. Analysis making summary use of the OMB's conclusions in this case would simply be wrong on the merits, as the letter explains. The text of the letter follows:

March 11, 2002

Dear Dr. Graham,

There are so many serious flaws in your recent review and rejection of the National Highway Traffic Safety Administration's (NHTSA's) proposal for a tire pressure monitoring system required by the Transportation, Recall Enhancement, Accountability and Documentation (TREAD) Act, it is hard to know where to begin. I find it difficult to believe, with all your emphasis on "sound science," that your office has returned a rule based on the pure speculation and infirm logic contained in your "return letter"15 of February 13, 2002.

15 A "return letter" is a rejection of an agency's rulemaking proposal, which can occur, as here, at the final stages of the rulemaking following a full notice and comment process. According to your testimony Feb. 28th before the House Subcommittee on Consumer Affairs, you have signed 20 return letters since taking office. Under the Clinton

Let me get this straight. In your capacity as Administrator of the Office of Information and Regulatory Affairs (OIRA) within the Office of Management and Budget (OMB), you have blocked an overdue, lifesaving rule required by Congress in the wake of the nation's most publicized tire safety disaster because, in your view, NHTSA must permit industry to install a marginally cheaper, but far less accurate and beneficial, type of tire pressure monitoring system. Your return letter ignores the record that NHTSA has assembled in the course of the rulemaking and disregards the 191 comments filed in the agency's docket, including two of my own, during the agency's public notice and comment period. The docket includes notice of at least 20 meetings between the agency and industry and other technical experts about the feasibility and cost of various systems. Your return letter also fails to take note of several recent, carefully designed studies conducted by NHTSA which have revealed the sorry state of the typical tire on the highway and the widespread hazards of tire underinflation,16 including the agency's recent public awareness campaign, entitled *Tire Safety: Everything Rides On It.17*

The agency's Notice of Proposed Rulemaking (NPRM) clearly laid open for public comment the question whether the agency should require a direct or indirect system for monitoring tire pressure.18 Like many others in the record, we urged the agency to require a direct system, given that direct systems are capable of measuring all four tires, and provide consistent and accurate results to the driver. We argued that the great inaccuracy and partial coverage (only three tires at most) of the indirect system would make that system a nuisance which many consumers would learn to disregard, and would be a source of disdain and irritation

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Administration, no return letters were issued in the last three years and just 25 were issued over Clinton's entire eight-year term. Even outside of the context of your other moves to consolidate power within OMB, such as the list of rules for rescission contained in the final Year 2001 Report to Congress on the Costs and Benefits of Regulations and Unfunded Mandates on State, Local and Tribal Entities, your activism in returning rules constitutes a major increase in the role of OMB and its interference in agency rulemaking. Of the 20 return letters discussed in your testimony, only 5 of the rules have since been passed by your office, meaning that OMB action has delayed issuance of the remaining 15 rules. Of course, as you told *Congressional Quarterly*, the threat of a return letter may be most critical in assuring that you are able to exert power at the early stages of every rulemaking, with leverage over formative decisions that are largely out of sight to the public or to Congress. *See* Rebecca Adams, "Regulating the Rule-Makers: John Graham at OIRA," *Congressional Quarterly*, Feb. 23, 2002, at 521.

16 *See* National Center for Statistics and Analysis, Tire Pressure Special Study, August 2001, DOT HS 809 315 (Methodology); DOT HS 316 (Interview Data); DOT HS 317 (Vehicle Observation Data). As part of this four-part study, NHTSA also conducted extensive surveys at 336 gasoline stations throughout the U.S., *see* Kristin Thiriez (NHTSA Engineeer) and Rakesh Subramanian (NHTSA Mathematical Analyst), Tire Pressure Special Study, October 2001, DOT HS 809 359 (Using sample of 10,900 observations of tire pressure of all four tires on vehicle); *see also* Frank Swoboda, "Inaccurate Tire Gauges Can Be a Matter of Safety," *The Washington* Post, Dec. 4, 2001.

17 *See*http://www.nhtsa.dot.gov/cars/rules/TireSafety/ridesonit/brochure.html; NHTSA Press Release, "Many U.S. Passenger Cars Are Driven on "Bald" Tires, NHTSA Research Shows: U.S. Transportation Secretary Mineta Announces Launch of Major Nationwide Campaign to Promote Tire Safety," Nov. 30, 2001.

18 *See* Tire Pressure Monitoring Systems: Controls and Displays, Notice of Proposed Rulemaking, 66 FR 38982, July 26, 2001, at 38987-96 (discussing differences in direct and indirect systems). In the NPRM, NHTSA stated that its experts doubted whether indirect systems were even capable of complying with the minimum performance requirements of the second the regulatory alternatives the agency proposed. *Id.* at 38996.

with inept government rules.

There Are Many Serious Deficiencies in Indirect Systems

As Representative Markey (D-Mass.) forcefully pointed out in the hearing before the House of Representatives Subcommittee on Commerce, Trade, and Consumer Protection on February 28th, 2002, the indirect system barely works. Here are some of its many shortcomings:

- Indirect systems are only available on vehicles with antilock brakes, which are the more expensive vehicles on the highway.
- Because it measures differences in rotational speed of tires rather than directly measuring inflation levels, it works only if one tire is more than 25 percent less inflated than the others; the direct system, by contrast, provides continuous readouts on the dashboard *in addition to warnings at underinflation levels of 20 percent,* so that conscientious consumers can adjust tire inflation levels to keep them right at the recommended level, thereby preventing the repeated, cumulative damage to tires.
- Indirect systems do not work if all four tires are equally under inflated, a likely scenario if they are checked or purchased at the same time.
- It also does not work if two tires on the same axle *or* the same side of vehicle are equally under inflated, but does work if diagonal tires are equally under inflated, a shell game that is certain to confuse and frustrate consumers. By comparison, the direct system monitors inflation changes in all four tires and any tire combination.
- The vehicle must be moving for the system to work, so it cannot be used to check proper inflation at a gasoline station while consumers are inflating the tire and will only alert consumers once they are already on the road.
- The indirect system did not work well on the smooth surface of the test track, or on long, straight roads without curves. Enormous areas of the Midwest and West may not be well served by these limitations.
- The indirect systems were, overall, less reliable in notifying consumers of serious underinflation levels.

OIRA is Obstructing Congressional Intent and Relying on Flawed Analysis

Indeed, at the same hearing on February 28, 2002, you agreed that the indirect system is inferior, stating that a direct system19 will provide better safety, and that the quality of indirect systems is still under development. Nonetheless, according to your testimony, OIRA has won this round, and will be announcing that the requirement for a direct system, instead of being phased-in, as the agency proposed, has been put on hold for two additional years until model year 2007, in order to enable NHTSA to further "study" the problem and to consider a standard for anti-lock brake systems (ABS).20

This outrageous result, you were informed by Representative Markey, who authored this tire pressure amendment, means that "this amendment, the Markey amendment, is not being implemented." As Representative Markey observed, the delay could be disastrous for the future of the rule, because industry will "use any scientific or technological hedge that they can" to resist additional safety requirements. Of course, as you are well aware, studying the issue until 2007 means in practical terms that a phase-in of new requirements would not occur until, at the earliest, model year 2011 or 2012. And folding in consideration of the ABS issue, which has long been a complicated data tangle, will doubtless provide ample opportunity for even more delay, obfuscation, and frustration of Congressional purpose.

The statute authored by Representative Markey under the Transportation, Recall Enhancement, Accountability and Documentation (TREAD) Act, specifically delegated authority to issue the rule to the Secretary of Transportation and provided an extremely short (one-year) statutory deadline for "a warning system in new motor vehicles to indicate to the operator when a tire is significantly under inflated."21 The statute makes no mention of ABS.

Your 2001 Report to Congress states that one of the external peer reviewers of that report questioned OMB's legal authority to issue return letters, arguing that even if they were lawful, they should be "done with care."22 In response, according to the report, your Office of General Counsel reviewed these concerns and found that there was authority for OIRA to issue return letters, although you provide not a hint of the origins of this considerable power. The report does note, however, that "[w]e share the view of the reviewer that OIRA should not return a rule to an agency for reasons that would compel an agency to act in ways that are inconsistent or incompatible with the statute under which the agency is operating."23

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19 In your terminology, the "direct" system was called a "4-tire standard."

20 I hope, in arriving at this so-called "compromise," that your office performed a meaningful analysis of the cost of this additional research to society, in terms of government expenditures, expertise, and the agency's diversion from other pressing priorities, as well as in terms of the loss of the saved lives and other safety benefits that would have accrued in the interim from a requirement for direct systems. Your return letter lacks such self-reflection.

21 *See* Transportation, Recall Enhancement, Accountability and Documentation Act, PL 106-414, 114 Stat. 1800 (Nov. 1, 2000).

22 It *is* clear that withdrawal of a published final rule and suspension of the effective date of a published final rule are both actions constituting rulemaking under the Administrative Procedures Act and require notice-and-comment procedures. *See* Alaska Professional Hunters Association, Inc. v. FAA, 177 F.3d 1030 (D.C. Cir. 1999); Natural Resources Defense Council, Inc. v. EPA, 683 F.2d 752 (3d Cir. 1982).

23 *See* Making Sense of Regulation: 2001 Report to Congress on the Costs and Benefits of Regulations and

NHTSA was not charged by Congress with examining the safety benefits of ABS, and, because of long-standing doubt about their safety effects, has never issued a safety standard that would require them. NHTSA did, however, undertake considerable preparation for its actual assignment regarding whether to require direct or indirect tire pressure monitoring systems. A 136-page technical report by NHTSA drafted by three agency experts and ten other advisors, who conducted extensive testing of both systems, corroborated the agency's preference for direct measuring systems:

> Through its testing, NHTSA found that systems that use sensors to directly measure tire pressure (pressure-sensor based systems) were better able to detect underinflation, had more consistent warning thresholds, and were quicker to provide underinflation warnings than the systems that infer tire pressure from monitoring wheel speeds (wheel-speed based [or "indirect] systems).24

In view of this ample record and the agency's years of building technical expertise in the area of tire inflation and safety, NHTSA wisely decided to permit only the installation of direct systems.

Your office demurred. After once revising the rule for content, including at least one previous round of edits of the agency's NPRM on cost and benefit issues,25 your office has again returned the agency's proposal. Inexcusably, your return letter employs only the most bare-bones and unproven assumptions about the cost and market effects of combining indirect systems with a requirement for anti-lock brakes (ABS) (a long-controversial area outside the focus of the agency's current rulemaking mandate), which, in turn, has only statistically insignificant and highly disputed safety effects.26 In order to make even the sparsest case for indirect systems, it appears that OIRA must find some shred of benefits any place that it can.

In fact, your reasons for rejecting the rule are marked by fallacious assumptions,

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Unfunded Mandates on State, Local and Tribal Entities (Office of Management and Budget, Dec. 2001). The objections of this peer reviewer as to the return letter's underlying legitimacy throws serious doubt on your use of the return letter to assure early OMB access to the formative stages of the rulemaking process, as you told *Congressional Quarterly* was your goal. In an interview, you told the reporter that agencies are now operating under a thinly veiled threat of such letters: "What we've been working on is to create an incentive for agencies to come to us when they know they have something that in the final analysis is going to be something we're going to be looking at carefully. And I think that agencies that wait until the last minute and then come to us – well, in a sense, they're rolling the dice." *See* Rebecca Adams, "Regulating the Rule-Makers: John Graham at OIRA," *Congressional Quarterly*, Feb. 23, 2002, at 521. Your centralization of an OMB power that remains controversial even for experts in this area is of deep concern to me. If it is dubious to issue return letters, surely it is far more pernicious to use them as a threat to alter processes at the heart of statutorily assigned agency discretion and judgment.

24 *See* An Evaluation of Existing Tire Pressure Monitoring Systems, DOT HS 809 297, July 2001.

25 *See* Memorandum in Response to Section 6(a)(3)(E) of Executive Order 12866, Docket NHTSA-2000-8572-69 (showing edits requested by OMB in strike and add format to pre-publication NPRM).

26 Indirect systems may only be used on cars with ABS.

disingenuous statements and cost-benefit sophistry. Taking the word of only one manufacturer as evidence for the economic decisions of every manufacturer, you argue that "manufacturers can reduce the cost of compliance" by allowing indirect systems, accompanied by a requirement or manufacturer program to install anti-lock brake systems (ABS) across the entire vehicle fleet. You present no evidence that requiring direct systems will *discourage* manufacturers or consumers from installing ABS; nor is there any evidence that even suggests that every manufacturer will make a decision similar to the one cited above. Yet the very survival of your conclusions depends upon assumptions regarding the installation of ABS in every vehicle on the highway.

In fact, linking the availability of a functioning, direct tire pressure monitoring system to ABS makes no sense whatsoever, as the more expensive direct systems cost $66 per vehicle (not including benefits such as increased tread life, increased fuel economy and reductions in crashes), whereas ABS and the indirect system impose costs of $240 for the ABS and an additional $13.29 for the indirect monitoring system, a total of $253.29. Because ABS is currently not installed in the cheapest sector of the vehicle fleet, imposing an ABS requirement would essentially inflict an unnecessary $187 of costs27 on those customers who can least afford it and who should not have to pay for a brake system which, after years of use, has an unproven safety record.

What will these consumers, who have not chosen to pony up for ABS now, get for their enforced outlay? The only study cited by you in support of the safety "benefits" of ABS was a recent study undertaken to examine, ironically, the historical over-involvement of vehicles with ABS in certain kinds of crashes. In the past, while ABS had been found to reduce fatalities in two-vehicle crashes, other evidence suggested that, perhaps due to differences in handling, ABS actually increased run-off-the-road crashes and crashes with fixed objects.

In the study you cite as the only "best estimate" available on ABS and safety, safety researcher Charles Farmer found that ABS *had no statistically significant effect on crash fatalities.28* Farmer was unable to determine whether ABS ultimately saved or cost lives across the vehicle fleet, making the "between 4 and 9 percent reduction" in crash fatalities you cite as evidence for your position a statistical blip that may actually be zero percent. The Insurance Institute for Highway Safety summarized the results of the same study by Farmer as follows:

> . . .the real-world advantages of antilock brakes are unproven. Over the long term, vehicles with such brakes have fared no better in overall fatal crash experience

27 This cost is calculated by adding the cost of ABS ($240) to the cost of installing an indirect system on a vehicle with ABS ($13.29) (=253.29) and subtracting the cost of a direct system ($66.50), which would have been imposed on all consumers under NHTSA's rulemaking proposal ($253.29 – $66.50 = $186.79). Therefore, an ABS requirement tied to this rulemaking would tax consumers with $187 in potentially worthless additional costs for the dubious combined benefits of ABS and an indirect system.

28 *See* Charles M. Farmer, New Evidence Concerning Fatal Crashes of Passenger Vehicles Before and After Adding Antilock Braking Systems," *Accident Analysis and Prevention* 33 (2001), at 361.

> than vehicles without antilocks. "Despite their impressive performance on the test track, there is still no evidence that antilock brakes are producing overall safety benefits, " says Institute president Brian O'Neill.29

Since the remainder of your argument about the "benefits" of an indirect system rests on this blip of "4 to 9 percent," your benefits calculus is actually a castle in the air.

Essentially, you need whatever sliver of benefits you can eke out of the data on ABS to add to the poor performance statistics of indirect systems in order to make your implausible claim that the addition of ABS to the remainder of the vehicle fleet *plus* the modest safety benefits of indirect systems would save more lives than a direct system alone. However, the breach of normal statistical practice you commit by relying on statistically insignificant data has devastating consequences for the validity of your conclusions. Rather than quibbling at NHTSA about yet more benefit details, as the remainder of your letter does, you should have performed your own sensitivity analysis30 of these conclusions before holding the agency hostage to your arbitrary demands.

Due to the lack of statistical significance, as above, the "benefit" from ABS *could just as easily be zero as four or nine percent.* At zero benefits, a decision to require ABS would tax lower-income consumers with an undesired and valueless extra expenditure of $187 for ABS systems and indirect monitors per vehicle, or $935 million per year across the number of vehicles annually produced without ABS (some 5 million vehicles). A sensitivity analysis might have shown you that well-founded uncertainty about ABS yields you *either and equally probably* benefits or losses of this amount. Given that these benefits would accrue only if all your unsupported suppositions about manufacturer and market behavior are correct, and that consumers who choose to value ABS can purchase the system in this marketplace, one might think that you would yield to the agency's mandate and exercise of judgment in this case.

If forcing consumers to pay $187 for nothing was not enough, an ABS requirement would enable manufacturers to continue to install slipshod, lousy tire pressure monitoring systems, stunting the continued development of direct measurement technologies. Furthermore, manufacturers would, predictably, be able to charge a mark-up for those consumers annoyed by the imprecision of indirect systems with money to expend on safety "extras," thus further disadvantaging lower-income consumers.

Without OMB's intervention, on the other hand, direct systems that truly warn of dangerous conditions would be available to all consumers at the lowest cost due to the ability to manufacture them in mass production as standard equipment, and the systems' capacity for continuous monitoring of all four tires on the dashboard might trigger a cultural sea-change in

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29 *See* Insurance Institute for Highway Safety Status Report, Vol. 35, NO. 4, April 15, 2000.

30 Sensitivity analysis is used to reinforce a finding by demonstrating that an outcome is robust, *i.e.*, that the conclusion is not very sensitive to potential changes in the variables upon which the result rests.

attention to tire safety.31 In addition, manufacturers of these systems would take the risk of further investments to perfect future direct systems. Consumers who regularly monitored their tire conditions would see cost savings in gas from improved fuel economy, cost savings on the longer tread life of their tires, and, most importantly, fewer tire-related crashes.

Nor does it matter, as your analysis suggests, that the cost of inflicting ABS on the remainder of the vehicle fleet *plus* the cost of indirect systems for the whole fleet is cheaper than the cost of a direct system requirement. NHTSA already determined that the cost savings from allowing an indirect system were *not worth it* on safety grounds. Given the total uncertainty of any safety benefits flowing from ABS, there is literally no reason to doubt the agency's informed decision.

Other unexamined assumptions and errors also plague your re-hashing of NHTSA's hundred-page economic analysis. Here are just two examples: 1) The number of crash fatalities used as a multiplier of your fanciful "4 to 9 percent" was 40,000, an extremely rough number that actually includes some 10,000 annual pedestrian, large truck occupants, bus occupants, and bicyclist fatalities,32 which are outside the scope of the rule and which should, at the least, be considered separately; 2) You failed to account for the time it takes to alter vehicle manufacturing processes, instead assuming that 1.1 million vehicles currently produced without ABS would suddenly be manufactured with this feature. NHTSA avoids these pitfalls because the agency does not base its benefit estimates on overall fatality statistics, but instead looks at specific benefits.

In sum, your agency has embarrassed itself by getting in over its head. How many mechanical engineers are on staff at OIRA, who can fairly evaluate the merits of the agency's decision? The expertise of your office in this arena is unclear, at best. What is clear is that you are choosing to trade a known quantity of lives that will be lost by allowing indirect systems in exchange for highly dubious ABS benefits and assured increases in costs for lower-income consumers. This line of reasoning would not have passed the laugh test if it had originally been submitted by NHTSA to your office, and would be far more comical now if the precedent your action sets, and the human lives that will be lost from allowing a much less effective system, were not so grave.

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31 Statistical evidence collected by the agency suggests that this is quite possible, as 85 percent of drivers of the 11,530 vehicles surveyed were "concerned about maintaining proper tire inflation." *See* Preliminary Analysis of Findings, 2001 NASS Tire Pressure Special Study, Aug. 3, 2001, Docket No. NHTSA-2000-8572-74.

32 Occupant fatalities in passenger cars and light trucks actually totaled 31,910. *See* Traffic Safety Facts 2000 – Overview, National Center for Statistics and Analysis (2001). Using your methodology, this error alone subsumes your conclusions. Confusingly, you do not use benefits numbers comparing it to the whole fleet with ABS, but only 7.4 percent. Reducing 7.4 percent of the total number of fatalities (2,308) by 4 to 9 percent would reduce fatalities by 92-207, a number solidly in the range of the number of fatalities averted by the direct system (141). Of course, the agency's calculations regarding number of fatalities averted by a direct system requirement was substantially justified by NHTSA, whereas the "4 to 9 percent" figure you utilize for the add-on benefits of ABS could just as easily be zero.

Conflicts of Interest Impugn Your Involvement in this Rule

Nor have you chosen to recuse yourself from this decision, as you should, because of your well-documented and specific conflicts of interest. The OIRA docket shows that you held a meeting regarding tire pressure monitoring systems with auto industry representatives on October 26, 2001, just before the agency's pending rulemaking mandate would become past due.33 Attending that meeting were three representatives of the Alliance of Auto Manufacturers (Alliance), as well as lobbyists for Toyota, Ford, DaimlerChrysler and Volkswagen of America.34 Under your tenureship as Director of the Harvard Center for Risk Analysis (HCRA), a post which you left only months before this meeting, the center received unrestricted funding, in undisclosed amounts, from Ford, Volvo and General Motors, as well as the American Automobile Manufacturers Association, the predecessor organization of the Alliance.35

Unsurprisingly, OIRA's return letter mirrors the reasoning of the Alliance,36 which appears to be disappointed by NHTSA's decision, as manufacturers would not have the option of charging consumers a premium for the luxury of an accurate tire monitoring system. The Alliance has loudly clamored for its right to get by with a shoddy, indirect system, despite all the evidence of the potential harm that would result and the unfairness of this option for lower-income consumers.37 Fearing they might not prevail in the public comment process, the industry came to you.

You conducted an additional meeting with industry after the return letter was issued, and according to your statements at the House hearing, while "negotiations" with NHTSA were ongoing. The OMB docket reflects a meeting on February 21, 2002, between yourself, a few

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33 *See* Meeting Record Regarding: Tire Pressure Monitoring Systems, Oct. 26, 2001, http://www.whitehouse.gov/omb/oira/2127/meetings/78.html; Meeting Record Regarding: Tire Pressure Monitoring Systems, Feb. 21, 2002, http://www.whitehouse.gov/omb/oira/2127/meetings/94.html.

34 According to letterhead submitted in comments to the docket, the present membership of the Alliance includes DaimlerChrysler, Ford, Volvo, the BMW Group, Fiat, Ford, General Motors, Isuzu, Mazda, Mitsubishi Motors, Nissan, Porsche, Toyota, Volkswagen and Volvo

35 As was made clear in two letters sent by prominent academic scholars in opposition to your nomination to OIRA, many, if not most, academic researchers shy away from accepting unrestricted funding due to the multiple and serious problems it poses for conflicts of interest, both apparent and actual. Instead, researchers typically seek funding under the rubric of restricted funding research contracts, which explicitly spell out the terms of the grant and conditions for review of result by funders. *See* Letter from 32 Scholars Opposing Graham and Raising Conflicts of Interest Concerns, May 17, 2001, http://www.citizen.org/congress/regulations/graham/chivian.html; 53 Scholars and Academics Write the Senate Governmental Affairs Committee Opposing the Graham Nomination, May 9, 2001, http://www.citizen.org/congress/regulations/graham/academics.html.

36 See Letter from Vann H. Wilbur, Alliance of Automobile Manufacturers Director for Vehicle Safety And Harmonization, Mar. 23, 2001 to NHTSA ("The Alliance believes that both wheel-speed [indirect] based and pressure-sensor [direct] based TPMS [tire pressure monitoring systems] have merit and should be permitted under pending requirements. Our proposal will allow the further development of both types of systems."), Docket no. NHTSA-2000-8572-16.

37 Other than the typical resistance offered by industry on cost grounds, we presume that the industry is unwilling to offer the more preferable system for tire monitoring on cars which lack ABS, which are the less expensive cars across one-third of the vehicle fleet.

officials from OIRA and three representatives of the Rubber Manufacturers Association (RMA). According to letterhead submitted to the NHTSA docket, the RMA includes Goodyear Tire and Rubber Company, which was a former source of unrestricted funding in undisclosed amounts under your direction of HCRA.38

Unlike the former meeting, NHTSA officials were apparently not invited or chose not to attend your meeting with RMA. While NHTSA provides substantive notes of *ex parte* meetings with industry and others as a part of the rulemaking docket, your meeting docket simply notes the date and subject of the meeting and its attendees. We do know that, in its official comments to the docket and meetings with NHTSA officials, the RMA consistently supported a strong rulemaking, arguing that NHTSA should use a stringent definition for the amount of underinflation that would produce a warning, and that an adequate warning system was necessary because consumers would "rely heavily on the [Tire Pressure Monitoring Systems] and ignore routine tire maintenance."

A Meaningful Tire Safety Rule Is Necessary for Public Health

In testimony before the House Subcommittee on Commerce, Trade, and Consumer Protection, NHTSA's Administrator Dr. Jeffrey Runge, made it clear that OMB is squashing the agency's judgment on this issue:

> The NPRM to require a warning system to indicate to vehicle operators when a tire is significantly under inflated was published on July 26, 2001. The NPRM drew extensive comments. We have sought to resolve the issues raised by the comments and devise a system that will meet the intent of the TREAD Act in a manner that best serves safety. In the belief that we had devised such a system, we sent a final rule to OMB on December 18, 2001. On February 12, 2002, OMB returned the rule to us for reconsideration based on concerns it had identified.39

In overriding the outcome of the public process in this rulemaking, you are also infringing upon the expressed will of Congress. In addition to the mandate for this rulemaking, in the Transportation, Recall Enhancement, Documentation and Accountability (TREAD) Act, Congress went out of its way to signal the importance of tire safety and to grant NHTSA wide-ranging authority to enact measures that will result in enhanced public awareness of tire-related problems.40

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38 *See* Comments of the Rubber Manufacturers Association on NPRM Federal Motor Vehicle Safety Standards; Tire Pressure Monitoring Systems; Controls and Displays, Sept. 6, 2001, at 1.

39 Testimony of Jeffrey W. Runge, M.D., Administrator, National Highway Traffic Safety Administration, Before the Subcommittee on Commerce, Trade, and Consumer Protection, Committee on Energy and Commerce, U.S. House of Representatives, February 28, 2002, at 6-7.

40 *See* Transportation, Recall Enhancement, Accountability and Documentation Act, P.L. 106-414, Sec. 11. Improved tire information. "(b) Inflation levels and load limits. In the rulemaking conducted under subsection (a), the Secretary may take *whatever additional action* is appropriate to ensure that the public is aware of the importance of observing motor vehicle tire load limits and maintaining proper tire inflation levels for the safe operation of a

And the facts bear out their concern. Unlike the spare analysis in your return letter and accompanying evaluation, NHTSA supported its regulatory decision with meticulous research into existing systems, consumer habits, and tire conditions. Using the National Automotive Sampling System (NASS), extensive driver attitude and vehicle tread and tire pressure surveys were conducted at 336 gasoline stations throughout the U.S., including some 11,530 vehicles.41

When a tire is under inflated, its sidewalls flex more than they should and the air temperature inside the tire increases, making it more prone to failure. In addition, under inflation reduces the tread life of tires and the fuel economy of vehicles, both of which are costly for consumers. The facts unearthed by the agency in preparing for the rulemaking are alarming and suggest there is a dire need for a rule that will heighten consumer awareness of tire hazards as Congress intended:

- Seventy-four percent of the on-road fleet has at least one tire that is under inflated.42
- Thirty-six percent of passenger cars and 40 percent of light truck vehicles (minivans, pick-up trucks and sport utility vehicles) have at least one tire that is 20 percent or more below the recommended tire pressure.43
- While 85 percent of the population of drivers are concerned about maintaining proper tire inflation in their vehicles, only 25 percent use the correct method to determine the manufacturer's recommended tire pressure, and 43 percent fail to actively maintain their tire pressure.44
- Worn tire tread may reflect continuous driving on under inflated tires; nine percent of vehicles sampled had at least one tire that was bald, that is, with tread wear at or below two 32^{nds} of an inch.45
- Radial tires, which are standard equipment on most new cars, can lose much of their air pressure and still appear to be fully inflated, 46 yet between 6 and 16 of

motor vehicle..." [emphasis added].

41 *See* Preliminary Analysis of Findings, 2001 NASS Tire Pressure Special Study, Aug. 3, 2001, Docket No. NHTSA-2000-8572-74.

42 *See* National Center for Statistics and Analysis, Tire Pressure Special Study, August 2001, DOT HS 809 315 (Methodology); DOT HS 316 (Interview Data); DOT HS 317 (Vehicle Observation Data). As part of this four-part study, NHTSA also conducted extensive surveys at 336 gasoline stations throughout the U.S., *see* Kristin Thiriez (NHTSA Engineeer) and Rakesh Subramanian (NHTSA Mathematical Analyst), Tire Pressure Special Study, October 2001, DOT HS 809 359 (Using sample of 10,900 observations of tire pressure of all four tires on vehicle); *see also* Frank Swoboda, "Inaccurate Tire Gauges Can Be a Matter of Safety," *The Washington* Post, Dec. 4, 2001.

43 *See* Tire Pressure Monitoring Systems: Controls and Displays, Notice of Proposed Rulemaking, 66 FR 38982, July 26, 2001.

44 *See* Kristin Thiriez (NHTSA Engineeer) and Rakesh Subramanian (NHTSA Mathematical Analyst), Tire Pressure Special Study, October 2001, DOT HS 809 359.

45 See National Center for Statistics and Analysis, Tire Pressure Special Study, August 2001, DOT HS 317 (Vehicle Observation Data).

46 *See* Frank Swoboda, "Inaccurate Tire Gauges can Be a Matter of Safety," *The Washington Post*, Dec. 4, 2001.

drivers admitted to checking their tire inflation levels visually.47

- While more than 90 percent of gas stations have air pumps, nearly 10 percent are out or order; 50 percent lack gauges to measure air pumped into the tire; and 20 percent of those that do have pumps give inaccurate readings, reflecting an inflation level that is as much as 4 psi more than the air pressure actually in the tire.48
- Eighty-five percent of all tire air pressure losses are the result of slow leaks that occur over a period of hours, days, or months.49

How much more research money and expert time will taxpayers have to spend to overcome your paralysis by analysis and to get this relatively simple, lifesaving measure implemented?

NHTSA Was Right On the Money

Although the cost difference, once benefits are factored in, amounts to a mere $15 per vehicle, the difference in the number of injuries and deaths prevented by the two systems is considerable.50 While direct tire pressure monitoring systems would prevent an estimated 10,635 injuries and 79 deaths, the indirect system would, in the agency's best estimates, fail to prevent 4,050 of those injuries and 30 of those deaths.51 The real numbers are likely to be even worse, given that consumers using the shoddy, indirect system, which fails to show drivers which tire is under inflated, or if more than one is under inflated (as well as failing in other confusing permutations), and is more frequently in error, would quickly learn to disregard the warnings.

Put another way, the agency estimated that direct systems would result in 38 percent of light vehicle operators being warned of low tire pressure, while indirect systems would result in only 24 percent of operators currently on the highway being warned, due to the imprecision of that system.52

Even with the agency's badly inflated cost numbers,53 the net cost per life saved is $1.9

47 *See* Preliminary Analysis of Findings, 2001 NASS Tire Pressure Special Study, Aug. 3, 2001, Docket No. NHTSA-2000-8572-74.
48 *Id.*
49 *See* Tire Pressure Monitoring Systems: Controls and Displays, Notice of Proposed Rulemaking, 66 FR 38982, July 26, 2001.
50 *Id.*
51 That is, it would prevent only 6,585 injuries and 49 deaths. *Id.*
52 *See* Tire Pressure Monitoring System, Preliminary Economic Assessment, July 2001, Docket No. NHTSA-2000-8572-57.
53 Public Citizen's individual comments to the docket pointed out that the agency overweights its cost estimate by a factor of 1.5, as it inflated the costs to reflect a retail markup rather than using a societal cost figure. *See* Tire Pressure Monitoring System FMVSS No. 138, Preliminary Economic Assessment, Docket No. NHTSA-00-8572-57, p.VI-1. Because the retail markup is a transfer payment from consumers to industry rather than a net social cost, and because some part of the cost to industry is likewise a transfer payment among industries, the real cost figures are actually lower than the agency's estimates. *See* Office of Management and Budget, "Economic Analysis of Federal Regulations Under Executive Order 12866," (January 11, 1996), which reads in part "[a]n important, but

million for the direct system and $1.1 million for the indirect system, well below the $6.3 million value assigned to human life in the type of ghastly arithmetic practiced by regulatory actuaries such as those in your office.54

OIRA's Over-Reaching Must Stop

OIRA had one bite at the agency's NPRM, and the agency kindly obliged you. Nowhere in statute does your office retain the authority to delay an overdue rule mandated by Congress and subject to the Administrative Procedures Act notice-and-comment rulemaking process, much less to force OIRA's will upon the agency, in violation of an express delegation of decision-making power to the Secretary of Transportation.

It is far past time, as you promised at your nomination hearing, to leave behind your role as industry advocate and try on your civil servant hat. These problems with OIRA's peremptory refusal to let this rule become final are serious and should be addressed. My hope is that you will review our objections with more care than it appears you have allocated to NHTSA's well-developed position requiring direct monitoring systems, and that sound science exercised in its true form – with humility – as well as the interests of public health and democracy, will ultimately prevail.

Sincerely,

Joan Claybrook
President
Public Citizen

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sometimes difficult, problem in cost estimation is to distinguish between real costs and transfer payments. Transfer payments are not social costs but rather are payments that reflect a redistribution of wealth;" *See* Public Citizen, Re: Tire Pressure Monitoring Systems: Notice of Proposed Rulemaking 66 FR 38982 *et seq.*, July 26, 2001, Docket No. NHTSA 2000-8572-148.

54 These figures rendering the value of human life in monetary terms remain highly controversial, *see, e.g.*, Frank Ackerman and Lisa Heinzerling, "If It Exists, It's Getting Bigger: Revising the Value of a Statistical Life," *Global Development and Environment Institute Working Paper No. 01-06*, Oct. 2001; Lisa Heinzerling, "The Rights of Statistical People," 28 Harv. Envtl. L. Rev. 189 (2000); Richard L. Revesz, "Environmental Regulation, Cost-Benefit Analysis, And the Discounting of Human Lives," 99 Colum. L. Rev. 941 (May 1999); Lisa Heinzerling, Regulatory Costs of Mythic Proportions," 107 Yale L.J. 1981 (1998); Lisa Heinzerling, "Reductionist Regulatory Reform," 8 Fordham Envtl. Law J. 459 (1997); David A. Wirth & Ellen K. Silbergeld, "Book Review: Risky Reform," 95 Colum. L. Rev. 1857 (Nov. 1995); Douglas E. MacLean, "Comparing Values in Environmental Policies: Moral Issues and Moral Arguments," in Valuing Health Risks, Valuing Health Risks, Costs, and Benefits for Environmental Decision Making (1990); Mark Sagoff, The Economy of the Earth 46 (1988).

Mr. OSE. Thank you. Our final witness on the second panel is Professor Lisa Heinzerling. She is a professor of law at Georgetown University Law Center. Thank you for coming. We do have your prepared testimony, which we appreciate receiving. If you can summarize in 5 minutes, that would be great.

Ms. HEINZERLING. Thank you. OIRA has been reviewing major Federal regulations for over 20 years. Nevertheless, with this administration, OIRA has set a new direction and tone in undertaking this review. Simply put, the direction is away from regulation, particularly health and environmental regulation, and the tone is one of skepticism and second guessing.

These are unfortunate and perhaps even unlawful developments. I will describe three ways in which OIRA has changed course with the new administration. All of the subjects I am about to describe are discussed in the 2001 OMB report which is the subject of this hearing.

First, for the first time this year, OIRA used this report as a vehicle for allowing regulated entities and groups funded by regulated entities to try to rid themselves of regulations they do not like.

OIRA invited interested groups to tell OIRA about rules that should be reformed or undone. Regulated entities and groups funded by regulated entities happily obliged. They presented OIRA with a wish list of 71 regulations they would like to see reformed or even erased. OIRA chose 23 of these rules as high priority, and it signaled its intent to revisit these rules and perhaps even to direct the relevant agencies to reconsider these rules.

In this way, regulated industries' wishlist became a kind of hit list in OIRA's hands. No principled basis for determining priorities emerges from OIRA's decisions on priorities. Indeed, for all of OIRA's emphasis on peer review and quality analysis by administrative agencies, I have been unable to discover one word in OIRA's lengthy report that explains how it arrived at the priorities it chose.

For example, OIRA labeled EPA's rule on arsenic in drinking water, which we have just heard about, high priority, even though the rule had been issued 2 months before, after months of in-depth inquiry, by three different expert panels.

The unmistakable impression, encouraged by reports of contemporaneous meetings with industry groups whose least favorite rules magically appeared on OIRA's hit list, is that in this setting bad politics dominated good science.

A second way in which OIRA's direction and tone have changed in this administration is that OIRA has announced that it tends to make aggressive use of the so-called return letter, under which rules may be returned to agencies when the agencies have not analyzed the relevant problem in the way OIRA thinks it should be analyzed.

Indeed, OIRA, as we have heard this afternoon, has already issued 20 return letters. OIRA's assertion of authority essentially to veto rules it does not like threatens to undermine a basic premise of the law governing administrative agencies, which is that their expertise in the subjects over which they have authority entitles their decisions to a good deal of deference.

At this time, OIRA appears not to have the kind of humility that its lack of expertise would make appropriate. In fact, OIRA appears to have no humility at all in this regard and appears more than willing to second-guess expert agency judgments.

Thus, we are witnessing a spectacle in which OIRA's staff, made up predominantly of economists, are presuming, for example, to tell EPA scientists how to conduct research into the health effects of air pollution.

OIRA's plan to intervene in expert agency decisionmaking is perhaps made most obvious by its recent announcement that it intends to hire physical scientists for the first time.

Now I suppose that, if OIRA intends to second-guess the scientific basis for agency decisions, one might say that at least the office should have scientists on its staff.

But, suppose the office decides to hire only scientists who take a skeptical view of, say, the hazardousness of toxic chemicals. In that event, an OIRA decision second-guessing an agency rule regulating such chemicals will be based not on good science, as OIRA would have it, but on the idiosyncratic scientific and perhaps political viewpoints of the scientists OIRA chooses to hire. This is a recipe for political second-guessing disguised as good science.

Finally, the tone of OIRA's 2001 report must be regarded as hostile, even if subtly so, to health and environmental regulation. I offer one example, in the interest of time. OIRA unreasonably gives credence to the possibility that, as of the year 2000, environmental regulation had on the whole done more harm than good in this country, that is, that its costs outweighed its benefits.

OIRA bases this calculation on studies that are not only over 20 years old, but that contain assumptions that tend to disfavor environmental regulation. Crediting these studies and, therefore, suggesting that environmental laws may have done more harm than good in the last 30 years is a signal that OIRA takes the benefits of environmental protection less seriously than it should.

To me, it is hard to read the 2001 report without coming away nervous about what OIRA's discussion presages for environmental protection in this country. Perhaps I am too much influenced by the fact that OIRA's current head, Dr. Graham, was quite overtly hostile to environmental protection in his many years as an academic. But, nothing in this report, or in OIRA's recent activities, convinces me that my fears are unwarranted. Thank you.

[The prepared statement of Lisa Heinzerling follows:]

Testimony of

Lisa Heinzerling
Professor of Law
Georgetown University Law Center

Before the
SUBCOMMITTEE ON ENERGY POLICY,
NATURAL RESOURCES
AND REGULATORY AFFAIRS
Committee on Government Reform
U.S. House of Representatives

Hearing on

Regulatory Accounting

March 12, 2002

TESTIMONY OF

LISA HEINZERLING

PROFESSOR OF LAW

GEORGETOWN UNIVERSITY LAW CENTER

BEFORE THE SUBCOMMITTEE ON ENERGY POLICY, NATURAL RESOURCES AND REGULATORY AFFAIRS COMMITTEE ON GOVERNMENT REFORM U.S. HOUSE OF REPRESENTATIVES

MARCH 12, 2002

My name is Lisa Heinzerling. I am a Professor of Law at the Georgetown University Law Center. I have also taught at the Harvard and Yale Law Schools. I am a graduate of the University of Chicago Law School, where I served as editor-in-chief of the University of Chicago Law Review. After law school I clerked for Judge Richard Posner on the U.S. Court of Appeals for the Seventh Circuit, and then for Justice William Brennan of the U.S. Supreme Court. I was an Assistant Attorney General in the Environmental Protection Division of the Massachusetts Attorney General's Office for several years before coming to Georgetown in 1993. My expertise is in environmental and administrative law.

In December 2001, the Office of Management and Budget (OMB) issued a report entitled "Making Sense of Regulation: 2001 Report to Congress on the Costs and Benefits of Regulations and Unfunded Mandates on State, Local, and Tribal Entities" [hereinafter 2001 OMB Report]. At the request of the Office of Information and Regulatory Affairs (OIRA), I served as a peer reviewer of the 2001 OMB Report. In January 2002, OMB issued a document entitled "Analytical Perspectives," accompanying the White House's budget for fiscal year 2002 [hereinafter Analytical Perspectives].

Together, these documents provide troubling insights into OIRA's deregulatory agenda.

There are five large problems with the 2001 OMB Report and Analytical Perspectives document:

1. The 2001 OMB Report contains a regulatory "hit list" which appears to reflect nothing other than an unprincipled response to the behind-the-scenes lobbying efforts of politically powerful industries.

2. The Report reveals OIRA's intention to intrude upon the decision-making prerogatives of the administrative agencies in such a way as to promote unwarranted delay of and meddling with the agencies' work.

3. The Report contains highly misleading, outdated, and inaccurate estimates of the costs and benefits of federal regulation, particularly environmental regulation.

4. The Report and Analytical Perspectives document together threaten to increase the executive branch's problematic reliance on cost-benefit analysis as a way of evaluating the wisdom of regulatory policy.

5. The Analytical Perspectives document serves notice that OIRA also intends to evaluate agency decision making through use of a methodology, cost-effectiveness analysis, which in OIRA's hands will treat health, safety, and environmental measures that protect future generations, the elderly, and the sick as less worthwhile than those that protect the present generation, the young, and the healthy.

My testimony is divided into five parts, corresponding to the five problems noted above. In brief, my testimony shall suggest that OIRA's newly aggressive posture with respect to the administrative agencies, coupled with its growing use of cost-benefit and cost-effectiveness analysis to criticize agency decisions, threatens to delay or to undermine a good deal of important federal regulation, especially health, safety, and environmental regulation. Especially where this office is headed, as it now is, by someone who regards the precautionary principle underlying many of our health, safety, and environmental protections as "a mythical concept, perhaps like a unicorn" (John D. Graham, "The Role of Precaution in Risk Assessment and Management: An American's View" (Jan. 11-12, 2002), available at http://www.whitehouse.gov/omb/inforeg/eu_speech.html), OIRA's new assertiveness may presage a rocky time for health, safety, and environmental protection in this country.

I. THE REGULATORY HIT LIST

This year, OIRA has turned the report on the costs and benefits of federal regulation into an opportunity for regulated industry to roll back regulations it does not like, in the guise of promoting neutral principles like good science and economic efficiency.

In Appendix A to the 2001 OMB Report, OIRA lists suggestions from the "public" for reform of 71 federal regulations. These suggestions were offered by entities directly regulated by the rules in question and by groups funded by such entities. For example, the Mercatus Center at George Mason University – historically funded by, among others, Enron, International Paper, the American Chemistry Council, and David Koch, Executive Vice-President and member of the board of directors of Koch Industries, a company with interests in refining, asphalt, natural gas, gas liquids, chemicals, plastics, chemical technology equipment, minerals, fertilizers, ranching, and financial businesses (see http://www.kochind.com) – submitted 44 of the 71 proposals for reform.

In response to these self-interested suggestions, OIRA prioritized the proposals by giving them a ranking of 1, 2, or 3, with 1 reflecting the highest-priority items. Twenty-three regulations were ranked 1, "high priority" (2001 OMB Report at p. 62). Following its consideration of the high-priority proposals, OIRA stated, "a 'prompt letter' may be crafted and sent to the responsible agency for deliberation and response" (2001 OMB Report at p. 62).

Thus has OMB's report on the costs and benefits of federal regulation been turned into a backdoor channel for regulated entities to try to rid themselves of regulations they do not like. In its report, OIRA did not mention that, as a peer reviewer of the report, I had encouraged OIRA to explain how it had arrived at the rankings of rules presented in Appendix A; much less did it respond to this suggestion by actually explaining how the priorities were set. This silence, combined with contemporaneous news accounts reporting that OIRA's director, John Graham, had asked a staff member of this Subcommittee "'to convene key lobbyists to identify and rank' regulations that business groups found overly burdensome" (Washington Post, Dec. 4, 2001, "Business Lobbyists Asked To Discuss

Onerous Rules"), leaves the unmistakable and troubling impression that the "high priority" items reflect nothing other than power politics.

Consideration of a sampling of OIRA's choices in developing its hit list confirms this impression. For example, the Environmental Protection Agency's decision to strengthen the standard for arsenic in drinking water was given a priority of 1 on OIRA's list (2001 OMB Report, Table 7, pp. 63-64). Only two months before, President Bush's EPA had decided, with great fanfare, to retain the Clinton-era standard for arsenic in drinking water. EPA had done so after eight months of inquiry into the science and economics of the standard, including consideration of new reports by three different expert panels, including a report prepared by the National Academy of Sciences. In response to this expert assistance, EPA chose to retain the Clinton-era standard. Less than two months later, by labeling the arsenic standard priority "1," OIRA signaled an intent to revisit the standard once again – with no explanation as to its reasons for deeming this rule high priority. Although OIRA now has apparently decided not to challenge EPA's new arsenic rule (OIRA's web page indicates that its review of the standard is now complete), its willingness to revisit the rule, which was fresh from a resource-intensive, in-depth review by three expert panels, suggests that the reform priorities set by the 2001 OMB Report were based on something other than the best science or sound economics.

Similarly, OIRA has labeled review of the Clean Air Act's "New Source Review" program "high priority" without explaining why this program merits review and possibly reform (2001 OMB Report at p. 102). Other programs targeted by industry or industry-backed commentators – such as EPA's "Tier 2" program for new automobiles and its heavy-duty diesel engine rule – were not given high priority status by OIRA even though they embody the same basic kind of regulatory regime (based on a requirement that new sources of air pollution use the best available pollution control technology) as New Source Review. This is not to say that OIRA should have revisited the programs regulating automobiles and trucks. It is to say, however, that no principled basis for distinguishing the programs on OIRA's hit list from the programs not included there emerges from the 2001 OMB Report. Once again, it is tempting to conclude that lobbying power, not neutral principles, guided OIRA's priority-setting process.

For further evidence of this possibility, note that EPA's "CAFO Rule" (pertaining to regulation of water pollution from concentrated animal

feeding operations) made it onto OIRA's regulatory hit list (see 2001 OMB Report at 64) one month after representatives of the agricultural industry met with top-level OIRA officials. (See meeting record available at http://www.whitehouse.gov/omb/oira/2040/meetings/81.html.) In the absence of any explanation for the priorities reflected on OIRA's hit list, an interested member of the public might be excused for interpreting this sequence of events as evidence of the lobbying prowess of agricultural interests.

In sum, OIRA has begun to use its report on the costs and benefits of federal regulation as a vehicle for undoing or at least revisiting agency decisions, without providing the interested citizen with any basis for predicting which agency rules will make the hit list and which will not. Thus the report – which, ironically, has been required in the name of the public's "right to know" – threatens to become a backdoor channel to deregulation.

II. DELAY AND MEDDLING: THE RETURN OF THE RETURN LETTER

In the 2001 OMB Report, OIRA announces the "return of the 'return letter'" (p. 39). OIRA asserts that it may issue a "return letter," seeking further justification for or modification of an agency proposal, in the following circumstances (pp. 39-40):

- inadequate analysis;
- the "regulatory standards adopted are not justified by the analyses";
- the rule is not consistent with the principles announced in E.O. 12866 or with "the President's policies and priorities"; or
- the rule is "not compatible with other Executive Orders or statutes."

There are several problems with OIRA's assertion of authority over agency decision-making. First, many statutes establish standard-setting principles that are themselves "not consistent with the principles announced in E.O. 12866." For example, the Clean Air Act's National Ambient Air Quality Standards are to be set without regard to economic costs. See *Whitman v. American Trucking Assns.*, 531 U.S. 457 (2001). In its report, OIRA concedes that it "should not return a rule to an agency for reasons that

would compel an agency to act in ways that are inconsistent or incompatible with the statute under which the agency is operating" (2001 OMB Report at p. 40). However, OIRA's actual behavior gives reason to fear that the return letter may be used as a way to undermine statutory requirements OIRA does not like.

For example, as noted above, OIRA has given "high priority" status to EPA's New Source Review program, in response to the Mercatus Center's proposal that EPA "use the settlement process [in ongoing litigation against pollution sources accused of violating the law] to alter its NSR policy" (2001 OMB Report at p. 102). The Mercatus Center also criticized "EPA's aggressive application" of the New Source Review program (ibid.). However, the Department of Justice has concluded, after a thorough study of the matter, that "EPA may reasonably conclude that the enforcement actions are consistent with the Clean Air Act and its regulations." (See United States Department of Justice, Office of Legal Policy, "New Source Review: An Analysis of the Consistency of Enforcement Actions with the Clean Air Act and Implementing Regulations," at iv (Jan. 2002).) It is hard to square OIRA's announced intention to review the New Source Review program and pending enforcement efforts undertaken pursuant to it with OIRA's assertion that it will respect existing statutory requirements in reviewing regulatory programs.

A second basic problem with OIRA's announced intentions concerning return letters is that OIRA has no legal power to announce authoritative constructions of statutes; that is, instead, the job of regulatory agencies where their statutory commands are ambiguous. In reviewing agency decisions for consistency with E.O. 12866, with the President's "policies and priorities," and with other statutes and Executive Orders, OIRA may not tell an agency charged with implementing a particular statute how to construe that statute. OIRA's description of the grounds for return letters remains ambiguous as to whether OIRA intends to return regulatory proposals to agencies on the basis of disputes over statutory interpretation; OIRA does not explicitly say that it will respect agencies' interpretations of the statutes they are charged with administering.

A third problem with OIRA's policy on return letters is that agencies are bound to follow the instructions of Congress even where these instructions may collide with the President's current "policies and priorities." OIRA may not interfere with agency action that is consistent

with the statute under which the agency operates simply on the ground that the President does not like the policies embodied in Congressional instructions.

It may well be, for example, that this Administration considers energy conservation to be only "a sign of personal virtue" rather than a requirement of law, but the Administration nevertheless has a duty to execute laws instructing agencies to set standards for energy efficiency. Once again, the 2001 OMB Report does not instill hope in this regard: the Department of Energy's energy conservation standards for central air conditioners and heat pumps are on OIRA's hit list (2001 OMB Report at p. 68).

A fourth problem with OIRA's aggressive use of return letters is that the office's traditional emphasis on conventional economic analysis and the predominantly economic training and experience of its staff might lead OIRA to disapprove of an agency decision simply because that decision departs from a tenet of conventional economics. But this would not demonstrate that the agency's actions were unjustified by its analysis; it would only prove that the agency's analysis rests on a different intellectual framework (a framework often based on an explicit charge from Congress). Although OIRA concedes that it "should be careful not to intrude too far into the agency's sphere of expertise and outside of our area of expertise" and that "it will not always be feasible for any agency to fully quantify and monetize benefits and costs" (2001 OMB Report at p. 40), its actual behavior again belies its expressions of deference to expert agencies. Indeed, it appears that OIRA is insisting upon quantification and monetization of regulatory benefits even where the relevant agency has concluded that quantification and monetization are either not possible or not necessary. This insistence on waiting for "the numbers" will, at the least, inappropriately delay agency action, and it may even stop many good rules in their tracks.

Three examples serve to justify this concern. First, OIRA has responded to a proposal by EPA to regulate "non-road" engines (such as boats, snowmobiles, fork lifts, and the like) by questioning EPA's conclusion that the savings in fuel costs alone that would be inspired by the rule justified the rule's costs. In so questioning EPA's conclusion, OIRA expressed skepticism that regulation could produce consumer savings where the market had not. (See http://www.whitehouse.gov/omb/inforeg/spark_engines_epa_sep2001.html.)

Yet EPA had amply documented the fuel efficiency gains (and thus fuel cost savings) that its rule would produce. (See EPA, Control of Emissions from Nonroad Large Spark Ignition Engines and Recreational Engines (Marine and Land-Based); Proposed Rule, 66 Fed. Reg. 51098, 51169-51171 (Oct. 2001).) In this case, it appears that OIRA's pre-analytic faith in market processes caused it to question the empirical analysis of an expert administrative agency. OIRA's response to EPA's claims of cost savings resembles nothing so much as the old joke about the economist who, upon seeing a 10-dollar bill in the street, refuses to pick it up on the ground that if it were really a 10-dollar bill, someone else already would have taken it.

Moreover, in the same post-review letter regarding the regulation of non-road engines, OIRA directs EPA to "make every effort to quantify and monetize all the benefits of the proposed rules." (See http://www.whitehouse.gov/omb/inforeg/spark_engines_epa_sep2001.html.) However, the task of quantifying – let alone monetizing – the kinds of health effects caused by the air pollution at issue in this proposal is staggering. If OIRA intends to try to hold up environmentally protective rules until quantification and monetization are both possible and plausible, such rules may not be issued for many years.

In a second example of OIRA's meddling with agency decision making, OIRA has presumed to tell EPA how it should review and develop national air quality standards under the Clean Air Act. Although, as noted above, the Clean Air Act forbids EPA to take costs into account in setting these standards (*Whitman v. American Trucking Assns.*, 531 U.S. 457 (2001)), OIRA has nevertheless seen fit to direct EPA to conduct its scientific analysis of the health and welfare effects of air pollution in such a way as to facilitate OIRA's economic analysis of air pollution regulations. (See prompt letter available at http://www.whitehouse.gov/omb/inforeg/epa_pm_research_prompt120401.html.) This directive to EPA not only threatens to distort the statutory framework under which EPA operates, but also inappropriately threatens to put EPA's scientists in the position of handmaidens to OIRA's economists.

A third and final cautionary example comes from a return letter to EPA dated October 2, 2001, discussing EPA's proposal to set federal water quality standards for Indian country. In this letter, OIRA criticizes EPA for failing to quantify costs and benefits. (See http://www.whitehouse.gov/omb/inforeg/epa_water_quality_rtnltr.html.) But

the Clean Water Act, pursuant to which EPA's proposal was made, does not require this kind of quantification in establishing water quality standards. (See 33 U.S.C. § 1313(c)(2)(A) (discussing criteria for setting water quality standards).) Moreover, a fundamental premise of the Clean Water Act was that water pollution control ought not await quantification of the costs and benefits of such control. Here again, OIRA's insistence on quantification both threatens to delay important agency rules and to undermine the statutory frameworks under which the agencies operate.

It is too early to tell exactly what effect OIRA's new assertiveness in judging agency action will have on the shape and scope of federal regulations designed to protect health, safety, and the environment. The early evidence, however, is not reassuring.

III. OIRA'S MISTAKEN ESTIMATES OF THE COSTS AND BENEFITS OF ENVIRONMENTAL REGULATION

In the 2001 OMB Report, OMB estimates both the aggregate costs and benefits of federal regulations (Tables 1 and 2, p. 11) and the costs and benefits for specific rules issued in 1999-2000 (Table 4, pp. 22-29).

OIRA's aggregate estimates of the costs and benefits of environmental regulation are based on obsolete, inaccurate, and conflicting data. In particular, lower-bound estimates of benefits are drawn from a 1991 study, which in turn relied on analyses published in 1978 and 1979 for key categories of benefits. Thus, OIRA's estimates inevitably overlook the benefits of regulations adopted in the last 20 years, as well as the substantial advances in the measurement and analysis of regulatory benefits that have occurred in those years.

To be specific, Table 2 unreasonably credits the possibility that, as of 1999, environmental regulation had produced *no net benefits* and, indeed, had produced substantial net costs on the order of $73 billion.

In presenting this striking and implausible finding, OIRA relies heavily on a 1991 study by Robert Hahn and John Hird. (See Robert W. Hahn & John A. Hird, The Costs and Benefits of Regulation: Review and Synthesis, 8 Yale J. on Reg. 233 (1990) [hereinafter "Hahn & Hird"]. Previous OMB reports provide citations for the estimates found in this year's report.) The Hahn and Hird study is too outdated to be of present utility:

most of the data on which the Hahn and Hird study was based are two decades old. For air pollution, the lower-bound benefits incorporated in Table 2 are from a *single year, more than twenty years ago* – 1978. (See Paul R. Portney, Air Pollution Policy, in *Public Policies for Environmental Protection*, at 57 Table 3-5 (Paul R. Portney ed., 1990) [hereinafter "Portney"].) Thus they do not reflect the enormous amount of information that has been developed in the last two decades concerning the adverse effects of air pollution on human health and the environment. They do not reflect the scientific literature finding an association between exposure to particulate matter and mortality – the very literature on which EPA has relied, in a retrospective study on the costs and benefits of the Clean Air Act, in finding enormous benefits in air pollution control. They also do not reflect findings over the last two decades on the adverse human and ecological effects of acid rain, ozone, and lead. The data regarding water pollution control benefits are also obsolete. The basic data come from a study performed by Myrick Freeman in 1979. (See Myrick Freeman III, Water Pollution Policy, in *Public Policies for Environmental Protection*, at 147 n. 28 (Paul R. Portney ed., 1990) [hereinafter "Freeman"].)

In addition, there is good reason to believe that the lower-bound estimate of benefits provided in the Hahn and Hird study, and implicitly incorporated in Table 2 of this report, dramatically understates the benefits of environmental regulation. Yet that lower-bound estimate is the only estimate that makes it possible for OIRA to speculate that environmental regulation might have produced negative net benefits as of 1999. Hahn and Hird's underlying data on the benefits of air pollution control reflect a value of a statistical life of $1 million, a value that is exceedingly low by current standards. (See Portney at 56.) This value had a significant effect on the results: three-quarters of the benefits reported in the study on which Hahn and Hird relied were human health benefits. (See Hahn & Hird at 273.) Moreover, OIRA's lower-bound estimate of the benefits of environmental regulation (again, incorporated implicitly in Table 2 of this year's report) reflects one researcher's own lower-bound estimate of the benefits of air pollution control. (See Portney at 55.) This estimate generally reflected studies finding "*little or no pollution damage to health, vegetation, and the like.*" (Ibid.) OIRA's lower-bound benefits estimate, in other words, embodies an assumption that air pollution causes little or no damage to humans and the environment. In estimating the benefits of air pollution control, this researcher also considered only actual improvements in air quality between 1970 and 1978, and thus he did not account for benefits

from preventing the degradation of air quality (nor, of course, for changes since 1978). As for the benefits of water pollution control, OIRA again chooses to rely (implicitly, again, in Table 2) on this same researcher's outdated lower-bound estimate.

Turning to the cost side of the ledger, OIRA continues to rely on Hahn and Hird, although no longer tilting so strongly toward their lower-bound estimates. Hahn and Hird's cost estimates are also problematic. Hahn and Hird obtained these estimates from a 1990 study by Michael Hazilla and Raymond Kopp. (See Hahn & Hird at 272, citing Michael Hazilla & Raymond J. Kopp, *Social Cost of Environmental Quality Regulations: A General Equilibrium Analysis*, 98 J. Polit. Econ. 853 (1990).) OIRA implicitly relies upon the *higher* of Hazilla and Kopp's pairs of estimates for both 1981 and 1985, although these estimates relied on different methodologies. In Table 2, OIRA also implicitly relies upon an EPA cost estimate of $54 billion. (This estimate is presented in Table 1 of the 2000 Report, one of the three sources for Table 2 in this year's report.) This estimate is obtained from EPA's 1990 report, "Environmental Investments: The Cost of a Clean Environment" ("Cost of Clean"), and EPA's Section 812 Retrospective on the costs and benefits of the Clean Air Act. OIRA did not make sure that the *costs* of water pollution control programs were not included in Table 2 unless their *benefits* were also reflected therein. Hahn and Hird's data on the benefits of water pollution control, for example, do not include the benefits of control of toxic water pollutants, whereas the costs of this program are provided in "Cost of Clean."

In short, for all of these reasons, OIRA was wrong to continue to rely on the Hahn and Hird study in preparing this report. It is important to incorporate the wealth of newer information and analyses that have become available since that study was published. In addition, because OIRA did not, in the 2001 OMB Report, repeat all of the criticisms and caveats contained in its previous reports regarding the Hahn and Hird study, readers of the 2001 OMB Report may fail to understand how completely implausible OIRA's no-net-benefits scenario for environmental protection is.

IV. COST-BENEFIT ANALYSIS

In revealing its plan to return rules to agencies when it does not believe the rules are justified by the cost-benefit analysis required by Executive Order 12866 (2001 OMB Report at p. 40), OIRA appears to

signal an intention to increase the role of cost-benefit analysis in federal regulatory policy. This development is unfortunate. Cost-benefit analysis is resource-intensive and time-consuming, and at the very least requiring agencies to jump through every analytical hoop presented by OIRA threatens to delay many important agency rules. Even more problematic, however, is the fact that cost-benefit analysis is systematically biased against the very health, safety, and environmental protections that OIRA has expressed a special interest in reviewing (and perhaps undoing). (See Analytical Perspectives at 419-21 (singling out health-protective regulation for special attention and criticism).)

In order to compare the pros and cons of any particular regulatory standard, cost-benefit analysis seeks to translate all relevant considerations into monetary terms. In cost-benefit analysis, therefore, both the costs of, say, putting a scrubber on a power plant to reduce air pollution and the benefits of doing so, including the saving of human lives and the prevention of debilitating and painful diseases, are presented in terms of dollars. The costs and (particularly) the benefits of regulation often will be realized in the future; in such cases they are also "discounted," i.e. treated as equivalent to smaller amounts of money today.

I have attached to this testimony a monograph on cost-benefit analysis, written by Frank Ackerman and me, which describes in detail the ways in which cost-benefit analysis is inherently unreliable and biased as a method for evaluating environmental regulation. (See attachment, Lisa Heinzerling and Frank Ackerman, "Pricing the Priceless: Cost-Benefit Analysis of Environmental Protection" (Georgetown Environmental Law and Policy Institute 2002).) Here, I briefly review our critique of cost-benefit analysis.

First, the process of reducing life, health, and the natural world to monetary values is inherently flawed. Efforts to value life illustrate the basic problems. Cost-benefit analysis implicitly equates the risk of death with death itself, when in fact they are quite different and should be accounted for separately in considering the benefits of regulatory actions. Cost-benefit analysis also ignores the fact that citizens are concerned about risks to their families and others as well as themselves, ignores the fact that market decisions are often very different from political decisions, and ignores the incomparability of many different types of risks to human life. The same

kinds of problems arise in attempting to define in monetary terms the benefits of protecting human health and the environment.

Second, the use of discounting systematically and improperly downgrades the importance of environmental regulation. While discounting makes sense in comparing alternative *financial* investments, it cannot reasonably be used to make a choice between preventing harms to present generations and preventing similar harms to future generations. Nor can discounting reasonably be used even to make a choice between harms to the current generation; choosing between preventing an automobile fatality and a cancer death does not turn on prevailing rates of return on financial investments. In addition, discounting tends to trivialize long-term environmental risks, minimizing the very real threat our society faces from potential catastrophes and irreversible environmental harms, such as those posed by global warming and nuclear waste.

Third, cost-benefit analysis ignores the question of *who* suffers as a result of environmental problems and, therefore, threatens to reinforce existing patterns of economic and social inequality. Cost-benefit analysis treats questions about equity as, at best, side issues, contradicting the widely shared view that equity should count in public policy. In fact, poor countries, communities, and individuals are likely to express less "willingness to pay" to avoid environmental harms, simply because they have fewer resources. Therefore, cost-benefit analysis would justify imposing greater environmental burdens on them than on their wealthier counterparts. With this kind of analysis, the poor get poorer.

Finally, cost-benefit analysis fails to produce the greater objectivity and transparency promised by its proponents. Cost-benefit analysis rests on a series of assumptions and value judgments that cannot remotely be described as objective. Moreover, the highly complex, resource-intensive, and expert-driven nature of this method makes it extremely difficult for the public to understand and participate in the process. Thus, in practice, cost-benefit analysis is anything but transparent.

Beyond these inherent flaws, cost-benefit analysis suffers from serious defects in practical implementation. Many benefits of public health and environmental protection have not been quantified and cannot easily be quantified given the limits on time and resources; thus, in practice, cost-benefit analysis is often akin to shooting in the dark. Even when the data

gaps are supposedly acknowledged, public discussion tends to focus on the misleading numeric values produced by cost-benefit analysis while relevant but non-monetized factors are simply ignored. Finally, the cost side of cost-benefit analysis is frequently exaggerated, because analysts routinely fail to account for the economies that can be achieved through innovative efforts to meet new environmental standards.

Real-world examples of cost-benefit analysis demonstrate the strange lengths to which this flawed method can be taken. For example, the consulting group Arthur D. Little, in a study for the Czech Republic, concluded that encouraging smoking among Czech citizens was beneficial to the government because it caused citizens to die earlier and thus reduced government expenditures on pensions, housing, and health care. In another study, analysts calculated the value of children's lives saved by car seats, by estimating the amount of time required to fasten the seats correctly and then assigning a value to the time based on the mothers' actual or imputed hourly wage. These studies are not the work of some lunatic fringe; on the contrary, they apply methodologies that are perfectly conventional within the cost-benefit framework.

Fortunately, there are many good alternatives to the use of cost-benefit analysis. In fact, virtually all of the environmental protections adopted in the United States over the last several decades were developed without the use of cost-benefit analysis. Technology-based regulation, market-based regulation such as pollution trading, and environmental right-to-know programs all have reduced pollution and protected the environment without relying on the problematic method of cost-benefit analysis.

Given the deep and varied flaws in cost-benefit analysis, given the fact that a lot of time and money are required to generate cost-benefit studies, and given that superior, time-tested regulatory alternatives are available, OIRA's apparent plan to increase reliance on cost-benefit analysis in evaluating environmentally protective regulation is misguided.

V. Cost-Effectiveness Analysis

The Analytical Perspectives document accompanying the budget unveils OIRA's plan to evaluate regulations that protect public health through use of cost-effectiveness analysis. As OIRA puts it, its goal is to "deploy risk-management resources in a way that achieves the greatest

public health improvement for the resources available – that is the most 'cost-effective' allocation of risk-management resources" (Analytical Perspectives at p. 419).

To this end, OIRA proposes greater reliance on what it calls "league tables" – tables used "to rank programs, technologies, regulations and therapies aimed at saving lives and improving public health" (Analytical Perspectives at p. 419). By way of example, OIRA provides a table purporting to show the cost per life-year-saved for ten regulations. The reported costs range from $0 to $1265 million (Id. at Table 24-1, p. 419).

League tables are among the most abused props in the literature criticizing health, safety, and environmental protection. Because the current head of OIRA, John D. Graham, misused such tables in the work he did as the director of Harvard's Center for Risk Analysis prior to coming to OIRA, there is good reason to be wary of OIRA's proposal to increase the role of these tables in evaluating programs aimed at protecting public health.

I critique Dr. Graham's previous work on costs per life saved in detail in a forthcoming article in the journal RISK. I attach the penultimate draft of that article, entitled "Five-Hundred Life-Saving Interventions and Their Misuse in the Debate Over Regulatory Reform," to this testimony. Briefly, the following are the major problems with both Dr. Graham's previous work and OIRA's current proposal to attach more significance to costs per life saved in evaluating life-saving regulation.

First, tables showing costs per life saved, including the table presented in the Analytical Perspectives document, employ the technique of discounting life-saving benefits. As noted above in Part IV, this technique, common to both cost-benefit and cost-effectiveness analysis as practiced by Dr. Graham and OIRA, misguidedly treats the welfare of future generations as trivial. Discounting also vastly understates the benefits of reducing diseases that have a long latency period, such as cancer. By employing discounting, league tables systematically favor health measures over safety measures because long-latency diseases such as cancer are often the only quantifiable benefits of health regulation. Thus, in most cases, the only health benefits included in these tables are also benefits that are discounted. It is no surprise, then, that OIRA concludes that safety rules tend to be more cost-effective than health rules (Analytical Perspectives at 420). This is a conclusion built into the assumptions underlying these league tables.

Second, tables showing costs per life (or life-year) saved fixate on only one benefit of programs that save lives – that is, lives saved. However, many life-saving programs do more than save lives. Environmental programs, in particular, have multiple benefits, only one of which is to save lives. Environmental programs prevent nonfatal illnesses, fatal illnesses that cannot be quantified (and that therefore do not figure in league tables), ecological harm, and the intangible but real harms to individuals and communities that result from involuntary, insidious, cumulatively harmful exposure to toxic chemicals. League tables reflect none of these important benefits. Although OIRA notes that many life-saving programs have benefits other than saving lives (Analytical Perspectives at 420-21), in practice, reliance on league tables has invariably led to a fixation on lives saved to the exclusion of all other benefits.

Third, OIRA's proposal to use quality-adjusted life-years saved as the measure of the effectiveness of life-saving programs is also problematic (Analytical Perspectives at 421). The upshot of this criterion is that regulatory programs that save the lives of the elderly will be deemed less effective than those that save the lives of the middle-aged or young, and that programs saving the lives of the ill or disabled will be deemed less effective than those saving the lives of the healthy and non-disabled. The criterion of quality-adjusted life-years is at odds with the concept of equality that underlies our constitutional system. What is more, the introduction of this controversial measuring rod through the obscure and opaque vehicle of league tables almost guarantees that there will be no public discussion of this important policy issue. It seems reasonable to suppose that if the ordinary citizen were aware of OIRA's proposal, she would not like it; imagine putting to a vote the question whether age and health status should be a basis for rationing environmental protection.

Fourth, OIRA's construction of the league table in the Analytical Perspective document combined discounting and life-years in a way that is truly bizarre. Take OIRA's calculation of the benefits of a regulation on child restraints as an example. In that case, OIRA assumed that the average age of the people whose lives would be saved by this rule was 3 years old. This child has a remaining life expectancy, OIRA calculated, of 75 years. After discounting, OIRA concluded that a child whose life was saved by this rule would lose, not 75 years of life, but only 14.3. (Analytical Perspectives at p. A-2.) How was this stunning reduction in regulatory benefits made

possible? Although OIRA does not explain its methodology in any detail, it seems reasonable to conclude that OIRA proceeded by taking each life-year saved by the rule separately and discounting it from the year in which it will be lived. (This would be consistent with the methodology Dr. Graham used before coming to OIRA. See attachment, Lisa Heinzerling, "Five-Hundred Life-Saving Interventions and Their Misuse in the Debate Over Regulatory Reform," RISK (forthcoming 2002).) Using this approach, a 3-year-old child's last year of life would be discounted for 75 years, the second-to-last year of life would be discounted for 74 years, and so on. The upshot of this strange approach to discounting is that *no one ever loses a whole life.* Moreover, given that the life-years of the young will be discounted over a longer period than the life-years of the old, it turns out, in OIRA's analysis, that the old are valued pretty much like the young after all; notice that the 3-year-old with 75 years left to live magically becomes a person with only 14.3 years left to live. (As another illustration of the same basic problem, note that the Occupational Safety and Health Administration's rule limiting exposures to methylene chloride in the workplace was transformed from a rule saving 21.5 life-years for every life saved, to one saving only 2.83 life-years, through the perverse magic of discounting. (Analytical Perspectives at p. A-4.)) OIRA's proposed use of league tables to evaluate the wisdom of life-saving programs threatens to undermine many such programs while at the same time remaining completely opaque to the average citizen.

League tables are, in short, a biased, inaccurate, and non-transparent way of expressing the effectiveness of life-saving regulations, particularly environmental regulations. As the head of Harvard's Center for Risk Analysis, Dr. Graham frequently invoked league tables as a way of criticizing health and environmental regulation, yet his criticisms reflected a misinterpretation of his own research. (See attachment, Lisa Heinzerling, "Five-Hundred Life-Saving Interventions and Their Misuse in the Debate Over Regulatory Reform," RISK (forthcoming 2002).) The anti-environmental slant of Dr. Graham's previous work bodes ill for environmental regulations reviewed by this administration.

CONCLUSION

Let me conclude on a (mostly) positive note. OIRA has, in this administration, done more to increase the transparency of its work than any previous administration. One can now find, on OIRA's web page, return letters, prompt letters, and other documents relevant to OIRA's work. One

can also find reports of meetings with OIRA stakeholders. In some cases, however, these disclosures can be more frustrating than informative. To learn, for example, that top OIRA officials met with agricultural interests about EPA's CAFO rule a month before OIRA put that rule on its hit list (see report of meeting on OIRA's web page) is to be given a reason for suspicion about the motives for placing this rule on the hit list without being given enough information to confirm or reject that suspicion. In order to overcome its history as an office shrouded in secrecy and steeped in anti-regulatory bias, OIRA should make every effort to broaden and deepen its disclosures of the bases for its decisions.

Mr. OSE. Thank you for joining us today. We will now go to questions for our second panel, and we will just alternate back and forth for 5 minutes.

Dr. Miller, one of the things in your written statement as well as your verbal, is that the regulatory agencies have a disincentive or strong incentive to avoid OIRA's demands for information. As you heard me asking Dr. Graham and Mr. Sullivan, I am trying to figure out how to basically give them the tools so that we can get this information up where we have to make decisions.

How would you recommend going about facilitating that transfer of information from the agencies to OIRA so that they can forward it to us?

Dr. MILLER. Well, Mr. Chairman, I think you ought to put a lot of pressure on the agencies and support OMB in soliciting the information and processing it in the right way. If they don't give the right guidance, you should chastise OMB for that. But I think you should encourage the agencies and encourage your colleagues on the authorizing committees and the appropriation committees to hold the feet to the fire of the heads of these agencies to make sure that they respond with this information.

In the end, I think you ought to be making the decisions. I mean, I think on this you ought to have a regulatory appropriation process that parallels the spending appropriation process.

I have heard the comments at the other end of the table that somehow that there are biases here, as if the agencies don't have their own biases. They do. Anyone who has reviewed the regulatory process knows the agencies have their own biases. I mean, they want to do their own thing. They don't want to be bothered by any outside influence. That is one reason they don't give up the right information very readily.

But, I think, if you made the decisions, and you required them to give you the information in a consolidated way, I think that would solve the problem.

Is it easy to get some of this information? No. But I don't think there is any more bias against regulation because you come up with cost data than there is bias against spending programs because you don't have benefit data. I can say this fairly authoritatively because I put together budgets. Where in the budget, the spending program, are all of these analyses of benefits? They aren't there. Agencies come in and talk about what they do. Members of Congress talk about them; experts come in and talk about them. But there is no quantifications of benefits in the same way that some people say, well, you have got to have the quantification of benefit in regulation before you can even talk about the issues.

Mr. OSE. Well, let me explore that for a minute, because this is one of the areas that I have some difficulty with, and Ms. Heinzerling mentioned it. That is, how do you establish a template where you know that the assumptions you use in one agency are the same assumptions you use in the next and the third? How do you go about doing that?

Dr. MILLER. Well, Mr. Chairman, it is a messy process. You would never get it perfect. You just try and you work on it. I remember when I was a colleague of Dr. Hopkins how he used to sit down and write the instructions to the agencies about how they

would put the data together, and what kind of assumptions they would use, etc.

It is never a perfect process any more than the budget process is a perfect process or the spending part of the budget is a perfect process. But, again, right now what you do as Members of Congress—and I don't want to oversimplify it, but you know the truth of what I am about to say—you essentially tell the agencies to go do their thing. You give them a financial budget that they can spend, but in terms of the regulation, you give at the most just general guidance, you leave it up to them to carry out these broad mandates. You don't have that kind of special oversight of the agencies and what they are doing and the costs that they are imposing, that you have in the spending side of the budget when you decide on appropriations.

And, if you, Congress, had to appropriate regulatory resources—that is, the costs imposed by the agencies in the same way it does the spending resources—I think you would get a lot better, a lot more efficient, effective decisionmaking on the regulatory side.

Mr. OSE. I want to examine this, because this is an idea that has been rolled around by the staff in front of me. When you talk about appropriating regulatory resources, you are saying to any given agency, you may impose on the American people X, cost of X in total for the year for any regulatory action or all regulatory actions, period?

Dr. MILLER. Yes.

Mr. OSE. And they have to set a priority in terms of what they want to use that for?

Dr. MILLER. Well, Mr. Chairman, there is a tradeoff. I don't think you would any more than say tell the Department of Defense, go spend $100 billion on the war, or defending this or that or whatever. You would be very specific. Do you want to have this plan, or this weapons system? You are going to have this kind of mobility, and you tell them. You don't go down to the detail of telling the individual decisionmaker down in the field exactly what to do.

The same way on the regulatory side. You wouldn't just say to EPA, you have $110 billion in costs you may impose, you would talk about the different programs they have, and have them justify spending this much in this area and that much in another area.

By the way, there is a technical——

Mr. OSE. We are going to have to come back. My time has expired here. So Mr. Tierney for 5 minutes.

Mr. TIERNEY. Interesting that you called the Department of Defense in for an example, because they haven't balanced their books for years. They are about $1.3 trillion of unaccounted-for resources out there, so, unfortunately, Congress does often give them the money and tell them to go spend it.

I am concerned, from some of my earlier comments, you might be able to tell, about the process here and who has been involved in it.

Let me ask you, Ms. Dudley, some questions about your organization. Isn't the director of the Mercatus Center's Regulatory Studies Program Wendy Gramm?

Ms. DUDLEY. Yes, she is.

Mr. TIERNEY. This is the same Wendy Gramm that, when she was at the Commodity Futures Trading Commission back in January 1993, championed what some would call an Enron-friendly process of exempting some energy derivatives from regulation, right?

Ms. DUDLEY. I actually worked at the CFTC, but not at that time. As I understand, she was involved when it was proposed. But the person who came after her was the one who actually issued that.

Mr. TIERNEY. Well, that was only a matter of timing. She was the one that generated it and got it going and had it all but out the door, right?

Ms. DUDLEY. It was not done at her time at the CFTC. It was begun.

Mr. TIERNEY. So it has nothing to do with the person that came behind, except it just happened to be done technically when that person came along.

Ms. DUDLEY. No, I don't think so. I think the final rule was issued, not by Wendy but by her successor.

Mr. OSE. Will the gentleman yield for a moment? We will stop the clock here. I need to ask the relevance of a regulatory decision to the issue of regulatory accounting? I am willing to proceed, but——

Mr. TIERNEY. Well, we are going to proceed. And obviously I am going to ask the questions I want to ask. But my line of questioning here is I want to show what I think is very clear bias by some of the people that contributed greatly to the report that was done by OIRA, and it is a legitimate line of reasoning.

Mr. OSE. In terms of the 23 items?

Mr. TIERNEY. In terms of the 23 items, 14 of which are from this group, Mercatus Center, who I will put information on the record, I think, have a very clear and to me disturbing bias.

Mr. OSE. All right. I am willing to proceed.

Mr. TIERNEY. I would expect so.

Did the Mercatus Center receive $50,000 in donations from Enron over the past 6 years?

Ms. DUDLEY. I read the city paper article, and that is what it said. But let me—may I say something?

Mr. TIERNEY. Did you also get $10,0000 from Chief Executive Kenneth Lay and his wife?

Ms. DUDLEY. I am not the right person to ask about funding, because we have——

Mr. TIERNEY. If you don't know, you only need to say you don't know.

Ms. DUDLEY. Well, I read the city paper.

Mr. OSE. Ms. Dudley, if I may. You are under oath. If you don't know, you just need to say, "I don't know."

Ms. DUDLEY. Thank you. I don't know.

Mr. TIERNEY. You don't know. All right. The Koch Foundation, which is backed by money from the oil conglomerate Koch Industries, has provided $16 million in grants to Mercatus, hasn't it?

Ms. DUDLEY. I don't know.

Mr. TIERNEY. And, would $16 million in grants make up over a third of your, Mercatus, budget?

Ms. DUDLEY. I am sorry, sir. I don't know.

Mr. TIERNEY. You don't know what the budget is for Mercatus?

Ms. DUDLEY. No. If I can just explain why I don't know, it might help with this line of questioning. We have a separate group that does the fundraising, and the research team, which I head, is kept separate from that so that we can be objective.

Mr. TIERNEY. So you don't know what the budget is?

Ms. DUDLEY. No, I don't.

Mr. TIERNEY. And—well, let me do you the favor. Why don't we ask you if you can submit those questions to somebody within Mercatus and have them respond to them for us on that basis, if you would.

Ms. DUDLEY. Certainly.

Dr. MILLER. Mr. Tierney, can I just make a comment? I am a member of the Board of Visitors of George Mason University, of which Mercatus is a part. We are very proud of that institution. It is an excellent institution. It does cutting-edge research in the areas of regulation and ancillary programs. It has first rate people attached to it. And let me just go back to this——

Mr. TIERNEY. You are taking my time. I am not going to let you take up my time. I will submit for the record an article and ask that be put in the record. It tells us a little bit more about Mercatus Institute and that—and you can put all of the things in writing.

Dr. MILLER. I would like to contribute to the record my response to that very article.

Mr. TIERNEY. You may.

Mr. OSE. We will accept the article for the record. And the time is Mr. Tierney's.

Ms. Heinzerling, you didn't get a chance to really flush out a lot of your written testimony, but in that you outlined a number of issues that you were going to discuss. One example—give me some examples of how the OIRA report reveals OIRA's intention to intrude upon the decisionmaking prerogatives of the administration's agencies in such a way as to promote the unwarranted delay of meddling with the agencies' work, as you wrote in your report.

Ms. HEINZERLING. Yes. The OIRA's revitalization, I should say, or vitalization of the return letter suggests that OIRA intends to send back to the agencies any rules that it finds objectionable on a number of very broad grounds, including inconsistency with the President's policies and priorities, inconsistency with the cost-benefit analysis that OIRA thinks is appropriate, inconsistency with the statutes and executive orders under which the agencies operate.

With all of those very broad authorities that OIRA has asserted, it is almost inconceivable that a rule that OIRA doesn't like couldn't be fit into one of those authorities.

And, as we have suggested this afternoon, 20 rules have already been sent back, which is more than in the entire 8 years of the previous administration. Not only that, but in addition to the return letters, OIRA has been issuing prompt letters which aren't always rules that prompt regulation, but that are letters that nudge the agency in one direction or another.

So, for example, one of the letters I mentioned suggested to EPA that it should view—consider the health effects of air pollution and

then look at the study showing the effects from air pollution in such a way as to facilitate economic analysis of national air quality standards. That suggests to me just a role for OIRA that is well beyond its expertise and authority.

Mr. OSE. I am curious, but before I ask my question, Dr. Miller, you will be provided an opportunity to respond.

Dr. MILLER. Thank you.

Mr. OSE. We may well do it in writing, but you will be given an opportunity.

Ms. Heinzerling, I am a little bit confused. The standard you set for Dr. Graham's efforts on the previous 8 years, under the previous administration in which no rules were returned, there were no prompt letters and the like, I am kind of curious, what is your vision of OIRA's role?

Ms. HEINZERLING. I think OIRA can play an important role. As I understand it, this was the role that was envisioned originally for OIRA, an important role in coordination. It may be that you have two or three agencies that are attacking a similar problem. And it is helpful for them to know what each other is doing and helpful to have a centralized authority that is able to say, you know what, the FDA is regulating this, and the EPA is trying to regulate this, and let's have them talk to each other.

That to me seems sensible. What I don't think is sensible is a small cadre of civil servants located in the White House, comprised mostly of economists, who are empowered to send rules back to agencies on the grounds that those economists don't agree with the analysis done by the agency, when an agency like EPA is not predominately charged with economic analysis. So coordination, yes; second guessing, no.

Mr. OSE. One of the things that I find interesting is, you know, someone sitting over at OIRA—I almost said an OIRA-anian, as Dr. Miller said—might find in your example FDA and EPA's analyses to be mutually exclusive and send one back. The standard that you're using to evaluate the return would suggest that action is somehow invalidated.

Now, Dr. Miller, you wrote the Executive order that set up OIRA. What was the purpose for doing so?

Dr. MILLER. Well, Mr. Chairman, Boyden Gray and I share some co-authorship in that Executive order. But the basic thrust out of the box was to get the attention of the agencies who were running roughshod over the review process set up in the previous administration and to say: you must do the analysis, you must provide a factual analytical basis for making your decisions within the discretion afforded by law. If the law does not give you any discretion, we don't touch it. But if you have discretion, or within the discretion you have, you must do this analysis and make decisions based on the analysis.

Ms. Heinzerling surprises me that she does not know, for example, that during the very first year of OIRA, during the first program, then-Vice President George Bush invited comments from outsiders about regulations that should be reviewed and addressed by OIRA. And, we had a number of press conferences to talk about them. And it might surprise some to find out that the list had com-

monality. The lists from academics, the lists from business, the lists from others, had very much——

Mr. OSE. What do you mean, commonality?

Dr. MILLER. You had the same regulations on the lists. So that's one reason I'm surprised that someone takes a list and says, well, this organization listed 10 of the 23 or whatever, and therefore those 10 must have been on there just because this organization suggested them. We found that everyone knew what the problem regulations were and they listed those regulations.

So the Vice President of the United States made a determination of which ones that we would address because he was head of the Task Force on Regulatory Relief under President Reagan. But they were regulations that many, many different organizations indicated needed to be reviewed. I suspect that the same thing is true of the list that OIRA has now.

Mr. OSE. When the Executive order went out, did you publish a comment period so you got input? I'm trying to figure out the due process.

Dr. MILLER. No. No. The President issued the Executive order. There were some followup guidance to the agencies that were the subject of some comment. We had an enormous flood of information and comment on all the things that we were doing. We kept the big docket room in the new Executive Office Building. There was just a flood of information that could be accessed by anyone and everyone.

Ms. CLAYBROOK. Mr. Chairman, could I comment on that?

Mr. OSE. I would be encroaching on his time. We'll come back to it. Mr. Tierney for 5 minutes.

Mr. TIERNEY. You may comment on that.

Ms. CLAYBROOK. First of all, in April 1981, the first review of regulations, a report was put out called "Actions to Help Detroit." That was the name of it. It was a list of environmental and safety regulations that the Reagan administration wanted to revoke to help Detroit because it was in financial trouble. Yet, neither the safety statute nor the clean air or other fuel economy statutes in any way suggested that was a criteria for revocation of regulations.

Second, the people who did submit requests to the White House at that time were primarily the auto industry for that report. The consumer groups were never asked to even meet or come or have anything to do with it. So I think that what Dr. Miller said is not accurate.

Third, there were hearings all during the 1980's, which I could reference and submit for the record if you wish, about how secretive OMB-OIRA was and how it was acting outside of its statutory authority. The only statutory authority it had until the 1990's was the Paperwork Act, and yet it used it to—its muscle, if you would, with the budget authority—to quash opposition to the Reagan administration's revocation of health and safety environmental standards.

Mr. OSE. Mr. Tierney for 5 minutes.

Mr. TIERNEY. I would like you to submit that information for the record if you would.

Mr. OSE. Without objection.

Mr. TIERNEY. Can you tell me, Ms. Claybrook, how it was that somebody would go about calculating the consequences or the benefit of improved safety or improved health or saved lives, so that when you're doing that analysis you have some numbers that are reliable to work with?

Ms. CLAYBROOK. At the National Highway Traffic Administration, there are two major data sources. One is the fatal accident reporting system, which is all fatal crashes in the United States; and the other is the national accident sampling system, which is a sampling of fatal and other types of crashes, nonfatal crashes. That system is grossly underfunded, as I mention in my testimony. It's one-third the size it was when I was there. That's it. That's the money that the agency has. It's not a small amount of money in citizen terms, but in agency terms it's a footnote.

And, these data are not sufficient to get the kind of information that you need, plus the fact you need discretionary money so that, if an issue arises such as children being killed by air bags, the agency has the capacity to go out and do special studies to evaluate—or rollover with the Ford/Firestone case. So you do need to have more resources to do that.

The cost data come from industry. In the 1970's, when we were regulating fuel economy, the agency had $10 million and we knew about every transmission plant, every engine plant. We were able to rebut or analyze or question the cost data that came in. Today, the agency doesn't have any money to do that, so the cost data just come in and they're accepted and they're presumed to be accurate, which they absolutely are not.

I would like to submit for the record some information about some studies that have been done that shows the gross overestimation by industry when a regulatory process is going on that later shows that it's inaccurate.

That's one of the problems with the regulatory accounting system, because it just uses whatever information is in the record from, let's say, 1988 or 1992 that the industry submitted. There's no re-analysis of it now. So the numbers are completely wrong and completely out-of-date. Because one of the things I will say as well about the industries that are regulated is that they find very innovative and creative ways to meet a regulation when they have to, and they can cut costs like mad.

Mr. TIERNEY. I recall some early hearings we had last year, or actually the year before, with the Administrator of the EPA indicating that the Clean Air Act—the industry had six times more of an estimate of what it was going to cost to implement some regulations. In the final analysis, it was one-sixth of what their figures were on that.

You indicated, Ms. Claybrook, during your testimony that you would really want to talk a little bit about a tire monitoring return letter.

Ms. CLAYBROOK. Yes, I would, if you don't mind, Mr. Chairman, I would appreciate very much the opportunity to do so. The law that came out of the Firestone/Ford Explorer problem, the TREAD Act, required NHTSA to issue a tire monitoring system, which is an indicator of the dashboard of your tire inflation, because it's im-

portant for safety and fuel economy and there are big benefits to such a system.

The agency did an enormous amount of work. This is an issue that's been around since the 1970's, when, actually, the agency first proposed it, and then it was eliminated by the Reagan administration and the "Actions to Help Detroit" report. And so, it's now required by Congress in the year 2000. The agency set about doing it. They did a lot of tests. They did a lot of research. They had 20 different meetings with all different industries concerned about it. The tire industry supported it; the auto industry didn't.

They came out with a recommendation, after a rulemaking proceeding and the proposal, the final rule, to have a direct monitoring system so all four tires could be measured. The OMB-OIRA just recently sent it back to the agency and is going to insist that, instead, the agency publish a rule that only monitors one tire. Now, most cars have four tires. The consumer, I am concerned, is going to say, "This is stupid government regulation all over again, blame the National Highway Traffic Administration, the Department of Transportation," when in fact it comes out of the brain child of some economists at OIRA.

Their basis for this is support for an indirect system, which, by the way, doesn't monitor if you're on a long road, and/or flat surface, which I suppose some of the members of this committee who live in Western States would be concerned about; it doesn't monitor when the car is not moving, so when you're at the gas station you can't figure out how much air to put into your tires. And, it only registers one tire. And, in fact, John Graham calls it the one-tire standard. And, it costs less, but on a net basis—the direct system is $15 more on a net basis; that is, after saving fuel efficiency and so on.

What Graham wants is for the agency to issue a rule that allows the indirect system, which only works with anti-lock brakes, but less than two-thirds of the cars in the United States have anti-lock brakes. So when you add the anti-lock brakes in to use with the indirect system, then it is much more costly, and plus the fact all the studies show that anti-lock brakes on cars aren't that valuable. They don't really produce much. Graham misleadingly says that they do. It's not good statistical information. He misuses it. So this is an example to me of complete second-guessing by Graham.

If you look at the entire record, you'll see that OMB is completely wrong. Public Citizen will sue the minute that rule comes out. I believe we will win. I believe that it will be a great example of the courts putting a limitation on OIRA in the future. That's what we will seek. I would much rather have the four-tire rule than a one-tire rule.

Mr. TIERNEY. Thank you.

Mr. OSE. I am curious. If I understand correctly, this is the document referenced with the 71 items that was reduced to 23 testimony items? I see the witnesses shaking their heads so I assume—I want to make sure I'm correct on my source.

Now, as I look through this, there is a page per regulation, and then in the back there's a summary of the people who offered comments to this particular document. There are a total of 33, includ-

ing yours truly, and Mr. Waxman who offered comments. I don't quite understand. Were you aware of this document?

Dr. MILLER. I haven't seen the document, no, sir.

Mr. OSE. Dr. Hopkins, were you aware of this document entitled "Making Sense of Regulations: 2001 Report to Congress on the Cost and Benefits of Regulations and Unfunded Mandates on State, Local, and Tribal Entities"?

Dr. HOPKINS. Yes, I have seen that document.

Mr. OSE. Ms. Dudley.

Ms. DUDLEY. Yes, I have.

Mr. OSE. Ms. Claybrook.

Ms. CLAYBROOK. Yes, we were. But I would like to have the opportunity to explain, if I could, why we didn't make any suggestions.

Mr. OSE. Were you aware of this document?

Ms. HEINZERLING. Yes.

Mr. OSE. This was put out for public comment last spring, if I'm correct. Dr. Miller, did you offer—you didn't know about it.

Dr. MILLER. I didn't know about it.

Mr. OSE. Dr. Hopkins.

Dr. HOPKINS. I did not offer comments, though I knew I had the opportunity.

Mr. OSE. Ms. Dudley.

Ms. DUDLEY. Yes, Mercatus did.

Mr. OSE. You did send it in, obviously. Good point.

Ms. Claybrook.

Ms. CLAYBROOK. We submitted comments in May on the basis for the analysis. We did not submit suggestions for regulations to be revoked. That's what that list of 21 or 23 or 71 is.

Mr. OSE. Ms. Heinzerling, did you offer any comments on this?

Ms. HEINZERLING. I was a peer reviewer for that document.

Mr. OSE. So you were aware of it.

Ms. HEINZERLING. Yes.

Mr. OSE. I just can't—I'm trying to figure out why—it would seem to me if you're affected by these rules, you would offer a comment. Obviously as a peer reviewer, you can't. So you kind of have to excuse yourself, it would seem to me, as a peer reviewer of the document itself. Is that accurate?

Ms. HEINZERLING. May I comment on your question?

Mr. OSE. Certainly.

Ms. HEINZERLING. I am not sure about whether there were business interests that were encouraged more heartily than other interests to comment on that report. I don't know. There were news accounts to that effect. I can't—I can't comment on whether those are reliable, but there were news accounts to that effect.

The second point, OIRA has a very long history of being, especially in Republican administrations, with due respect, it has a history of being anti-regulatory. One can imagine when OIRA asks are there any regulations out there that you'd like reformed—for one thing, the public interest community often is in favor of regulations, so they don't want them to be erased.

The second point is I can imagine the public interest community being skeptical about the effects of its comments on an agency that

historically has not treated the public interest community with a great deal of solicitude.

Mr. OSE. If I might just interject one thing, in September 1997, again in 1999, and again in 2000, there were requests put out for recommendations to reform or eliminate certain regulations. Now, I am new to this job but I don't remember those being—I mean, your words, Republican administrations. So I'm a little bit confused. It would seem to me that OIRA under the Executive order, that was written by Dr. Miller and Boyden Gray, if I recall.

Dr. MILLER. Right. I did the economics, he did the law. It was a division of labor.

Mr. OSE. It would seem to me that the regulatory accounting process requires a periodic review of things for recommendations of reform or elimination. Is my logic wrong?

Ms. CLAYBROOK. Could I answer that question? First of all, Vice President Gore had, before this law was passed, an ongoing program, agency by agency, asking whether there are any rules that are in need of being eliminated or updated or any other——

Mr. OSE. Did he find any?

Ms. CLAYBROOK. They did. There were pictures of him with all these rules that they named. Most of the time what happened, was that it was a bottom-up process; that is, it went agency by agency. So organizations generally tend to be focused on particular areas of expertise. I have expertise in auto safety; David Flack in our office has expertise in OSHA. So, for example, those are the agencies that we tend to connect with. So when the agency asks, are there any rules that you would suggest go one direction or another, that's when we respond. When OIRA comes out with something much more generic, it tends not to filter down.

Mr. OSE. My time has expired. I'll come back. Mr. Tierney for 5 minutes.

Is it your position that OIRA is not empowered to suggest reforms or regulations for reform or elimination?

Ms. CLAYBROOK. I think that a government agency has very broad authority including OIRA. The question is can it impose it. That's a very critical question here, Mr. Chairman. For example, can OIRA command that a regulatory agency change a rule because the economists at OIRA want them to? I don't think so. I think that the statutes that are written that I know of—if I could just finish that, Mr. Chairman—the statutes are written delegating authority to the Secretary of Transportation, to the Secretary of HHS. They don't delegate it to OIRA. OIRA's authority is very specific. It's the Paperwork Act, it's overseeing SBRFA, it's your Accounting Act. They're very, very specific but they're not ones that give them, in my view, the authority to command an agency to eliminate or change a rule.

Mr. OSE. Does the Executive order that you and Mr. Gray wrote provide OIRA with the authority needed, under Ms. Claybrook's scenario, to send those back?

Dr. MILLER. No. We can send them back and ask the agency to reevaluate them, but technically Ms. Claybrook is right in the sense that the agency head has the discretion to make the determination. But the agency head works for the President of the United States.

Mr. OSE. So whether it's Vice President Gore's review or Vice President Cheney's review or Vice President whoever's review or the President's review—well, although in the President it might be a different case—the agency heads have the ability to put these things in the Federal Register?

Dr. MILLER. They can put them in the Federal Register and they can make the final determination subject to the ordinary kinds of questions that someone might raise, and the courts might say that you didn't have a sufficient evidentiary basis and all of that, but they do have the authority to do that. But they work for the President of the United States, and the President can remove them at will.

Mr. OSE. We're going to recognize Mr. Tierney for 7½ minutes.

Mr. TIERNEY. I don't think anybody has a problem with people asking, you know, for people to comment on regulations. I think that would be beyond the pale if we had a problem with that. The issue, I think, arises when we have secret meetings with select groups of industries that are regulated and have a serious interest in it, and nobody else is invited. They come in and all of a sudden, presto, we got a hit list out there. Then Dr. Graham is reported to be involved in it, and then all of a sudden the committee staff is still involved in it only.

But the long and the short of it is the committee staff comes up with a list, Graham comes up with a list, and surprisingly enough, there's a lot of overlap despite a lot of denial. That's the problem.

I think that together, with 14 out of 23 of them coming from an organization that is heavily funded by a lot of people who are regulated, it just happens to be they've got questions with the things that are regulating them. So I guess I look at this thing as OMB has the authority to send a letter—return letter. And, I suppose that you can tell me that the agency has the ability to just kick it back and say, no, we like it the way it was the first time.

What's the likelihood of that happening when you have got OMB sitting at the right hand of the President, obviously you know, very close, and under the direction there, sending a return letter and having the agency head, who is a subordinate of the President, actually standing up to that and saying that oh, no, we're going to plow forward because we think we had it right the first time.

Isn't it more likely, I would ask anybody that wants to answer, isn't it more likely that you will get the experts at the agency to kowtow to the inexpertise or the lack of expertise of the economists at OIRA?

Ms. CLAYBROOK. That's exactly what happened with the tire monitoring rule. In fact, they're going to issue the authority to allow an indirect system. So—the one-tire standard. So that's exactly what does happen. We just had, of course, an agency head, former Member of Congress, fired for disagreeing with the President's budget. I should think that if they disagree with the regulation that's the end of that.

Mr. TIERNEY. My additional fear is they're going to now hire scientists, as I think somebody was mentioning, that they are going to hire scientists from the same kind of group that they went to get advice on these regulations, people with a stacked deck and a real preconceived idea of where they want to go. It just spells disas-

ter as far as I can see. It looks like there's a real concern here that this is an agency that's being used for a purpose other than what was originally crafted.

Ms. CLAYBROOK. Mr. Tierney, could I make one more comment? And that is, the Congress considered for 20-odd years, since 1981, a regulatory reform bill which has never passed. It's a bill that Dr. Graham supported vigorously, and it's never been enacted into law. One of the things that it had in it that we objected vigorously to was peer review of agency regulations, which take a lot of additional time; in addition, there are no conflict-of-interest standards so that industry people who have a self-interest can sit on the peer review panel.

Dr. Graham has announced that he is going to reinstitute peer review and that he is going to have it be that if an agency does peer review, then their rules are more likely to be accepted. If they don't get peer review, they're going to get heavier scrutiny. What you're having is, if there's any extension of authority beyond the scope of their statutory basis, to me it is in this office of OIRA and its head, Dr. Graham. So he is assuming the authority to do this kind of thing. It's in this report. It's one of the elements that he spells out in the back of the report, a number of areas that they're going to be issuing new guidelines.

For example, they're not reissuing the Executive order. A big stink was made about the Executive order when Dr. Graham was up for confirmation. Senator Lieberman made a huge issue of it. So Dr. Graham is not going to rewrite that because it will attract a lot of attention. He's going to issue guidelines, which is one of the things he mentioned today. These guidelines are essentially going to be the equivalent of an Executive order, but they're going to be issued by Dr. Graham.

Mr. TIERNEY. Sometimes people confuse cute for smart. But the problem with this whole thing is, you know, there just seems to be no real balance to the system. And, I have to ask Ms. Heinzerling, if you were one of the peer people that looked at that report, what would you do to set this issue straight? How would you get OIRA to function in a way what we could trust that it wasn't biased and that it didn't have preconceived notions, that it actually was doing its legislative job?

Ms. HEINZERLING. That's a really hard question. I guess I would say, first of all, that OIRA operates, as I say, with this history of interference with agency rulemaking and the history, at least through most of its experience, of an anti-regulatory bias. It's just hard to take out of an agency that exists. It's hard to take out of that office. Many of the staff people there have been there for years. I've heard EPA staffers tell me that they won't even propose some regulations because they can't get it by the desk officer in charge. Which goes to your question earlier about the influence of these interventions on agency decisionmaking.

So I almost wonder whether a fresh start is necessary in order to sort of root out this kind of deregulatory bias or anti-regulatory bias. I think OIRA serves some important functions. I think paperwork reduction is important. As I say, I think the coordination among agencies is important.

What has developed now, at least as I see it, is an office that has a strong bias toward economic analysis of regulations, even in cases where those regulations, as I've said, are not predominantly economic. So you get a misfit between the agencies saying, look, we're going to increase visibility in the Grand Canyon, we're going to save lives, we're going to, you know, reduce asthma in kids, and the office within the White House that's charged with reviewing those has by its history and by the disciplinary expertise of the personnel—doesn't listen to those kinds of qualitative kinds of benefit statements.

So I think it's hard to—I think it's hard to reform within OIRA if OIRA is to say—to imagine an OIRA that performed this kind of cost/benefit analysis or reviewed it, that didn't interfere with what agencies do.

Mr. TIERNEY. Thank you.

Mr. OSE. The gentleman yields back.

Dr. Hopkins, what is your view of the utility of agency-by-agency data on regulatory accounting?

Dr. HOPKINS. I think it can serve a very useful purpose since it hones in on the units that have separate statutory authorizations given to them. So, if we have the analysis by agency, we'll be able to track it back to the laws that correspond to those agencies.

But, if I may, Mr. Chairman, I could add a comment on the conversation that has just been taking place, with your permission?

Mr. OSE. Please.

Dr. HOPKINS. I find it puzzling to hear the characterization of OIRA as involving a small cadre of economists who are "intruding upon agency prerogatives" in an anti-regulatory way, because I think one can go back to every President since President Nixon—of both parties—each of these Presidents has wanted to have a small cadre of economists in the Executive Office of the President who were "intruding upon agency prerogatives" when it comes to regulation.

I joined the administration of President Ford in 1975, precisely for the purpose of being a part of a cadre of economists "intruding upon agency prerogatives." That mission continued under every President, without exception, since that time. So this is not some new nefarious scheme of OIRA since 1981 or under Dr. Graham, it's a consistent effort that every President has felt needed as a counterbalance to the agency regulators.

Mr. OSE. Well you're suggesting that, if the standard for judging OIRA is the empirical data of number of return letters or number of refusals to allow to proceed, if that's the standard by which OIRA is judged, are you suggesting for 8 years they were just absent?

Dr. HOPKINS. I'm not sure that's an adequate standard by which to judge their performance. It seems to me the more important contribution that entity can make is to be an advocate for balanced economic analysis of regulatory issues. It has taken different forms under different administrations. But, the same cadre of economists has persevered through each administration, sometimes working more visibly, sometimes less visibly, to try to bring that kind of analytical balance to regulatory decisionmaking.

Mr. OSE. I don't like the word "cadre."

Ms. Dudley, do you share that opinion?

Ms. DUDLEY. Yes, I'd like to make a similar point. In terms of the last administration and this one, I think perhaps what we're seeing now is a more transparent role for OIRA. I think that's a benefit, that with the return letters and with OIRA's actions, it's very visible what OIRA is doing. I think the same can be said for your requirement for an annual accounting of costs and benefits. It makes it transparent so that Ms. Claybrook and I can discuss what discount rate is appropriate.

So a regulation-by-regulation, agency-by-agency data base with consistent assumptions allows people to adjust the assumptions and do different analyses with it. But, you can't do that if it's not a transparent data base of regulations, which I think is what you are asking OMB to do.

Mr. OSE. Dr. Miller, any thoughts on that?

Dr. MILLER. I agree with that. Let me just say I thought those were two excellent statements. Let me add, though, that the notion that these green-eyeshade economists over there have no compassion or concerns about the benefits generated by regulations is not true, anymore than you could characterize the budget people at OMB as being completely unsympathetic to the notion that certain kinds of spending programs by the Federal Government do generate benefits.

And, a methodological point I wanted to raise in response to a comment made earlier: I don't take issue with the allegation that the sum total of benefits of regulation exceeds the sum total of costs. Goodness, I hope so. Just as the sum total of benefits generated by all the spending programs of the Federal Government should exceed those costs. I sure hope so.

The question is at the margin, what do you do? Should some expand, some contract? Some programs make sense, some don't; some new programs that are not funded maybe make sense. It's a process where I think you elected representatives would be in the best position to make those kind of determinations, and you should make those determinations only, as Ms. Dudley was pointing out, with more transparency, more information. I would urge to you consider establishing a regulatory appropriations or budgeting process that's analagous to the appropriations process on the spending side.

Ms. CLAYBROOK. Could I just comment on one thing?

Mr. OSE. With the consent of the ranking member, my time can be extended. There you go.

Ms. CLAYBROOK. Thank you, Mr. Chairman. I've never seen an analysis of the spending part of our budget in terms of costs and benefits. And, in fact, you know, industry loves Uncle Sugar, they don't like Uncle Sam. So they lobby like mad to have limits on Uncle Sam. But, for Uncle Sugar, it's open season. There are just huge amounts of money that are expended in the budget that have no analysis whatsoever in terms of their costs and their benefits.

So as you look at the regulatory agencies, you know, I urge you to, No. 1, consider that. Second, the agencies that—at least the ones that I have overseen and worked with and lobbied to get something done out of it, the amount of data that they produce before they issue a regulation are huge. Now, whether or not it's in

the same format, agency by agency, to facilitate OMB putting it into one big package is another issue. But in terms of the issues that are raised, these are usually problems that have existed for 15, 20, 30 years. These are issues about which Congress has had hearings. These are often issues about which Congress has commanded the agency to take action. There are lengthy regulatory proceedings. I don't know any rule that's issued in less than 2 years, and usually it's 4 to 5.

So this huge amount of data that is produced, in fact, by these regulatory agencies—and I think that for OMB to say that, or John Graham to say, that there's not enough data, I would ask him and I urge you to ask him which agencies aren't producing those data, because I'll tell you we don't see it. We sue these agencies from time to time. It's really hard. We don't sue them most of the time because they do produce a lot of support for their decisions.

Mr. OSE. Let me answer your first question, just something I learned here recently, but in terms of measuring the impact in programs funded by the Federal Government, there is something called the Government Performance and Results Act of 1993 which does require agencies to measure and report on program results achieved for dollars expended. So there is some accountability, that I will admit readily that the agency progress in making those reports is at best mixed to date. So it's much the same question.

Ms. CLAYBROOK. Does it cover all government agencies?

Mr. OSE. It's much the same question on the reverse of what we're asking in the regulatory world, and that is how do you evaluate how to spend scarce resources? The imposition of $830 billion odd in annual cost is a tax, as sure as you and I are sitting here. To the extent that Congress, in effect, ought to be accountable for that and make the agencies accountable for that, that's the thrust of our efforts. Whether it's the airport in Mr. Tierney's district, or the freeway in mine, or the schools in both of ours, to the extent that we have some expenditure occurring by virtue of Federal mandate, I want to know whether it's having an impact, whether it's positive or negative.

I think everybody in Congress would appreciate that information. That's why we ask where is our report, as you heard me earlier. We could use it, and we will. And, we may well end up with different judgments accordingly, but where is our regulatory accounting report that's due by statute? That's what we're after.

Ms. CLAYBROOK. Mr. Chairman, if I could just ask you a question. If the report——

Mr. OSE. Unfortunately, Ms. Claybrook, I ask questions.

Ms. CLAYBROOK. If I could make a comment then. If this report——

Mr. OSE. Ms. Claybrook, we're going to bring this hearing to a halt. I do appreciate your attending. Ms. Heinzerling, thank you. Ms. Dudley, thank you. Dr. Hopkins, Dr. Miller, I do appreciate it. I appreciate your patience, Congressman Tierney.

We will submit our closing statement for the record.

With that, we are adjourned.

[Whereupon, at 4:36 p.m., the subcommittee was adjourned.]

[The prepared statements of Hon. Doug Ose, Hon. John F. Tierney, and additional information submitted for the hearing record follows:]

Chairman Doug Ose
Closing Statement
Regulatory Accounting: Costs and Benefits of Federal Regulations
March 12, 2002

Today, we discussed OMB's annual regulatory accounting reports, which Congress required so that the American public could know the off-budget costs and benefits associated with Federal regulations and paperwork. Unfortunately, OMB has still not completed its report, which was due with the President's Budget on February 4th. Therefore, witnesses could not comment on it.

Instead, witnesses stressed the need for timely and complete reports, especially to better protect public health and safety. We heard that reallocating spending from lower risk to higher risk problems and adding some regulations, while removing or improving others, could save tens of thousands of lives.

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BERNARD SANDERS, VERMONT,
INDEPENDENT

March 27, 2002

BY FACSIMILE

The Honorable Mitch Daniels
Director
Office of Management and Budget
Washington, DC 20503

Dear Director Daniels:

This letter constitutes the formal comments of the Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs on the March 18, 2002 draft fifth report to Congress by the Office of Management and Budget (OMB) on the costs and benefits of Federal regulations and paperwork. This report was statutorily required to be submitted with the President's Budget on February 4th. I am disappointed that OMB did not at least submit its draft report in time for the Subcommittee's March 13th regulatory accounting hearing. However, at the hearing, OMB's Office of Information and Regulatory Affairs (OIRA) Administrator John Graham committed that next year's draft report will be submitted with the President's Budget. I am pleased with this commitment since it will allow Congress in the future to simultaneously review both the on-budget and off-budget costs associated with each Federal agency and each Federal agency program imposing regulatory or paperwork burdens on the public.

The law requires OMB to estimate the total annual costs and benefits for all Federal rules and paperwork in the aggregate, by agency, by agency program, and by major rule. OMB's draft report is an improvement over its four previous regulatory accounting reports. For example, for the first time, it includes aggregate estimates of the costs and benefits of major rules for eight agencies (p. 52). However, it is still not presented as an accounting statement and it still does not include any estimates by agency program.

To assist OMB in preparing estimates by agency and by agency program, I recommend that OMB issue annual OMB Bulletins to the agencies like it does for paperwork reduction. In fact, agency proposed estimates of aggregate and new paperwork burden help OMB prepare a government-wide Information Collection Budget to manage paperwork burden on the public. OMB's regulatory accounting Bulletins should require each agency to submit estimates of its

aggregate and new regulatory burden for the agency as a whole and for each of the agency's major regulatory programs.

Another problem is inconsistency in agency estimation methodology. OMB's draft report acknowledges that not all agencies are consistently following OMB's recommended methodology for estimating costs and benefits. In fact, OMB explained that it applied a uniform format in the draft report "to make agency estimates more closely comparable with each other" (p. 129) and that "it may be critical in the coming year to take a more precise look at the variety of agency practices in use" (p. 136). I also applaud OMB's decision that a regulatory impact analysis (RIA) "is necessary regardless of whether the underlying statute governing agency action requires, authorizes or prohibits cost-benefit analysis as an input to decisionmaking" (p. 23). RIAs are needed for all major rules to ensure an accurate regulatory accounting report.

In its August 1998, January 2000, and May 2001 comment letters on OMB's draft second, third and fourth reports, the Subcommittee expressed its concern about the absence of any mandatory systematic and standardized procedure agencies must use to collect and report data to OMB on the impacts of all existing, revised, and new regulations. The Subcommittee stated, "we expect OMB to require all executive branch agencies to follow uniform systematic standardized procedures for collecting and reporting data to OMB and to request that the independent regulatory agencies do the same. At a minimum, there must be a standardized procedure for collecting and reporting data on the costs and benefits for all existing rules."

To improve the consistency of future agency estimates of costs and benefits, I additionally recommend that OMB include in its final report an agency "report card" (similar to its "Executive Branch Management Scorecard" for 15 agencies, p. 49, Fiscal Year 2003 Budget of the U.S. Government) for agency RIAs that highlights their strengths and weaknesses.

Besides an accounting statement, the law requires OMB to submit an associated report, including an analysis of impacts of Federal regulation on State and local government and on small business. I am disappointed by the draft report's 2-page discussion of the impact of Federal rules and paperwork on small business (pp. 121-2). At a minimum, I recommend that OMB include more information from the 2001 Crain-Hopkins analysis commissioned by the Small Business Administration.

Besides an accounting statement and an associated report, the law requires OMB to submit recommendations for reform. I compliment OMB on its request for the regulated public to identify problematic guidance documents (pp. 92-98). The draft report cites the Subcommittee's investigation of agency guidance documents and its resulting October 2000 Report entitled "Non-Binding Legal Effect of Agency Guidance Documents" (House Report 106-1009) (p. 93).

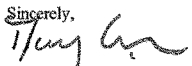
The House Report included orchestrated letters from agency chief legal officials stating that all of their guidance documents are not legally binding. Unfortunately, this non-binding legal effect is not always clear to the public. Therefore, the orchestrated letters concluded by saying, "We

recognize the importance of using guidance properly, and we have taken - and will continue to take - appropriate steps to address the concerns that guidance not be used as a substitute for rulemaking and to make the legal effect of our documents clear to the public." In addition, the March 1996 Congressional Review Act (CRA; Title II, Sec. 251 of Public Law 104-121, codified at 5 U.S.C. ch. 8) requires any guidance document that contains a statement "with general ... applicability and future effect" to be submitted for Congressional review before it can become effective. Therefore, as a matter of law, any post-CRA guidance document which was not submitted for Congressional review has no legal effect (5 U.S.C. §801(a)(1)(A)).

OMB's report includes much information unrelated to regulatory accounting[1], including Chapters I and III and Appendices A, B and E. I recommend that the final report co-locate all of the regulatory accounting information (now in Chapters II and IV and Appendices C, D and F[2]) and locate any other information at the end of the report. I fear that public comment on the non-regulatory accounting parts of the draft report may distract OMB from focusing on and improving the required regulatory accounting information. Lastly, I want to again state how pleased I am to see that OMB has taken a more proactive and analytical role in regulatory policy, including its return, prompt, and post-review letters.

Thank you for your attention to my concerns.

Sincerely,



Doug Ose
Chairman
Subcommittee on Energy Policy, Natural
Resources and Regulatory Affairs

cc: The Honorable Dan Burton
The Honorable John Tierney

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[1]For example, the draft announces that OIRA is "in the process of forming a scientific advisory panel that will suggest initiatives to OIRA, evaluate OIRA's ongoing activities, comment on national and international policy developments of interest to OIRA, and act as a resource and recruitment mechanism for OIRA staff" (p. 44), and includes a chapter entitled "Regulatory Governance Abroad."

[2]OMB's draft report incorrectly calls the four-word law change ("and each year thereafter") in December 2000 the Regulatory Right-to-Know Act. In July 1999, the House passed H.R. 1074, the comprehensive "Regulatory Right-to-Know Act," by a 254-157 vote. During the 106th Congress, the Senate Governmental Affairs Committee failed to report out its companion bill (S. 59).

Statement of John F. Tierney House Government Reform Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs Hearing on Regulatory Accounting: Costs and Benefits of Federal Regulations
March 12, 2002

Mr. Chairman, regulations implemented and enforced by the government impact every aspect of our lives. Federal regulations protect all Americans - at work, at home, and on the roads. These regulations ensure that we have clean air, safe food, reliable banks, safe toys, proper workplace environments and much more.

However, it's clear that some business interests would prefer to avoid the costs of compliance with regulations. This has led to efforts to eliminate, change or delay rules.

Some of these efforts have been behind closed doors, hidden from public view. I have a great deal of concern about industry lobbying that might sacrifice regulatory protections in favor of increased profits, all under the guise of routine regulatory reform.

Mr. Chairman, rules go through an extensive and lengthy review process before implementation. Agencies must follow strict statutory guidelines in developing the regulations. Public comment is invited and expert opinion is solicited.

The regulation's impact on states, tribal governments, the economy and wages is considered. Also measured is the amount of paperwork created by the rule and its costs and benefits, as well as consideration of alternatives.

Yet for businesses and other interests that don't like the costs imposed by federal regulations, no amount of review and commentary will be sufficient, unless it results in the elimination of the rule.

We saw evidence of this effort to delay and block important rules when one of the first acts of the Bush Administration ordered an immediate delay in all rules that were in the pipeline or had not yet taken effect. In other words, nearly one hundred rules that had already completed a rigorous regulatory process were delayed. One year later, many rules remain delayed while others have been withdrawn or changed.

In addition, I have concerns about a meeting late last year, reported in the Washington Post, between this subcommittee's majority staff and business lobbyists, where they discussed using regulatory review to gut federal regulations. This meeting, which the minority was not told about, also reportedly occurred with the apparent blessing of OIRA Administrator John Graham who is with us today. According to the Post article, the meeting resulted in a list of 57 regulations that industry hoped would be reviewed and changed by OIRA.

In response to a letter about this issue sent by me and Mr. Waxman, Dr. Graham said he had never seen such a list. Nonetheless, it is interesting that several of the rules are also reported to be on the list of top priority rules for review included in OIRA's December report. I look forward to learning more about this overlap today.

I'm also pleased that we will hear from our witnesses today about the use of cost/benefit analysis in regulatory accounting. I know that this is a tool that OIRA has encouraged agencies to make greater use of.

However, as recently as 1998, OIRA warned that the limit for using estimates: Quote "in making recommendations about reforming or eliminating regulatory programs are severe. Aggregate estimates of the costs and benefits of regulation offer little guidance on how to improve the efficiency, effectiveness, or soundness of the existing body of regulations." End quote.

In cases such as this, where estimated costs are infinitely easier to measure than benefits, I am concerned that political or business interests may take precedence over long-term public safety.

Mr. Chairman, I hope we can work together to protect against potential abuse of regulatory review. If industry lobbies the government to weaken a rule, the public should know about it. If the Administration decides to delay or weaken a rule, the public has a right to know the real reason for the Administration's action. I applaud Dr. Graham for making good use of his agency's website, and I encourage him to continue this practice and expand it as much as possible.

Mr. Chairman, I look forward to hearing from the witnesses on this issue. And I ask unanimous consent to include relevant materials in the record.

WASHINGTON City Paper

THE MAIL

Distinguished Service Cross

I am a member of George Mason University's Board of Visitors and am familiar with the work of the Mercatus Center. I also know the major characters you dissected in your cover story ("Bull Market," 3/8). I have known Dr. Wendy Gramm for over a quarter of a century.

An evenhanded writer would have taken the same facts—even those in the story—and written a much different piece. Rather than skewering everything about Mercatus and its leadership, an objective writer would have lauded its accomplishments.

Mercatus is part of one of the major academic institutions in the area, and the people associated with it have distinguished records. For example, the author lampoons former "socialist sympathizer" Vernon Smith's work, then later mentions that he is the father of experimental economics and a possible Nobel Prize candidate. (The only other Nobel Prize winner associated with any university in the area is George Mason economist James M. Buchanan.)

Your author takes particular relish in condemning Mercatus' involvement with public policy. It is true that several of its notable staff have held important positions in government. Gramm, for example, has held leadership posts at the Federal Trade Commission, the Office of Management and Budget, and the Commodities Futures Trading Commission. Maurice McTigue, as noted, is a former minister in the government of New Zealand, where he led changes that significantly raised the country's standard of living. Is there something wrong with having served in government? Cannot a person have more than one career? Would you dismiss out of hand academic policymakers such as Henry Kissinger, Daniel Patrick Moynihan, and Larry Summers?

Your article takes issue with Mercatus because of some who help fund the organization—as if it is some lackey for the energy industry (Enron and Koch). First, as a matter of science, it matters not who funds research. The question is the quality of the research. Second, the Smith group's recruitment to George Mason was, indeed, enabled by a grant from the Koch Foundation. Can you please tell me again what the energy industry might expect to get out of a group of academics involved in the most esoteric of research into experimental economics—experiments that utilize magnetic resonance imaging (MRI) and, for that reason apparently, your author is surprised that anyone takes seriously?

Your piece ridicules other ideas the author thinks will sound odd, but doesn't have the objectivity to address directly. Might it just possibly be the case that the Environmental Protection Agency's ozone standard is based on faulty reasoning? Or that its arsenic standard will produce very little benefit in comparison with other uses of the money? Or that many other regulations, by many other agencies, that sound good might actually be bad—or might be improved in some way? To dismiss such questions out of hand is ideology, not science.

George Mason University encourages its faculty and staff to pursue truth wherever they find it. The Mercatus Center, in particular, includes people with a diversity of viewpoints, as evidenced by your writer's interlude on Dr. Tyler Cowan. To condemn this institution, and by association the university, because the ideas of some of its leaders do not conform to some template the author thinks is politically correct is a terrible disservice to the community. While I recognize and honor your right to publish whatever vitriol you wish, I hope you will show respect to your readers by publishing this letter and perhaps other communications that paint a more accurate picture of this fine organization and its people.

James C. Miller III
McLean, Va.

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INDEPENDENT

March 22, 2002

BY FACSIMILE

Ms. Joan Claybrook
President
Public Citizen
1600 20th Street, N.W.
Washington, DC 20009

Dear Ms. Claybrook:

This letter follows up on the March 12, 2002 hearing of the Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs, entitled "Regulatory Accounting: Costs and Benefits of Federal Regulations." As discussed during the hearing, please respond for the record to the following question, which parallels a followup question from Ranking Member John Tierney to Susan Dudley: Please list the 25 contributors that have donated the most money to Public Citizen in the last five years.

Please hand-deliver your response to the Subcommittee majority staff in B-377 Rayburn House Office Building and the minority staff in B-350A Rayburn House Office Building not later than noon on Friday, April 5, 2002. If you have any questions about this request, please call Subcommittee Deputy Staff Director Barbara Kahlow on 226-3058. Thank you for your attention to this request.

Sincerely,

Doug Ose
Chairman
Subcommittee on Energy Policy, Natural
Resources and Regulatory Affairs

cc: The Honorable Dan Burton
The Honorable John Tierney

Buyers Up • Congress Watch • Critical Mass • Global Trade Watch • Health Research Group • Litigation Group
Joan Claybrook, President

April 1, 2002

Doug Ose
Chairman
Subcommittee on Energy Policy,
Natural Resources and Regulatory Affairs
House of Representatives
Committee on Government Reform
2157 Rayburn House Office Building
Washington DC 20515-6143

Dear Mr. Ose:

As requested in your letter of March 22, following is a list of Public Citizen's top 25 contributors for the last five years as of March, 2002. It is worth noting that Public Citizen's cumulative expenses for the last five years totaled $49 million and the cumulative total for the top 25 contributors is $7.7 million. .

The vast bulk of Public Citizen's funding during that period came from hundreds of thousands of people in every state across America, most of whom give us small contributions averaging less than $35.00. Those large numbers of modest contributions allow Public Citizen the independence to be the voice of the people in the halls of power. Other major sources of income in the last five years are from sale of our publications - $9.938 million, and court-awarded litigation fees for our successful cases primarily in the U.S. Courts of Appeal and U.S. Supreme Court - $1.358 million. Public Citizen does not accept government or business funds.

Top 25 Contributors March 1997-March 2002

Global Resource and Action Center for the Environment	$	1,363,000
Energy Foundation	$	990,000
Goldman Fund	$	600,000
Ford Foundation	$	520,500
Deer Creek Foundation	$	468,500
Foundation for Deep Ecology	$	425,000
Florence and John Schumann Foundation	$	321,000
Wightman-Wieber Foundation	$	300,000
Open Society Institute	$	277,151

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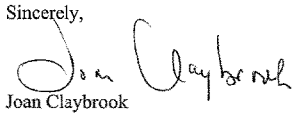
Schumann Foundation	$	229,000
Educational Foundation of America	$	225,000
Institute for Agricultural and Trade Policy	$	200,000
Surdna Foundation	$	200,000
C. S. Fund	$	190,000
Wardlaw Trust	$	163,474
Individual Contributor A	$	142,000
Joyce Foundation	$	155,000
Park Foundation	$	150,000
Rockefeller Financial Services	$	135,000
Center for Energy Efficiency and Renewable Technologies	$	130,000
Preamble	$	130,000
Individual Contributor B	$	127,650
Individual Contributor C	$	123,105
Rockefeller Bros. Fund	$	100,000
Rockefeller Family Fund	$	100,000

Public Citizen does not publish the names of individual contributors. Most of this list is comprised of foundations whose contributions are a matter of public record. Only three people make the list of the top 25 and they are identified as Individual Contributors A, B, and C with the cumulative amounts over the last five year period. As I'm sure you are aware, constitutional privacy protections date back at least as far as the U.S. Supreme Court case of NAACP v. Alabama, 357 U.S. 449 (1958), and apply to individual members of private, nonprofit organizations such as Public Citizen.

Thank you again for the opportunity to testify and to be of service to the Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs.

Sincerely,



Joan Claybrook

cc: Representative John F. Tierney

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INDEPENDENT

March 22, 2002

BY FACSIMILE
Ms. Susan Dudley
Deputy Director, Regulatory Studies Program
Mercatus Center, George Mason University
3301 North Fairfax Drive - Suite 450
Arlington, VA 22201-4433

Dear Ms. Dudley:

This letter follows up on the March 12, 2002 hearing of the Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs, entitled "Regulatory Accounting: Costs and Benefits of Federal Regulations." As discussed during the hearing, please respond to the enclosed followup questions from Ranking Member John Tierney for the record.

Please hand-deliver your response to the Subcommittee majority staff in B-377 Rayburn House Office Building and the minority staff in B-350A Rayburn House Office Building not later than noon on Friday, April 5, 2002. If you have any questions about this request, please call Subcommittee Deputy Staff Director Barbara Kahlow on 226-3058. Thank you for your attention to this request.

Sincerely,

Doug Ose
Chairman
Subcommittee on Energy Policy, Natural
Resources and Regulatory Affairs

Enclosure

cc: The Honorable Dan Burton
The Honorable John Tierney

Rep. John F. Tierney's Questions for Susan Dudley of the Mercatus Center

At the hearing, you were unable to answer some questions about the Mercatus Center. Please have the appropriate Mercatus representative answer the following:

1) Did the Mercatus Center receive $50,000 in donations from Enron over the past six years -- as well as $10,000 from former Enron Chief Executive Officer Kenneth Lay and his wife? If not, please provide information about how much money, if any, was received from Enron, Kenneth Lay or his wife during this same time period.

2) Has the Koch Foundation (backed by money from oil conglomerate Koch Industries) provided $16 million in grants to the Mercatus Center? If not, how much has the Koch Foundation granted? What percentage of the Mercatus Center's budget does this represent?

Please also answer the following questions:

3) Please list the 25 contributors that have donated the most money to the Mercatus Center in the last five years.

4) OMB/OIRA's draft annual regulatory accounting report asked for nominations of regulations that could be rescinded or changed by decreasing costs or increasing benefits. The Mercatus Center nominated a number of regulations. Did any donors to the Mercatus Center suggest the nomination of any of these regulations? If so, which donors and which regulations?

5) How does the Mercatus Center ensure that donors do not inappropriately influence the Center's research and submissions to OMB or federal agencies?

MERCATUS CENTER
GEORGE MASON UNIVERSITY

April 5, 2002

The Honorable Doug Ose, Chairman
Subcommittee on Energy Policy, Natural
Resources and Regulatory Affairs
U.S. House of Representatives
Committee on Government Reform
2157 Rayburn House Office Bldg.
Washington DC 20515

Dear Chairman Ose:

I appreciated the opportunity to testify on Regulatory Accounting before your subcommittee on March 12, 2002. In your letter of March 22 following up on that hearing, you forwarded five questions from Representative John Tierney.

The first three questions relate to sources of Mercatus funding. As Deputy Director of the Mercatus Center's Regulatory Studies Program, I am not involved in fundraising, nor aware of the details of funding sources. Therefore, I have referred those questions to Robert Mottice, Executive Director of the Mercatus Center, whose response is attached.

This letter addresses Rep. Tierney's last two questions.

First, no donors suggested the nomination of any of the regulations identified in our response to OMB's draft annual regulatory accounting report.

In comments on the draft report, Mercatus scholars responded to OMB's request for regulation-specific reform suggestions by providing one-page summaries of most of the comments we have submitted since our public interest comment project began in 1997. These one-page summaries reflect the accumulated research and comment of our scholars on regulatory proposals issued over the last few years.

Second, Mercatus Center donors do not inappropriately influence either the research or submissions to government agencies.

As I noted at the hearing, Mercatus maintains a separate fundraising staff. Researchers involved in studies or analyses submitted to government agencies are generally not involved in fundraising, nor aware of the details of the Center's funding sources. The outside scholars who contribute analyses are also not given information about Mercatus donors.

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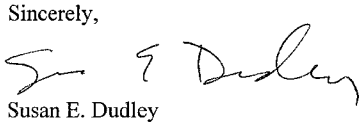
PHONE: (703) 993-4930 FAX: (703) 993-4935 www.mercatus.org

In addition, the Regulatory Studies Program does not accept funding earmarked for specific regulatory issues. The objective of the Public Interest Comment (PIC) project is to provide careful analysis to government agencies from the perspective of the public interest rather than any special interest. These agency submissions rely on widely-recognized economic, statistical, science and public health tools and concepts.

Sincerely,



Susan E. Dudley
Senior Research Fellow and Deputy Director,
Regulatory Studies Program

MERCATUS CENTER
GEORGE MASON UNIVERSITY

April 5, 2002

The Honorable Doug Ose, Chairman
Subcommittee on Energy Policy, Natural
Resources and Regulatory Affairs
U.S. House of Representatives
Committee on Government Reform
2157 Rayburn House Office Bldg.
Washington DC 20515

Dear Rep. Ose:

Susan Dudley asked me to respond to certain questions asked as follow-up to her testimony before the Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs on March 12, 2002. As a scholar at the Mercatus Center, she is neither involved in fundraising nor aware of the details of Mercatus' funding sources.

The Mercatus Center at George Mason University is a non-profit research and education center dedicated to improving public policy outcomes in order to enable individuals to live free, prosperous, and peaceful lives. We accomplish this through scholarly research of market processes and public institutions, as well as through the development of practical applications of this knowledge. We then communicate this knowledge to policymakers, opinion leaders, and the public.

Funding for Mercatus Center programs comes from a broad array of private individuals, foundations, and corporations throughout the country. Mercatus has not received any federal government grants. Mercatus has over 6,000 donors from all fifty states supporting a budget of nearly $5.3 million during the fiscal year ending August 31, 2001. The average donation is less than $1,000 and corporate contributions accounted for less than 7 percent of our budget.

The Mercatus Center does not accept funding earmarked for specific regulatory issues to be addressed by the Regulatory Study Program.

To respect the privacy of our donors, we do not release information about their giving without permission. You specifically asked about the Enron Corp., however, whose information has already been made public. Enron began contributing to Mercatus in 1996—before the Regulatory Studies Program joined the Center—and since then has contributed a total of $50,000. The Kenneth and Linda Lay Foundation has contributed a total of $10,000. These Enron-related contributions represent approximately three-tenths of 1 percent of total giving to Mercatus during that time.

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In addition, we have also made public that in 1998, the Charles G. Koch Charitable Foundation generously awarded a 5-year, $10 million grant to George Mason University for market-oriented research and education. Support from the Koch Foundation has enabled George Mason University to attract a number of world-class scholars, and Mercatus is pleased to be a part of this dynamic university community.

Very truly yours,

Robert N. Mottice
Executive Director

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INDEPENDENT

March 22, 2002

BY FACSIMILE
The Honorable John Graham
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Washington, DC 20503

Dear Dr. Graham:

This letter follows up on the March 12, 2002 hearing of the Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs, entitled "Regulatory Accounting: Costs and Benefits of Federal Regulations." As discussed during the hearing, please respond to the enclosed followup questions from full Committee and Subcommittee Ranking Members Henry Waxman and John Tierney for the record.

Please hand-deliver the agency's response to the Subcommittee majority staff in B-377 Rayburn House Office Building and the minority staff in B-350A Rayburn House Office Building not later than noon on Friday, April 5, 2002. If you have any questions about this request, please call Subcommittee Deputy Staff Director Barbara Kahlow on 226-3058. Thank you for your attention to this request.

Sincerely,

Doug Ose
Chairman
Subcommittee on Energy Policy, Natural
Resources and Regulatory Affairs

Enclosures

cc: The Honorable Dan Burton
The Honorable John Tierney

Questions for John D. Graham from Rep. Henry A. Waxman

Questions on New Source Review:

Mr. Graham, in your 2001 report to Congress on the costs and benefits of regulation, *Making Sense of Regulation*, you designated the "new source review" regulations under the Clean Air Act as a high priority regulation to be rescinded or changed. News accounts report that the Administration plans to act soon to substantially weaken the new source review regulations.

You have emphasized that the Administration strongly supports using sound analysis and economic tools to make policy decisions. In particular, you appear to view cost-benefit analysis as a key tool for meeting the Administration's goal of achieving "a smarter regulatory system." There are numerous serious theoretical and practical concerns with this approach. For example, it is highly doubtful that we can claim to represent accurately many of our society's values in monetary terms, such as estimating a dollar value for preserving species diversity for future generations. Absent reasonably accurate numbers for both halves of the cost-benefit equation, any determination of net benefits or lack thereof is meaningless and misleading.

Nevertheless, since you and the Administration advocate this approach, at the March 13, 2002, hearing, Representative Tierney asked you whether your office has reviewed the benefits and costs of the changes to the new source review regulations under consideration by the Administration. Your response was no, you had not yet seen any proposal from EPA, but you expected to see something down the road.

The EPA Assistant Administrator for Air and Radiation has reportedly confirmed that the Administration plans to issue changes to the new source review regulations in the form of a final regulation based on a related proposal issued six years ago.[1] Executive Order 12866 (E.O. 12866) requires agencies to provide to OIRA for review assessments of the costs and benefits of "significant regulatory actions." The definition of a "significant regulatory action" includes any regulatory action that is likely to result in a rule that may raise novel legal or policy issues.

Possible changes to the new source review requirements have been the subject of intense public interest, and have reportedly been the topic of Cabinet-level meetings. EPA states that it has received over 130,000 public comments on the "90-day report" it is preparing on the impacts of the new source review regulations. Numerous members of Congress have written to EPA to express their concern about the Administration's plans for new source review.[2]

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[1] *Plan to Issue NSR Rules as Final Draws Fire from Democrats, States*, Clean Air Report (March 14, 2002).

[2] *See, e.g.*, Letter to Christine Todd Whitman, Administrator, U.S. EPA from 107 U.S. Representatives (Feb. 21, 2002).

Changes to the new source review requirements could have significant clean air and public health impacts by affecting both future industry compliance and ongoing enforcement actions for alleged past violations. A recent study shows that air pollution from power plants subject to new source review is responsible for over 30,000 premature deaths a year.[3] Internal EPA documents indicate that changes to new source review that the Administration is considering could "vitiate" the program.[4]

With respect to the new source review enforcement cases, Eric Schaeffer, who until his recent resignation was EPA's Director of Regulatory Enforcement, has stated that EPA could reduce air pollution by 4.8 million tons per year just by carrying out the ongoing enforcement actions under the existing new source review requirements, if they are not weakened. The attorney generals of nine northeastern states oppose weakening the new source review regulations and have expressed concern that the Administration's changes would undermine the ongoing enforcement cases against 51 plants for violation of new source review requirements.[5]

Changes to the new source review program reportedly under consideration by the Administration would have significant impacts on clean air and public health, as well on active litigation. It seems evident that any rule modifying the new source review regulations would be a "significant regulatory action" subject to OIRA review by the terms of E.O. 12866.

1. Since the date that you testified, has your office received any proposed or final rules or guidance regarding modification of the new source review requirements?

2. If OIRA has received such a document, does the submission include a thorough analysis of the impacts of the rule or guidance on air quality and public health?

    a. If such analysis is not included, will OIRA issue a return letter for or otherwise object to the rule or guidance? If you will not object, how do you justify that position in light of the requirements of E.O. 12866, your position on the importance of cost-benefit analysis, the high level of public interest, and the potential legal and policy ramifications of such a rule?

    b. If such analysis is included, will you ensure that this Committee receives full information regarding the analysis and its underlying assumptions at the time such

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[3]Clean Air Task Force, *Death, Disease & Dirty Power: Mortality and Health Damage Due to Air Pollution* (October 2000); Abt Associates, *The Particulate-Related Health Benefits of Reducing Power Plant Emissions* (October 2000).

[4]*EPA and Energy Department War Over Clean Air Rules*, New York Times (Feb. 19, 2002).

[5]*White House Warned on Easing Clean Air Rules; Democratic Lawmakers, 9 Attorneys General Vow to Challenge Plan on Older Coal-Fired Plants*, Washington Post (Jan. 9, 2002).

a rule or guidance document is issued?

3. If the Administration issues a final rule modifying the new source review requirements based on the 1996 proposal, will you require OIRA review of such final regulation prior to its issuance?

   a. If not, how do you justify that position in light of the requirements of E.O. 12866, your position on the importance of cost-benefit analysis, the high level of public interest, and the potential legal and policy ramifications of such a rule?

4. Will you ensure that such a rule will not be issued without an accompanying thorough analysis of the impacts on air quality and public health? Will you ensure that this Committee receives full information regarding the analysis and underlying assumptions at the time such a rule is issued?

It has been further reported that the Administration plans to issue a proposal for more radical changes to the new source review regulations, and I understand that EPA may issue guidance to attempt to implement those changes prior to completion of the rulemaking, despite the fact that such guidance would likely be challenged as a violation of the Administrative Procedures Act.[6]

5. If the Administration issues a proposal to modify the new source review requirements, will you require OIRA review of the proposed regulation prior to its issuance? Similarly, if the Administration issues guidance that affects implementation of the new source review requirements, will you require OIRA review of the guidance prior to its issuance?

   a. If not, how do you justify that position in light of the requirements of E.O. 12866, your position on the importance of cost-benefit analysis, the high level of public interest, and the potential legal and policy ramifications of such a rule and guidance?

6. Will you ensure that a proposed rule and/or a guidance document modifying the new source review regulations will not be issued without an accompanying thorough analysis of the impacts on air quality and public health? Will you ensure that this Committee receives full information regarding the analysis and its underlying assumptions at the time such a proposal or guidance document is issued?

7. Do you agree that if a rule or Agency guidance has the potential to affect the litigation success or settlement outcomes of current enforcement cases, those enforcement-related effects should be taken into account in an analysis of the impacts of that rule or guidance?

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[6] *See Plan to Issue NSR Rules as Final Draws Fire from Democrats, States*, Clean Air Report (March 14, 2002).

a. If you do not agree, please explain the basis for your position and how it is consistent with your position regarding the appropriate scope of analysis of other impacts of regulatory action.

b. If you agree, will you ensure that the analysis of any proposed or final rule or guidance that could affect the United States' ongoing new source review enforcement cases will include an estimation and analysis of those effects?

A failure to make these assurances and provide the requested information would strongly suggest that the Administration supports use of cost-benefit analysis as a matter of convenience, to be used when the analysis supports the Administration's desired policy outcomes, rather than as a matter of conviction that this is a tool for achieving good policy outcomes.

Questions on the Administration's Clear Skies Initiative:

8. Were you and your staff involved with developing the Administration's "Clear Skies Initiative" to control emissions of three air pollutants from power plants?

9. If so, did you and your staff review EPA's so-called "straw proposal" for this program, which EPA circulated in August 2001?

In its straw proposal, EPA proposed much more stringent pollutant caps than the Administration included in its final proposal. EPA also proposed to apply these more stringent limits years earlier.

10. How many nonattainment areas are projected in 2020 under EPA's straw proposal, and how many nonattainment areas are projected in 2020 under the Administration's Clear Skies proposal? What are the differences in the levels of nonattainment in those areas under EPA's straw proposal and under the Administration's Clear Skies proposal?

11. How many avoided premature deaths are projected under EPA's straw proposal, and how many avoided premature deaths are projected under the Administration's Clear Skies proposal?

12. How many avoided cases of other health impacts from these pollutants are projected under EPA's straw proposal, and how many avoided cases of other health impacts from these pollutants are projected under the Administration's Clear Skies proposal?

13. What is the level of visibility improvement projected under EPA's straw proposal, and what is the level of visibility improvement projected under the Administration's Clear Skies proposal?

14. What is the reduction in acid deposition projected under EPA's straw proposal, and what is the reduction in acid deposition projected under the Administration's Clear Skies proposal?

15. How much are mercury emissions projected to change in 2020 under EPA's straw proposal, and how much are mercury emissions projected to change in 2020 under the Administration's Clear Skies proposal?

16. Did the more stringent emissions limits and timing advocated by EPA in its straw proposal show greater net benefits (as initially calculated by EPA, and as calculated in accordance with any modifications that OIRA may have recommended) than the limits and timing ultimately proposed by the Administration?

17. If the Administration's proposal does not maximize net benefits compared to EPA's straw proposal, what in your view is an appropriate basis for selecting a regulatory option here that does not maximize net benefits?

18. In your view, is net benefits information regarding policy alternatives something that the Administration, Congress and the public should consider when making critical public policy decisions, such as the Administration's decision on what to propose and Congress' decision on whether to adopt, modify, or reject the Administration's proposal?

19. Please provide to this Subcommittee EPA's and OIRA's estimates of the benefits and costs of the Clear Skies proposal, EPA's straw proposal, and alternative control levels. Please include the cost and benefit estimates that EPA included with its straw proposal and submitted to OIRA, any modifications that OIRA suggested making to those estimates, the explanation for any such suggestions, and the final estimates that were used by the Administration in developing the Clear Skies proposal. Please include the complete set of quantified benefit estimates used to calculate the monetary benefit values (e.g., number of avoided premature deaths, number of cases of asthma and other non-fatal diseases, number of days in nonattainment, mercury levels and exposures, etc.).

20. At the time the Administration proposed the Clear Skies proposal, did the Administration have the information requested in questions 10-16 and 19 above?

    a. If the Administration did not have this information, what was the basis for selecting the control levels and timing in the President's proposal? How was this policy process consistent with the Administration's stated commitment to rely on "sound economics" and use of cost-benefit analysis?

Question on the National Primary Drinking Water Regulation for Arsenic:

On July 19, 2001, EPA issued a proposal to request comment on whether the data and technical analyses associated with the January 2001 arsenic rule support setting the arsenic

standard at 3 ppb, 5 ppb, 10 ppb, or 20 ppb.[7] The comment period for this proposal to reconsider the arsenic rule ended October 31, 2001.[8] As you know, both the House and the Senate were very concerned about EPA's proposed action and passed language on EPA's appropriations bill prohibiting a relaxation of the January 2001 arsenic standard. It must be noted, however, that Congress never prohibited EPA from strengthening the January 2001 standard. In effect, Congress prohibited EPA from establishing a standard of 20 ppb, but allowed EPA to consider establishing a standard of 3 ppb, 5 ppb, or 10 ppb. However, on October 31, 2001, prior to reviewing the public comments on EPA's July proposal, Administrator Whitman wrote members of Congress, stating "I can now report that the drinking water standard for arsenic will be 10 ppb."[9]

21. Did OIRA review the EPA decision prior to its announcement on October 31, 2001? If not, why not?

22. In your view, is it appropriate for EPA to make a decision on this issue prior to reviewing the public comments, including relevant information that was not available prior to July 2001?

EPA received significant new information during the public comment period, including a new report from the National Research Council (NRC) on arsenic in drinking water, which found that EPA had previously underestimated the toxicity of arsenic by a factor of ten.[10]

23. Is OIRA familiar with this NRC report?

24. Did the NRC report indicate that establishing a standard below 10 ppb would yield greater benefits than a standard of 10 ppb?

25. Did OIRA and EPA consider these potential benefits in deciding on a 10 ppb standard? If not, why not?

26. In your view, should EPA review public comments to determine whether the standard should be 3 ppb, 5 ppb, or 10 ppb? Should EPA consider the potential public health benefits of a more stringent standard in determining whether the standard should be 3

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[7]EPA, Notice of proposed rulemaking, National Primary Drinking Water Regulations; Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring, (66 Fed. Reg. 37617 (July 19, 2001).

[8]*Id.*

[9]Letter from EPA Administrator Christine Todd Whitman to Rep. John Dingell (Oct. 31, 2001).

[10]National Research Council, Arsenic in Drinking Water: 2001 Update (Sept. 2001).

ppb, 5 ppb, or 10 ppb?

27. What is OIRA's planned course of action to ensure that EPA properly carries out the rulemaking process?

Rep. John F. Tierney's Questions for Dr. John Graham of OIRA

1) At the hearing, we discussed OMB/OIRA's December 2001 report entitled "Making Sense of Regulation" and the 71 regulations OMB/OIRA recommended as candidates for possible rescission or change by decreasing costs or increasing benefits.

A) What specific formula did OMB/OIRA consider when ranking the 71 regulations as high, medium or low priority? Please provide the specific criteria, elements and methodology used in the ranking process.

B) OMB/OIRA considers 23 of the 71 regulations "high priority." For each of those 23 regulations, please answer the following:

1. Who nominated the regulation?
2. Why did the nominator recommend the regulation for review?
3. Why does OMB/OIRA consider the regulation to be high priority as opposed to medium or low priority?
4. Did OMB/OIRA meet with interested parties (including the nominators, regulated industry, groups funded by the regulated industry, and public interest groups) regarding the nomination? If so, please list the meeting dates and attendees.
5. Was the nominator's identity disclosed to OMB/OIRA staff during the consideration process?
6. Did the Harvard Center for Risk Analysis receive funds from either the industry regulated by this regulation or an entity primarily funded by such industry at any time during which you were affiliated in any capacity with the Center? If so, did you recuse yourself from considering this regulation? Why or why not?

C) Please provide the following:

1. All documents received in response to OMB/OIRA's May 2001 call for nominations of regulations that could be rescinded or changed by decreasing costs or increasing benefits.
2. All OMB/OIRA documents relating to OMB/OIRA's analysis of the nominated regulations
3. All documents relating to meetings regarding the nominations
4. All documents relating to conflicts of interest in reviewing the nominations

2) When did you first become affiliated with the Mercatus Center and in what capacity? Please explain your responsibilities in that capacity. Were you affiliated in any way other than as a member of its Advisory Board? If so, please list those affiliations and your related responsibilities.

3) Did any of OMB's current or former employees (political, career, contract or consultant) work at the Mercatus Center? If so, please provide their names, job titles, areas of expertise, and dates of employment at OMB and at the Mercatus Center.

A) Since January 2001, has OMB/OIRA engaged the services of any consultants or contractors who have performed work for the Mercatus Center?

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

APR - 8 2002

ADMINISTRATOR
OFFICE OF
INFORMATION AND
REGULATORY AFFAIRS

The Honorable Doug Ose
U.S. House of Representatives
Committee on Government Reform
Subcommittee on Energy Policy, Natural
Resources and Regulatory Affairs
Washington, DC 20515

Dear Chairman Ose:

Thank you for your letter dated March 22, 2002 following up on the March 12 Subcommittee hearing entitled, "Regulatory Accounting: Costs and Benefits of Federal Regulations." That letter contained a number of follow-up questions from Committee Ranking Member Henry Waxman and Subcommittee Ranking Member John Tierney. Enclosed with this letter are my responses to those questions. Thank you for your continued interest in regulatory accounting.

Sincerely,

John D. Graham, Ph.D.
Administrator

Enclosures

cc: The Honorable Dan Burton
The Honorable Henry A. Waxman
The Honorable John F. Tierney

Responses to Questions from Rep. Waxman

1. Since the date that you testified, has your office received any proposed or final rules or guidance regarding modification of the new source review requirements?

Answer: OIRA has not received any such proposed or final rules or guidance since the date of my testimony (March 12, 2002).

2. If OIRA has received such a document, does the submission include a thorough analysis of the impacts of the rule or guidance on air quality and public health?

Answer: As stated above, OIRA has not received such a document. OIRA will make any relevant decisions regarding such a rule or guidance document after conducting a thorough review under Executive Order 12866.

   a. If such analysis is not included, will OIRA issue a return letter for or otherwise object to the rule or guidance? If you will not object, how do you justify that position in light of the requirements of E.O. 12866, your position on the importance of cost-benefit analysis, the high level of public interest, and the potential legal and policy ramifications of such a rule?

   b. If such analysis is included, will you ensure that this Committee receives full information regarding the analysis and its underlying assumptions at the time such a rule or guidance document is issued?

3. If the Administration issues a final rule modifying the new source review requirements based on the 1996 proposal, will you require OIRA review of such final regulation prior to its issuance?

Answer: We will determine whether such an action would be a "significant regulatory action" under the terms of E.O. 12866. OIRA reviews such actions under the provisions of E.O. 12866.

a. If not, how do you justify that position in light of the requirements of E.O. 12866, your position on the importance of cost-benefit analysis, the high level of public interest, and the potential legal and policy ramifications of such a rule?

4. Will you ensure that such a rule will not be issued without an accompanying thorough analysis of the impacts on air quality and public health? Will you ensure that this Committee receives full information regarding the analysis and underlying assumptions at the time such a rule is issued?

Answer: If we determine it is a significant regulatory action, we will review the package under E.O. 12866 and determine whether it meets the principles stated in the Order.

5. If the Administration issues a proposal to modify the new source review requirements, will you require OIRA review of the proposed regulation prior to its issuance? Similarly, if the Administration issues guidance that affects implementation of the new source review requirements will you require OIRA review of the guidance prior to its issuance?

Answer: We will determine whether such an action would be a "significant regulatory action" under the terms of E.O. 12866. OIRA reviews such actions under the provisions of E.O. 12866.

a. If not, how do you justify that position in light of the requirements of E.O. 12866, your position on the importance of cost-benefit analysis, the high level of public interest, and the potential legal and policy ramifications of such a rule and guidance?

6. Will you ensure that a proposed rule and/or a guidance document modifying the new source review regulations will not be issued without an accompanying thorough analysis of the impacts on a quality and public health? Will you ensure that this Committee receives full information regarding the analysis and its underlying assumptions at the time such a proposal or guidance document it issued?

Answer: If we determine it is a significant regulatory action, we will review the package under E.O. 12866 and determine whether it complies with the principles stated in the Order.

7. Do you agree that if a rule or Agency guidance has the potential to affect the litigation success or settlement outcomes of current enforcement cases, those enforcement-related effects should be taken into account in an analysis of the impacts of that rule or guidance?

Answer: The Administration has stated that the NSR initiative will not affect its efforts to pursue the current enforcement cases.

   a. If you do not agree, please explain the basis for your position and how it is consistent with your position regarding the appropriate scope of analysis of other impacts of regulatory action.

   b. If you agree, will you ensure that the analysis is of any proposed or final rule or guidance that could affect the United States' ongoing new source review enforcement cases will include an estimation and analysis of those effects?

Questions on the Administration's Clear Skies Initiative:

8. Were you and your staff involved with developing the Administration's "Clear Skies Initiative" to control emissions of three air pollutants from power plants?

Answer: Yes.

9. If so, did you and your staff review EPA's so-called "straw proposal" for this program, which EPA circulated in August 2001?

Answer: The Administration reviewed a variety of alternatives for implementing this program over the six-month period preceding the President's announcement.

10. How many nonattainment areas are projected in 2020 under EPA's straw proposal, and how many nonattainment areas are projected in 2020 under the Administration's Clear Skies proposal? What are the differences in the levels of nonattainment in those areas under EPA's straw proposal and under the Administration's Clear Skies proposal?

Answer: Questions 10 through 16 refer to the results of analyses performed by the Environmental Protection Agency. These questions would more appropriately be directed to EPA.

11. How many avoided premature deaths are projected under EPA's straw proposal, and how many avoided premature deaths are projected under the Administration's Clear Skies proposal?

Answer: Please refer to my response to Question 10 above.

12. How many avoided cases of other health impacts from these pollutants are projected under EPA's straw proposal, and how many avoided cases of other health impacts from these pollutants are projected under the Administration's Clear Skies proposal?

Answer: Please refer to my response to Question 10 above.

13. What is the level of visibility improvement projected under EPA's straw proposal, and what is the level of visibility improvement projected under the Administration's Clear Skies proposal?

Answer: Please refer to my response to Question 10 above.

14. What is the reduction in acid deposition projected under EPA's straw proposal, and what is the reduction in acid deposition projected under the Administration's Clear Skies proposal?

Answer: Please refer to my response to Question 10 above.

15. How much are mercury emissions projected to change in 2020 under EPA's straw proposal, and how much are mercury emissions projected to change in 2020 under the Administration's Clear Skies proposal?

Answer: Please refer to my response to Question 10 above.

16. Did the more stringent emissions limits and timing advocated by EPA in its straw proposal show greater net benefits (as initially calculated by EPA, and as calculated in accordance with any modifications that OIRA may have recommended) than the limits and timing ultimately proposed by the Administration?

Answer: Please refer to my response to Question 10 above.

17. If the Administration's proposal does not maximize net benefits compared to EPA's straw proposal, what in your view is an appropriate basis for selecting a regulatory option here that does not maximize net benefits?

Answer: EPA has stated that it is committed to significantly reducing air pollution from electric utilities. The Administration considered a wide variety of technical, economic, and policy factors to design an initiative that would meet the goals of the Clean Air Act and provide a secure energy future for this country.

18. In your view, is net benefits information regarding policy alternatives something that the Administration, Congress and the public should consider when making critical public policy decisions, such as the Administration's decision on what to propose and Congress' decision on whether to adopt, modify, or reject the Administration's proposal?

Answer: OIRA's longstanding view is that information about the net benefits of policy alternatives can be an important factor to be considered in making public policy decisions.

19. Please provide to this Subcommittee EPA's and OIRA's estimates of the benefits and costs of the Clear Skies proposal, and alternative control levels. Please include the cost and benefits estimates that EPA included with its straw proposal and submitted to OIRA, any modifications that OIRA suggested making to those estimates, the explanation for any such suggestions, and the final estimates that were used by the Administration in developing the Clear Skies proposal. Please include the complete set of quantified benefit estimates used to calculate the monetary benefit values (e.g., number of avoided premature deaths, number of cases of asthma and other non-fatal diseases, number of days in nonattainment, mercury levels and exposures, etc.).

Answer: We understand that EPA will be providing its estimates of the benefits and costs of the Clear Skies Initiative to the Subcommittee in a separate submission. OIRA has not developed separate estimates of the proposal's costs and benefits.

20. At the time the Administration proposed the Clear Skies proposal, did the Administration have the information requested in Questions 10-16 and 19 above?

    a. If the Administration did not have the information, what was the basis for selecting the control levels and timing in the President's proposal? How was this policy process consistent with the Administration's stated commitment to rely on "sound economics" and use of cost-benefit analysis?

Answer: Please see my response to Question 19. The Administration considered a wealth of information about the benefits and costs of various alternative policies. The President's Clear Skies Initiative was the result of a several month long iterative process that included extensive analysis of the relevant economic and environmental issues.

Question on the National Primary Drinking Water Regulation for Arsenic:

On July 19, 2001, EPA issued a proposal to request comment on whether the data and technical analyses associated with the January 2001 arsenic rule support setting the arsenic standard at 3 ppb, 5 ppb, 10 ppb, or 20 ppb.[1] The comment period for this proposal to reconsider the arsenic rule ended October 31, 2001.[2] As you know, both the House and the Senate were very concerned about EPA's proposed action and passed language on EPA's appropriations bill prohibiting a relaxation of the January 2001 arsenic standard. In effect, Congress prohibited EPA from establishing a standard of 20 ppb, but allowed EPA to consider establishing a standard of 3 ppb, 5 ppb, or 10 ppb.

[1] EPA, Notice of proposed rulemaking, National Primary Drinking Water Regulations; Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring, (66 Fed. Reg. 37617 (July 19, 2001)).

[2] *Id.*

However, on October 31, 2001, prior to reviewing the public comments on EPA's July proposal, Administrator Whitman wrote members of Congress, stating "I can now report that the drinking water standard for arsenic will be 10 ppb."[3]

21. Did OIRA review the EPA decision prior to its announcement on October 31, 2001? If not, why not?

Answer: Yes.

22. In your view, is it appropriate for EPA to make a decision on this issue prior to reviewing the public comments, including relevant information that was not available prior to July 2001?

Answer: This is an administrative law question that properly rests with the Agency for comment. However, I note that the Agency received new information from three independent review panels, one convened by the National Research Council, one convened by the National Drinking Water Advisory Committee, and one convened by its Science Advisory Board, and reviewed all this information prior to its October 31 announcement.

[3] Letter from EPA Administrator Christine Todd Whitman to Rep. John Dingell (Oct. 31, 2001).

EPA received significant new information during the public comment period, including a new report from the National Research Council (NRC) on arsenic in drinking water, which found the EPA had previously underestimated the toxicity of arsenic by a factor of ten.[4]

23. Is OIRA familiar with this NRC report?

Answer: Yes. Both EPA and OIRA reviewed the NRC report.

24. Did the NRC report indicate that establishing a standard below 10 ppb would yield greater benefits than a standard of 10 ppb?

Answer: The NRC report did not attempt to estimate alternative benefits from alternative levels of the standard. However, it did show that the incremental risk from exposure at 10 ppb, given certain assumptions, is greater than the risk from exposure at lower levels.

25. Did OIRA and EPA consider these potential benefits in deciding on a 10 ppb standard? If not, why not?

Answer: Yes.

26. In your view, should EPA review public comments to determine whether the standard should be 3 ppb, 5 ppb, or 10 ppb? Should EPA consider the potential public health benefits of a more stringent standard in determining whether the standard should be 3 ppb, 5 ppb, or 10 ppb?

Answer: This is an administrative law question that properly rests with the Agency for comment. EPA recently published a Notice in the Federal Register indicating its

[4] National Research Council, Arsenic in Drinking Water: 2001 Update (Sept. 2001).

intention to review the arsenic standard as part of the six-year review process provided for in the Safe Drinking Water Act.

27. What is OIRA's planned course of action to ensure that EPA properly carries out the rulemaking process?

Answer: OIRA reviewed the Notice referred to in the answer to Question 26 and agrees with EPA's planned course of action. OIRA will review any future regulatory actions consistent with E.O. 12866 and applicable law.

Responses to Questions from Rep. Tierney

1) At the hearing, we discussed OMB/OIRA's December 2001 report entitled "Making Sense of Regulation" and the 71 regulations OMB/OIRA recommended as candidates for possible rescission or change by decreasing costs or increasing benefits.

A) What specific formula did OMB/OIRA consider when ranking the 71 regulations as high, medium or low priority? Please provide the specific criteria, elements and methodology used in the ranking process.

Answer: We did not use a specific formula to rank the 71 regulations as high, medium or low priority. OIRA staff read the public comments that nominated the candidates and, based on that reading, their knowledge of the regulatory programs nominated, and their best professional judgement, they sorted the nominations into the three categories.

B) OMB/OIRA considers 23 of the 71 regulations "high priority." For each of those 23 regulations, please answer the following:

1. Who nominated the regulation?

Answer: In Appendix A of the 2001 Report to Congress (enclosed) we list all 71 suggestions, along with basic information about the suggestion. This includes the name of the commenter, the name of the regulation and regulatory agency, a CFR and statutory citation, a description of the problem, a proposed solution, and an estimate of the economic impact.

2. Why did the nominator recommend the regulation for review?

Answer: Please see my answer to Question 1) B) 1. above.

3. Why does OMB/OIRA consider the regulation to be high priority as opposed to medium or low priority?

Answer: A rating of high priority meant that OIRA staff were inclined to agree with the nominations and believe it warranted further examination. For medium priority nominations, we felt we needed more information. For low priority nominations, we were not convinced of the merits of the suggestion.

4. Did OMB/OIRA meet with interested parties (including the nominators, regulated industry, groups funded by the regulated industry, and public interest groups) regarding the nomination? If so, please list the meeting dates and attendees.

Answer: We did not meet with interested parties regarding the nominations.

5. Was the nominator's identity disclosed to OMB/OIRA staff during the consideration process?

Answer: Yes. Please see my answer to Question 1)B)1. above.

6. Did the Harvard Center for Risk Analysis receive funds from either the industry regulated by this regulation or an entity primarily funded by such industry at any time during which you were affiliated in any capacity with the Center? If so, did you recuse yourself from considering this regulation? Why or why not?

Answer: Yes. I was advised that the relevant ethics rules do not require recusal in the case of industry funding of a university-based center.

C) Please provide the following:

1. All documents received in response to OMB/OIRA's May 2001 call for nominations of regulations that could be rescinded or changed by decreasing costs or increasing benefits.

Answer: All nominations are contained in the public comments. (Enclosed)

2. All OMB/OIRA documents relating to OMB/OIRA's analysis of the nominated regulations.

Answer: After a search of our files we have found no documents relating to OMB/OIRA's analysis of the nominated regulations.

3. All documents relating to meetings regarding the nominations.

Answer: There were no meetings other than internal meetings with OIRA staff relating to the nominations. The result of these meetings is shown by the rankings listed in Appendix A of the Report to Congress. (Enclosed).

4. All documents relating to conflicts of interest in reviewing the nominations.

Answer: After reviewing our files, we have found no documents relating to conflicts of interest in reviewing the nominations.

2) When did you first become affiliated with the Mercatus Center and in what capacity? Please explain your responsibilities in that capacity. Were you affiliated in any way other than as a member of its Advisory Board? If so, please list those affiliations and your related responsibilities.

Answer: For two years I served as an external advisor to the Regulatory Studies Program at the Mercatus Center. In this capacity I provided occasional advice to program staff. For a different program sponsored by the Mercatus Center, I also provided two 60-minute seminars on regulatory reform to congressional staff.

3) Did any of OMB's current or former employees (political, career, contract or consultant) work at the Mercatus Center? If so, please provide their names, job titles, areas of expertise, and dates of employment at OMB and at the Mercatus Center.

Answer: To the best of our knowledge, no current OMB/OIRA staff worked at the Mercatus Center. The following Mercatus Center employees worked at OIRA in the past:

Wendy Gramm, Director of the Mercatus Center's Regulatory Studies Program, was Administrator of OIRA from 1985 to 1988. Her areas of expertise are economics and regulation.

Susan Dudley, Deputy Director of the Mercatus Center's Regulatory Studies Program, was an economist at OIRA from 1985 to 1988. Her areas of expertise are economics and regulation.

Brian Mannix, Senior Research Fellow in the Regulatory Studies Program at the Mercatus Center, was an economist at OIRA from 1981 to 1986. His area of expertise was regulatory economics.

A) Since January 2001, has OMB/OIRA engaged the services of any consultants or contractors who have performed work for the Mercatus Center?

Answer: No.

Additional statements of Joan Claybrook

Appendix I: At OMB's Invitation, Industry Front Groups Highjack the 2001 Report to Congress with Hit List of Twenty Three Targeted Regulations

In its May 2, 2001, draft report, OMB solicited suggestions from the public on "specific regulations that could be rescinded or changed that would increase net benefits to the public by either reducing costs and/or increasing benefits."[55] The final report lists 71 regulations, 23 of which OIRA identified as "high priority," meaning that OIRA is "inclined to agree with the suggestion" and a "prompt" letter " may be sent to the responsible agency for deliberation and response."[56]

The rules placed on OMB's "high priority" list include many highly controversial and significant rules, including a handful of major environmental protections that have been at the center of political firestorms over the past year, such as the New Source Review regulations under the Clean Air Act, the arsenic in drinking water standard, and the roadless lands conservation area rules. The reasons provided by the submitters, according to an OMB format, regarding why rules should be re-examined are extremely spare, and consist of factual statements by submitters without any appearance of an attempt by OIRA to substantiate those statements based upon the rulemaking record. As we make clear below, in the many cases we investigated, the statements from submitters that rules are cost-ineffective are not supported by the record or the facts. Yet, outrageously, OMB has not hesitated to send a message, through its publication of this list, that it considers aspects of these rules ripe for revision. Allowing random commentators to take "pot shots" at federal regulation in this wholly extra-legal process is a waste of federal money and constitutes an innovative power grab by OMB that should be immediately squashed by Congress.

Nowhere does OIRA explain the basis of its authority to target regulations for review or rescission, nor does OIRA set forth any of its own analysis of the 23 targeted regulations. Indeed, it appears that OIRA itself was somewhat confused during the process, as one of the 23 targeted regulations for rescission – labeling of trans fatty acids in food products – was previously the subject of one of OIRA's prompt letters last fall urging the agency to take action on that exact regulation.[57] And in a speech Graham gave to the National Economists Club, he described the decision by the Administration to issue a new standard for arsenic in drinking water as well founded in science and therefore deserving of OMB's deference,[58] yet that rule was on the "high priority" list of rules for rescission published by OIRA in December, only months after the arsenic standard was issued.

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55 OMB Draft Report to Congress on the Costs and Benefits of Federal Regulation, May 2, 2001.

56 OMB 2001 Report on the Cost of Regulation.

57 September 18, 2001 Prompt letter to the Department of Health and Human Services Secretary Thompson. on Labeling of Trans Fatty Acids.

58 Graham stated that OMB is deferring to rules supported by "independent" peer review and implied that the decision on arsenic would receive deference on those grounds: "[EPA} Administrator Whitman's recent decision on arsenic in drinking water was supported by just that type of review." *See* Remarks of John Graham to National Economists Club, Mar. 7, 2002, http://www.whitehouse.gov/omb/legislative/testimony/graham030702.html.

Industry Front Groups Put Rules on the Chopping Block

OIRA's targeting of the 23 regulations is particularly troublesome given the source of the so-called "public" suggestions. Well over one-half of the "high priority" regulations, 14 of the 23, came from a single submitter, the Mercatus Center of George Mason University.[59] Like Graham's Harvard Center for Risk Analysis, the Mercatus Center is an industry-funded anti-regulatory appendage to the University. Before working at OMB, OIRA Administrator Graham served on the Mercatus Center's Board of Advisors, alongside C. Boyden Gray, a well-known corporate lobbyist, and anti-regulation law professor Kip Viscusi. Wendy Gramm, the Director of the Mercatus Center, serves on the board of directors of Enron Corporation, and her connections to the Enron scandal and the energy industry are well documented in a recent Public Citizen report.[60]

Although the Mercatus Center does not disclose its donor list, it has been widely publicized that it received $50,000 from Enron and another $10,000 from Enron's former CEO Kenneth Lay.[61] A web site which lists donations by conservative foundations shows substantial donations to the Mercatus Center by the Koch family foundations.[62] Also, George Mason's web site lists approximately $13 million of donations by Koch over the past four years, including a new $10 million grant to launch a new interdisciplinary center. Koch Industries, Inc. is the nation's largest privately held energy corporation. According to the Mercatus web site, two representatives of Koch Industries, including Charles G. Koch, who is ranked among the 50 richest people in the country according to *Forbes* magazine, serve on the Mercatus six-member Board of Directors. Koch Industries has been the subject of numerous criminal investigations and at least one prominent political scandal.[63]

Given the interests of its major funders, its not surprising that most of Mercatus' proposals address rules concerning transportation, mining and energy use. However, the Mercatus Center isn't the only beneficiary of OIRA's open door policy towards business and industry. Five targeted regulations were submitted by one of three employer organizations managed by McGuiness, Norris and Williams, LLP, a law firm specializing in labor and

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59 Mercatus nominated the following regulations that were identified by OIRA as high priority: (1) Forest Service Planning Rules (USDA); (2) Roadless Area Conservation Regulations (USDA); (3) Central Air Conditioner and Heat Pump Energy Conservation Standards (DOE); (4) Standards for Privacy of Individually Identifiable Health Information (HHS); (5) Food Labeling: Trans Fatty Acids in Nutrition Labeling, Nutrient Content and Health Claims (FDA); (6) Amendments to National Park Service's Snowmobile Regulations (DOI); (7) Regulations Governing Hardrock Mining Operations (DOI); (8) Proposal Governing "Helpers" on Davis-Bacon Act Projects (DOL); (9) Hours of Service of Drivers; Drivers Rest and Sleep for Safe Operation (DOT); (10) Proposed Changes to the Total Maximum Daily Load Program (EPA); (11) Economic Incentive Program Guidance (EPA); (12) New Source Review (EPA); (13) Concentrated Animal Feeding Operations (CAFOs) Effluent Guidelines (EPA); and (14) Arsenic in Drinking Water (EPA).

60 This report can be downloaded at http://www.citizen.org/documents/Blind_Faith.PDF

61 Washington City Paper, "Bull Market: Enron Collapsed. The Earth Is Warming Up. And GMU's Mercatus Center Says the Solution Lies in Two Public Policy Heroes: Supply and Demand", Garance Franke-Ruta, March 8-14, 2002 [hereinafter Franke-Ruta].

62 See www.mediatransparency.org.

63 Robert Parry, "D(oil)e: What Wouldn't Bob Do For Koch Oil?" *The Nation*, Aug. 26, 1996

employment law: the Equal Employment Advisory Council (EEAC), the Labor Policy Association (LPA) and the Employment Policy Foundation (EPF).[64] On its Web site, McGuiness, Norris and Williams touts its skills in "shaping public policies through Congress and regulatory agencies"[65] and regularly files amicus briefs on behalf of employer defendants.

In addition, the American Petroleum Institute and American Chemical Council also each submitted a regulation targeted by OIRA for review or rescission given high priority by OIRA.[66] Both organizations donated unrestricted funds to Graham's Harvard Center in undisclosed amounts. (The American Chemistry Council is listed as a donor by its former name, the Chemical Manufacturers Association.)

Arsenic in Drinking Water

The recent controversy caused by the Bush Administration's "re-evaluation" of the standards for arsenic in drinking water was a "public relations disaster"[67] that had nothing to do with science and everything to do with special interest politics.[68] The drama began when the EPA decided to reevaluate the standards for arsenic in drinking water. The old standard of 50 parts per billion (ppb) was set in 1975 and was based on a Public Health Service standard originally established in 1942.[69] Studies cited by the EPA link long-term exposure to arsenic in drinking water to "cancer of the bladder, lungs, skin, kidney, nasal passages, liver, and prostate."[70] Other effects of ingesting arsenic include "cardiovascular, pulmonary, immunological, neurological, and endocrine (e.g., diabetes) effects."[71]

Given the age of the arsenic standards, the severity of the effects of arsenic exposure, and the feasibility of implementing more stringent drinking water standards,[72] EPA set out to establish a safer standard for drinking water in the United States. The EPA initially proposed a

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[64] EEAC nominated the Office of Federal Contract Compliance Program's "60-2" regulation—the Equal Opportunity Survey (DOL) and the Uniform Guidelines for Employee Selection Procedures (EEOC); EPF nominated Procedures for Certification of Employment Based Immigration and Guest Worker Applications (DOL) and Record keeping and Notification Requirements (DOL); and LPA nominated the Overtime Compensation Regulation (DOL).

[65] McGuiness, Norris & William, LLP website, http://www.mnwlaw.net/approach.html visited March 10, 2002.

[66] The American Chemical Council nominated the Mixture and Derived From Rule (EPA) and the American Petroleum Institute nominated the Notice of Substantial Risk (EPA).

[67] "Even Minute Levels of Arsenic Could Cause Cancer, Study Says Health Report Finds the Substance in Drinking Water Is More Dangerous Than Earlier Thought," Los Angeles Times, Deborah Schoch, September 15, 2001.

[68] Testimony of Thomas O. McGarity, Senate Committee on Governmental Affairs hearing on Public Health and Natural Resources: A Review of Implementation of Our Environmental Laws, March 7, 2002.hearing on , March 7, 2002 [hereinafter, McGarity Testimony].

[69] EPA web site http://www.epa.gov/safewater/ars/ars_rule_factsheet.html, visited on March 7, 2002 [hereinafter EPA Arsenic Factsheet].

[70] Id.

[71] Id.

[72] *See* McGarity Testimony. McGarity noted that many other countries have drinking water standards that are more stringent than 50 ppb.

standard of 5 ppb for arsenic, and requested comments on standards of 3 ppb, 10 ppb and 20 ppb. After evaluating over 6,500 pages of comments from 1,100 commentators, on January 22, 2001, the Clinton Administration's EPA published final arsenic standards that set the standard at 10 ppb, a level that the EPA found "maximizes health risk reduction benefits at a cost that is justified by the benefits."[73]

Shortly thereafter, the standard was put on hold following an order from the President's Chief of Staff, Andrew Card, that was certainly not science-based and may have been unlawful.[74] In announcing that the Bush Administration would withdraw the Clinton Administration's arsenic standard, EPA Administrator Christine Whitman said "[w]hen the federal government imposes costs on communities, especially small communities, we should be sure the facts support imposing the federal standard."[75] At about the same time, she said on the television show Good Morning America that since "there's no scientific study that definitively says that 10 is the magic number, what we have to do is ensure we've taken into account all the newest studies."[76] At that time, Administrator Whitman did not allude to any desire on the part of any of the agency's scientists or scientific advisors to revisit the arsenic standard.

The enormous public outcry that resulted from EPA's decision to suspend the effective date of the arsenic standard forced the agency to reconsider its cavalier approach toward drinking water regulation. In April, Administrator Whitman announced that the EPA would look at new science and data available since the original (1999) arsenic study by the National Academy of Sciences, and requested review of all the new and existing material by three expert panels: the "National Academy of Sciences looked at risk, the National Drinking Water Advisory Council examined costs to water systems throughout the nation and EPA's Science Advisory Board assessed benefits."[77] After the second panel declined to abandon the conclusions of the first

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[73] EPA Arsenic Factsheet.

[74] On January 20, 2001, White House Chief of Staff, Andrew Card, wrote a memorandum to the heads and acting heads of all Executive Branch agencies to communicate to them President Bush's "plan for managing the Federal regulatory process at the outset of his Administration." Memorandum for the Heads and Acting Heads of Executive Departments and Agencies from Andrew H. Card, Jr., dated January 20, 2001, 66 Fed. Reg. 7702 (2001) [hereinafter cited as Card memo]. Subject to some limited exceptions for emergencies and urgent situations relating to public health and safety, the memorandum asked the agency heads to "withdraw" any regulation that had been sent to the Office of the Federal Register, but had not been published in the *Federal Register*. The regulation was not to be published in the *Federal Register* "unless and until a department or agency head appointed by the President after noon on January 20, 2001, reviews and approves the regulatory action." Id. With respect to final regulations that had been published in the *Federal Register* but had not taken effect, the agency heads were asked to "temporarily postpone the effective date of the regulations for 60 days." Id. EPA's 60 day delay of the effective date of the arsenic rule was accomplished "[i]n accordance with the memorandum of January 20, 2001, from the Assistant to the President and Chief of Staff, entitled 'Regulatory Review Plan.'" U.S. Environmental Protection Agency, National Primary Drinking Water Regulations; Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring: Delay of Effective Date, 66 Fed. Reg. 16134 (2001). An executive order requiring an agency to postpone the effective date of a final rule that has been published in the Federal Register is probably unlawful under the Administrative Procedure Act. *See* Testimony of Thomas O. McGarity before the Subcommittee on Energy, Policy, Natural Resources and Regulatory Affairs of the House Committee on Government Reform, March 27, 2001.

[75] March 20 speech, reported in Chicago Tribune, 3/21/01.

[76] *Good Morning America* (NBC Television broadcast, March 27, 2001).

[77] EPA website, http://www.epa.gov/sgi-bin/epaprintonly.cgi, visited March 6, 2002 [hereinafter EPA

report and in fact reached conclusions supporting an even more stringent standard,[78] on October 31, 2001, EPA reluctantly allowed the standard proposed by the Clinton Administration to go into effect.[79] In embracing the original EPA determination, Whitman stated that the additional study and consultation "reinforced the basis for the decision . . . and we are reassured by all of the data that significant reductions are necessary. As required by the Safe Drinking Water Act, a standard of 10 ppb protects public health based on the best available science and ensures that the cost of the standard is achievable."[80]

Despite EPA's intensive examination (and re-examination) of the arsenic standard, the Mercatus Center nevertheless nominated the arsenic standard for "review or rescission." Mercatus asserts that "based on EPA's own analysis, benefits do not justify costs at standards of either 5 or 10 ppb", and proposes that EPA should "set a standard such that benefits justify costs.[81] Apparently, OIRA agrees with Mercatus' analysis despite Administrator Whitman's statements to the contrary, since OIRA included the arsenic standard on its "hit list" of 23 "high priority regulatory review issues" nearly two months after EPA promulgated the final regulation.[82] OIRA fails to include any rationale to support this determination, as indeed it cannot given the number of studies and scientific experts supporting the arsenic standard. The only explanation is that OIRA is placing the interests of industry ahead of public safety and health, and in doing so, disregarding its proper role in the regulatory process.

New Source Review Rules

The Clean Air Act, enacted in 1970, contains a grandfather clause that exempts hundreds of the nation's oldest and dirtiest power plants, oil refineries and chemical and manufacturing plants from complying with current pollution clean-up rules.[83] Specifically, New Source Review (NSR) provisions require new facilities to install pollution control equipment when they are built, and require old facilities to install state of the art pollution reducing equipment when they expand their operations in a manner that increases pollution emission significantly.[84] The purpose of the NSR program is to "protect public health and welfare, as well as national parks and wilderness areas."[85]

According to EPA estimates, over the period from 1997 to 1999, the NSR program has

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Website].

78 Subcommittee to Update the 1999 Arsenic in Drinking Water Report, National Research Council, National Academy of Sciences, Arsenic in Drinking Water: 2001 Update 40 (2001).

79 EPA, National Primary Drinking Water Regulations; Arsenic and Clarification to Compliance and New Source Contaminants Monitoring, 66 Fed. Reg. 6975, 7003 (2001).

80 EPA Website.

81 OMB 2001 Report to Congress.

82 Id.

83 "Rewriting the Rules: The Bush Administration's Unseen Assault on the Environment," National Resources Defense Council, p. 9 [hereinafter, NRDC Report].

84 "New Source Review 90-Day Review Background Paper," June 22, 2001, Environmental Protection Agency, p. 2 [hereinafter NSR Background].

85 NSR Background, p. 2.

reduced emissions by over 4 million tons.[86] The unhealthful effects of these emissions are breathtaking. EPA estimates the annual health bill from 7 million tons of SO2 and NO2 at "more than 10,800 premature deaths, at least 5,400 incidents of chronic bronchitis, more than 5,100 hospital emergency visits and over 1.5 million lost work days."[87] Another study by Abt Associates, a private research group that does work for the EPA, found that 31,000 deaths a year are caused nationwide by power plant emissions.[88] Add to this human toll the irreparable damage to our national parks, watersheds, wildlife and natural resources, and it is clear that rigorous enforcement of NSR is essential to our national health and well-being.

In 1999, the Clinton Administration launched a series of lawsuits against power plants and oil refineries for violating NSR requirements.[89] Two of these suits were successfully settled, resulting in an annual emissions reduction of SO2 and NO2 of a quarter million tons.[90] Unfortunately, under the Bush Administration, all momentum in these cases has been lost due to the occurrence of two events.

First, in May 2001, the Bush Administration directed EPA to initiate a 90-day review of NSR requirements (which review continues today, nearly ten months later). As a result, the EPA and the Department of Energy have engaged in very public wrangling regarding "proposed revisions" to NSR requirements.[91] The second event was the Bush Administration's announcement of its "Clear Skies Initiative" on February 14, 2002, which addresses emissions of SO2, NO2 and mercury from power plants. If enacted, the "Clear Skies Initiative" would apply to both old and new plants, thus apparently replacing NSR requirements for power plants.[92] There are serious uncertainties as to the effectiveness of the "Clear Skies Initiative," among them, how facilities will achieve the emissions reductions required to meet the ambitions caps proposed by the plan and the level of long term limits emissions.[93] According to an EPA analysis prepared for Vice President Cheney's task force, the existing Clean Ai Act programs would reduce power

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[86] Id. at 8. This estimate represents emission reduction resulting from Best Available Control Technology (BACT) required by only one of the two programs comprising NSR. Thus, actual emissions reduction is significantly higher.

[87] Data provided to the Senate Environment Committee by EPA, February 27, 2002 letter from Eric V. Schaeffer, former Director of EPA's Office of Regulatory Enforcement, to Administrator Christine Todd Whitman [hereinafter, Schaeffer Letter].

[88] "White House Warned on Easing Clean Air Rules," Washington Post, Eric Pianin, January 9, 2002 [hereinafter, Post January 9].

[89] "EPA Veteran Resigns Over Pollution Policy," Washington Post, Eric Pianin, March 1, 2002 [hereinafter, Post March 1].

[90] Schaeffer Letter.

[91] Post January 9

[92] *See* McGarity Testimony.

[93] *See* McGarity Testimony. Many plants already switched from high sulfur coal to cleaner burning lower sulfur coal and natural gas to meet the less ambitious caps established by the acid rain program created by the 1990 Clean Air Act amendments. As a result, companies will likely have to install costly pollution reduction equipment, or acquire the necessary permits to forgo pollution controls, large capital expenditures the will be loath to undertake. Further complicating the issue, the "Clear Skies Initiative" as proposed requires Congress to set caps only for 2010 targets. EPA would later establish 2018 caps after reviewing "new scientific, technology and cost information, and if necessary, adjust[ing] the phase two targets."

plant emissions in almost half the time as Bush's "Clear Skies Initiative."[94]

These two developments undermine the integrity of current NSR requirements and send a clear signal to power companies and refineries that the Bush Administration intends to relax emissions controls, thus removing any incentive to come to the table to negotiate a settlement or comply with the law in the short term. Indeed, Administrator Whitman herself acknowledged this fact on March 7, 2002 at a Senate Committee on Governmental Affairs hearing on the Bush Administration's environmental record. Administrator Whitman stated, "If I were a plaintiff's attorney, I wouldn't settle anything until I knew what happened with [the Tennessee Valley Authority] case."[95] Not surprisingly, two defendants have refused to sign consent decrees to which they agreed fifteen months ago, "hedging their bets while waiting for the Administration's Clean Air Act reform proposals."[96]

Adding fuel to the NSR controversy, the Mercatus Center nominated NSR regulations for "review or rescission" and, in its 2001 Costs and Benefits Report to Congress, OIRA identified the regulations as "high priority" for review. Mercatus supported the nomination of the NSR regulations asserting that they are a "deterrent to investment in new oil refinery and power generation capacity" and that "EPA's aggressive application of NSR provide[s] perverse incentives and encourage litigation." Mercatus suggested that EPA use the "settlement process to alter its NSR policy."[97]

Mercatus' comments are entirely without merit. First, the Justice Department has already determined that enforcement of NSR is not overly aggressive. In May 2001, the National Energy Development Group, headed by Vice-President Dick Cheney, recommended that President Bush direct the Attorney General to "review existing enforcement actions regarding New Source Review to ensure that the enforcement actions are consistent with the Clean Air Act and its regulations."[98] In response to this directive, on January 15, 2002, the Justice Department announced its conclusion that EPA was "justified in suing operators of scores of aging coal-fired power plants that were illegally polluting the atmosphere" and Attorney General John Ashcroft vowed to continue to "vigorously" pursue those cases.[99]

Second, as described above, relying on the "settlement process" to amend NSR policy is a joke given the Bush Administration's undermining of NSR regulations with phantom proposed regulations and Administrator Whitman's statement advising defendants against settlement. OIRA's unexplained acceptance of Mercatus' unfounded arguments supporting "review or

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94 Andrew Goldstein, "For Bush, It's Not Easy Being Green," Time, February 25, 2002.

95 Katharine Q. Seelye, "E.P.A. Chief Says Pollution Will Probably Stay Unsettled Until Related Case Is Decided," New York Times, March 8, 2002. It should be noted however, that under the current Administration, the EPA has not filed any new enforcement lawsuits.

96 Schaeffer Letter

97 OMB 2001 Report on the Cost of Regulations.

98 NSR Review, Appendix A.

99 "Suits Against Power Firms Justified, Justice Department Says," Washington Post, Eric Pianin, January 16, 2002.

rescission" of NSR regulations underscores the pervasive influence of industry in shaping OIRA's agenda.

HHS Standards for Privacy of Individually Identifiable Health Information[100]

The Department of Health and Human Services (HHS) issued a final medical privacy rule (Standards for Privacy of Individually Identifiable Health Information) in December 2000 in response to a mandate from Congress dating back to 1996. This privacy rule has been the subject of a lengthy, thorough, and robust rule-making process – both before its December 2000 release in final form and since that release – a process that continues to this day. Indeed, HHS Secretary Thompson is reportedly on the verge of releasing a set of proposed modifications to the final rule, in accordance with the modification process established by Congress in 1996.

That 1996 law, the Health Insurance Portability and Accountability Act (HIPAA), imposes upon HHS the legal duty to adopt and implement a series of "Administrative Simplification" rules to improve the "efficiency and effectiveness of the health care system by encouraging the development of a health information system through the establishment of standards and requirements for the electronic transmission of certain health information."[101] In addition to ensuring the privacy of individually identifiable health information, other rules required by HIPAA establish uniform standards for electronic health care transactions and security rules to safeguard the data. Representatives of health care consumer groups, health plans, and health providers all reached consensus in 1996 that the movement toward an electronically based health care system should not go forward without adequate federal protections in place for the confidentiality of health information. Congress agreed and HIPAA reflects this consensus.

Pursuant to its congressional mandate, HHS issued a proposed privacy rule in November 1999. In response to requests from industry representatives and consumer advocates, HHS extended the initial 60-day comment period by an additional 45 days, giving the public more than 3 months to submit comments. Of the over 52,000 comments eventually submitted,[102] more than half came from consumers and their representatives. After the comment period closed, HHS spent 10 months engaged in extensive fact finding prior to releasing the final rule. The thoroughness with which HHS considered these comments is reflected in the preamble to the final rule. Indeed, almost 200 pages of the preamble are devoted to summarizing and responding to these comments.

Overall, the final product of that extensive rule-making process was a balanced rule. HHS made many significant changes sought by consumer groups, as well as many of the changes urged by health care providers, health plans, clearinghouses, researchers, and others operating in

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[100] We thank Georgetown University's Health Privacy Project for their assistance in preparing this testimony. Much of the following is adapted from *Comments on Final Federal Standards for Privacy of Individually Identifiable Health Information*, submitted to HHS by Georgetown University's Health Privacy Project and endorsed by 31 additional organizations (dated March 29, 2001).

[101] 65 Fed. Reg. At 82463 (December 28, 2000).

[102] *See* 66 Fed. Reg. at 12739 (February 28, 2001).

the health care arena. HHS described the three pronged purpose of the final regulation: (1) to protect and enhance the rights of consumers by providing them access to their health information and controlling the inappropriate use of that information; (2) to improve the quality of health care in the U.S. by restoring trust in the health care system among consumers, health care professionals, and the multitude of organizations and individuals committed to the delivery of care; and (3) to improve the efficiency and effectiveness of health care delivery by creating a national framework for health privacy protection that builds on efforts by states, health systems, and individual organizations and individuals."

Originally scheduled to go into effect on February 26, 2001, the privacy rule's effective date was delayed to April 14, 2001. On February 28, 2001, HHS published a notice opening the final health privacy rule for a 30-day public comment period.[103] HHS received over 24,000 comments during that 30-day period.[104] After the comment period ended, HHS allowed the rule to go into effect on April 14, 2001. Most entities that must comply with it have until April 14, 2003 to do so; small health plans have an additional year.[105]

HIPAA expressly provides a mechanism for HHS to modify the privacy rule. Under Section 262 of HIPAA (adding Section 1174 to the Social Security Act), the Secretary of HHS has the authority to modify the privacy standards during the first 12 months after the standard is adopted (*i.e.*, becomes effective) when such modification "is necessary in order to permit compliance with the standard." After that first 12-month period, the Secretary may issue modifications as needed, but not more frequently than once every 12 months. Thus, HIPAA anticipates and provides a statutory mechanism for resolving any implementation problems that may arise, making it clear that Congress did not envision a substantive role for OIRA in revising the rule.[106]

The federal health privacy rule represents a significant and decisive step toward restoring public trust in our nation's health care system. It gives people more information about and more control over how their health information is used and disclosed. It also gives people important new rights, including the right to obtain a copy of their medical records and request necessary corrections to them.

Opponents in the industry object to the cost of complying with the rule. Indeed, the Mercatus Center cited cost as the basis for its nomination of the rule for "review or rescission," stating that the "cost of compliance could reduce access to health care by increasing the cost of

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[103] *See* 66 Fed. Reg. at 12738-39 (February 28, 2001).

[104] *See* Statement of HHS Secretary Thompson released on April 12, 2001.

[105] On July 6, 2001, HHS issued guidance to the privacy rule to clarify key provisions of the rule and respond to questions. In that guidance, HHS indicated that it intended, in the future, to propose some modifications to the final rule. It is those modifications that are expected any day.

[106] Congress has not taken any action to delay or modify the privacy rule. Late last year, Congress enacted a law to delay by one year the compliance time frame for the HIPAA transaction and code sets regulation, but that new law states clearly that it does not impact the compliance time frame for the privacy rule. *See* Pub. L. No. 107-105.

treatment."[107] Privacy advocates however, point out that the costs of *not* implementing this rule far outweigh the costs of implementing it. If federal privacy protections are not in place, millions more people will engage in privacy-protective behaviors – to the detriment of their own health and the integrity of research – and confidence in our health care system will continue to erode. According to a national survey released by the California HealthCare Foundation in 1999, 15 percent of adults say they have done something out of the ordinary to keep medical information confidential. These privacy-protective measures include paying out-of-pocket despite having insurance coverage, changing doctors to avoid a consolidated medical record, not seeking care to avoid disclosure to an employer, and giving incomplete or inaccurate information in a medical history.[108]

It makes no sense to look at the cost of implementing the privacy rule in isolation, as did the Mercatus Center did in its recommendation for rescission. The privacy rule is an integral – and necessary – part of a package of Administrative Simplification rules contained in HIPAA. The goal of standardizing electronic health care transactions is to create efficiencies and save money. HHS estimates that the cost associated with implementing the privacy rule (approximately $17 billion over ten years) will be greatly offset by the cost savings associated with implementing HIPAA's transactions standards (approximately $29 billion saved over ten years).[109] If implemented together, as contemplated by Congress, consumers will benefit, health care organizations will benefit, and the health of our communities will benefit. Even assuming, *arguendo*, that the Mercatus Center's increased cost estimate for the privacy rule is accurate, a net savings will be achieved when the privacy rule is implemented along with the transactions standards, as Congress intended.

Moreover, contrary to the Mercatus Centers' assertion otherwise, the privacy rule is not a "one-size-fits-all" approach. HHS intends the administrative requirements of the privacy rule to be both flexible and scalable, depending on the size, function and organization of the covered entity.[110] For example, smaller health plans have an additional year to comply with the privacy regulation. This even handed approach should allow covered entities to comply with the regulation for a fairly minimal cost.

Hours of Service Rule

The Federal Motor Carrier Safety Administration (FMCSA) has completed its analysis of docket comments and is now considering regulatory options in its revision of Hours of Service (HOS) regulations. A Notice of Proposed Rulemaking was published on May 2, 2000.[111] The appropriations bill for 2001 (H.R. 4475) prevented the DOT from spending any money to adopt a final rule. In its recommendation for reconsideration of the proposed rule, the Mercatus Center alleges that the DOT did not present data supporting its conclusions that driver fatigue

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107 OMB 2001 Report on the Cost of Regulations

108 This survey is available at the California HealthCare Foundation's Web page: www.chcf.org.

109 *See* 65 Fed. Reg. at 82760 (December 28, 2000).

110 *See* 65 Fed. Reg. at 82471 (December 28, 2000).

111 65 FR 25540.

contributes to highway fatalities and did not address either driver fatigue or highway accidents in its proposal. As illustrated below, this is patently untrue.

The FMCSA's revision of its hours-of-service regulations was directly related to the dire need to reduce the risk of crashes involving commercial motor vehicles (CMVs) and the result of much careful study by the agency. The FMCSA estimates that 755 fatalities and 19,705 injuries occur each year on the Nation's roads because of drowsy, tired, or fatigued CMV drivers.

Although basic HOS regulations have been in place since 1938, changes in the transportation system and the construction of the Interstate Highway System have contributed to significantly higher traffic speeds and volumes. The HOS regulations must be revised to reflect the increased exposure to risks of accidents that follows automatically from annual increases in the number of trucks and other vehicles on the road and in total vehicle miles of travel (VMT) cannot be overstated. Revision of the HOS regulations is in the proposed rulemaking phase.

More than 23,000 comments were received in response to the agency's notice of proposed rulemaking. An NPRM to amend HOS regulations in 1996 alone prompted 1,650 comments, with the strongest support for amending the rules coming from truck drivers, those most directly affected by the rule.

The FMCSA has documented the relationship between fatigue and fatalities extremely well. Present HOS regulations do not adequately ensure that drivers are rested. The agency tentatively estimates that 15 percent of all truck-involved fatal crashes are "fatigue-relevant," that is, fatigue is either a primary or secondary factor. A June 1, 1999, letter from Jim Hall, Chairman of the NTSB to DOT Secretary Rodney E. Slater states that "fatigue has remained a significant factor in transportation accidents since the Safety Board's 1989 recommendations" on improving HOS regulations.

Clearly, risk increases with time driven, as several studies cited by FMCSA have shown. There is a dramatic and consistent increase in crash risk after 8 hours of driving, while approximately 20 percent of the fatal crashes per year involve drivers who have been behind the wheel for 13 or more hours.[112] Long-haul operations account for two-thirds of all fatalities.[113] Fatigue peaks between 4 a.m. and 6 a.m., at which time fatigue-related fatalities increase dramatically.[114]

Of the five options considered,[115] the net benefit ranges from $1.721 to $3.359 billion dollars, including paperwork benefits.[116] When paperwork benefits are excluded, option 5 results in a net benefit of $153 million dollars.[117] Option 5 is a variation of revised options 2 and 4 (14-hour

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112 65 FR 25540.
113 Id., Chart 4, NPRM.
114 Id., Chart 2, NPRM.
115 Id., Table 5, FMCSA Revised Regulatory Options.
116 Id., Table 15.
117 Id., Table 16.

work/drive/break/nap period), with the added provision that both Type 1 and 2 drivers would be required to use an EOBR. The estimated baseline crash reduction from the regulatory changes is 5 percent, while the reduction for motor carriers using Electronic On-Board Recording devices (EOBRs) is 20 percent.[118] A 10 percent reduction in fatigue-related crashes through the use of EOBRs alone results in a net benefit of $1,816 million dollars.[119] The benefits of this rule would continue, as crashes are avoided, and paperwork reduced, every year the rule is in effect. Over a 10-year analysis period, all options would yield substantial benefits, ranging from $4.4 billion to almost $6.8 billion dollars.[120]

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118 Id., Table 6.
119 Id., Table 19.
120 Id., Table 10.

Appendix II: OIRA Administrator Graham Has Deep Ties to Regulated Industries

The relationship between OMB and regulated industries must be a matter for public scrutiny. There has been, in the past, a grave problem with the staff of OIRA and OMB conducting secret meetings and communications with industry representatives, outside the scope of agency transparency and accountability. Given the intense public interest in the operations of this office, and its enormous power over the regulatory process, Congress must remain vigilant, and must take whatever steps are necessary to maintain OMB's obligation to remain accountable to the public, Congress and government regulators.

Dr. Graham's record of activities prior to assuming the post of OIRA Administrator has raised alarm bells across the public interest community. Over the past decade, the Harvard Center for Risk Analysis (HCRA) directed by Graham received unrestricted funding from 100 major industrial corporations and corporate trade associations, including oil, energy, chemical, agribusiness, mining and auto interests, such as Monsanto, National Steel, Kraft Foods (a subsidiary of Philip Morris), Atlantic Richfield, Ford Motor Company, Dow, 3M, DuPont, Exxon, the Chlorine Chemistry Council, the American Automobile Manufacturers Association, the American Petroleum Institute, the American Crop Protection Association, and the Chemical Manufacturers Association, now called the American Chemistry Council.

Notably, unrestricted funding was not covered by his Center's conflict of interest policy, so the timing of these donations and the amount of money given to the Center remain a mystery to the public. Corporations also provided restricted funding for use in particular projects, such as the $300,000 from AT&T Wireless Communications that was the basis for the Center's year 2000 study on the hazards of cellular phones and driving.

High-ranking executives from Oxford Oil, the National Association of Manufacturers, Eastman Chemical, Tenneco Incorporated, CK Witco Corporation, and Novartis Corporation served on the Center's Executive Board. The Center's Advisory Council included corporate officers from DuPont and the Grocery Manufacturers Association, and the chief attorney for environmental affairs at Exxon Chemical Americas.

Industry funders, which according to news reports comprised 60 percent of the Center's annual budget under Graham, have seen their interests reflected in the Center's research, in Graham's work, and in his statements to the media and testimony to Congress. As the Public Citizen report, *Safeguards At Risk,* shows, Graham's work at the Harvard Center for Risk Analysis lent academic legitimacy to regulated industries' opposition to environmental, health and safety standards. Graham consistently invoked the name of Harvard University and of the Harvard School of Public Health, while failing to mention that a majority of his Center's funding derived from industry sources. Corporations and industry trade associations were, predictably, delighted to sponsor an advocate bearing the highly esteemed credentials of Harvard to serve as a mouthpiece for their opposition to potentially costly new rules.

While at the Center, Graham frequently appeared in print or on television, yet there was very often no disclosure by the media of the fact that much of his Center's funding was derived from industry sources. It also went unmentioned that the particular regulation that was being discussed could have directly impacted companies that financially support his Center.

There were three distinct problems with Graham's statements to the media along these lines. The first was that his (or the reporter's) failure to disclose the funding relevant to the subject of the article was very misleading, given Graham's consistent depiction as a Harvard-based academic presumed to be a neutral "expert" on risk-related issues. The second problem was that many of the tradeoffs Graham discusses are false dichotomies— of course we can, and do, choose to worry about both poisoning prevention and poisoning from petrochemicals in our water or air.

The third problem was that, as we have suggested in the testimony, cost-benefit analysis and/or risk management tools would have a hard time doing what Graham implied they could. As University of Texas Law Professor Thomas McGarity put it, the notion that cost-benefit analysis is "ready for prime time" was just wrong on the facts:[121]

> It is simply wrong to suggest, . . . as do regulatory reformers, that a consensus exists that thousands of lives or billion of dollars could easily be saved if Congress and the agencies merely made more effective use of cost-benefit analysis in setting priorities.

The following chart depicts some of the phony risk tradeoffs that Graham has promoted over the past decade and shows whether Graham's pertinent funders were disclosed in the coverage.[122] This list addresses specific, potential conflicts of interest. However, we note that to the extent that Graham's comments were about "risk" or "fear" in general, they served the anti-regulatory purposes of most of his funders.

During the nomination fight, Public Citizen called HCRA to inquire about the timeliness of the Center's posted list of funders. The spokesperson for HCRA stated that the list on the HCRA Web site was a "cumulative" list of all funders of HCRA, both past and present.[123] Thus, we were unable to define whether Graham's funding from a particular source was contemporaneous with his comments.

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[121] Thomas O. McGarity, "A Cost-Benefit State" 50 Ad. L. Rev. 1 (1998) at 54.

[122] The companies listed were HCRA supporters under Graham's direction.

[123] Telephone conversation, Feb. 16, 2001, between Public Citizen and the Harvard Center for Risk Analysis.

A Comparison of Graham's Risk Tradeoffs and Corporations That Funded the Harvard Center for Risk Analysis

Source, date, and title of news article	Regulatory subject/s discussed in the article	The regulatory programs that Graham recommends instead	Sources of HCRA funding relevant to the article's subject	Disclosure of any of Graham's funding sources?
Dolores Kong, "Scientists Warn Against Panic Over Electromagnetic Field Effect, "*The Boston Globe*, Nov. 13, 1992.	Electromagnetic fields (EMFs) and child leukemia. The article also mentions studies that have suggested a link between EMFs and brain tumors and leukemia from cell phones, electric blankets, television and hair dryers. The article discussed new Swedish research indicating that children who live near high-voltage power transmission lines had 4 times the normal risk for leukemia.	Bicycle helmets, poisoning prevention, and immunization The article quotes Graham as saying that "the highest priority for our children should be preventing the known risks before we become paralyzed by speculation. So let's get on with bicycle helmets, poisoning prevention, and immunizations." The article also states that "in the spectrum of risk, getting cancer from electromagnetic fields would be slim, even if a connection were proven, say scientists." [This is because childhood cancer is rare in general— an observation which does nothing to counter the prospect of *additional* risks posed by EMFs.]	Carolina Power and Light, Charles G. Koch Foundation, Edison Electric Institute, Electric Power Research Institute, New England Power Service, New England Electric System, Union Carbide Foundation, Westinghouse Electric Corporation, Emerson Electric, General Electric Fund	**No Disclosure**
Child Health Alert, Inc., "More Worrisome News About Electromagnetic Fields," *Child Health Alert*, Dec. 1992.	Electromagnetic fields According to this article, the Swedish EMF findings "produced anxiety ranging from caution to outright panic among those who care for children."	Preventable accidents, poisonings The article states, "Another perspective, and one we've shared for some time, is provided by Dr. John Graham of the Harvard School of Public Health . . . he notes that compared to the number of children who die from preventable accidents and poisonings, leukemia claims far fewer lives," and quotes Graham as above in *The Boston Globe*.	Carolina Power and Light, Charles G. Koch Foundation, Edison Electric Institute, Electric Power Research Institute, New England Power Service, New England Electric System, Union Carbide Foundation, Westinghouse Electric Corporation, Emerson Electric, General Electric Fund	**No Disclosure**
J. Madeleine Nash, "Keeping Cool About Risk," *Time*, Sept. 19, 1994.	Dioxin and Alar (a pesticide), radon, asbestos **Not mentioned in the article:** The 1994 EPA draft Reassessment had concluded that dioxin was an extraordinarily potent environmental hormone, caused a wide variety of toxic effects, and that background exposures may already be causing health effects.	Vaccinations, bicycle helmets The article quotes Graham, "Phantom risks and real risks compete not only for our resources but also for our attention . . . It's a shame when a mother worries about toxic chemicals, and yet her kids are running around unvaccinated and without bicycle helmets."	Dow (the leading producer of dioxin), Chlorine Chemistry Council, CIBA-Geigy, General Electric, DuPont, Georgia-Pacific, Hoescht-Celanese, ICI Americas, Kodak, Monsanto, Olin, BASF, ARCO Chemical Co., FBC Chemical Corp., 3M **See below in chart for a complete list of dioxin producing companies that fund HCRA.**	**No Disclosure** In fact, Graham was actively and directly critical of the EPA's report during his presentations to the EPA's Reassessment Science Advisory Board.[124] And a month prior he had organized a high-profile conference on drinking water and health risks financed by the Chemical Manufacturer's Assoc. and the Chlorine Chemistry Council.[125]

[124] "Science Advisory Board Questions Major Parts of EPA Dioxin Report," *Air/Water Pollution Report,* May 22, 1995. Graham was reported as saying that "[t]he report overstates the carcinogenic risks that dioxins and related compounds may pose and fails to seriously analyze uncertainties about these chemical sand to show how incremental changes in exposure could affect health."

[125] A report on dioxin posted on the Greenpeace Web site describes Graham's participation in the EPA process on the dioxin reassessment. See <www.enviroweb.org/issues/dioxin/dow_brand_dioxin.txt>.

Source, date, and title of article	Regulatory subject/s discussed in the article	The regulatory programs that Graham recommends instead	Sources of HCRA funding relevant to the article's subject	Disclosure of any of Graham's funding sources?
Patricia Braus, "Everyday Fears," *American Demographics*, Dec. 1994.	Benzene and agricultural pesticides Discusses the general topic of risk, and "misconceptions" about risk, from the perspective that expert risk assessment should guide public policy.	Vaccinations, bicycle helmets, trauma centers To quote: "Harvard's John Graham criticizes what he calls excessive regulation of industrial substances such as benzene and certain agricultural pesticides. He believes that more lives would be saved if regulators increased funding for trauma facilities that help victims of traffic accidents and violent crime. He also favors vaccination, expanded use of bicycle helmets, and other preventive actions that benefit those who have the most living to lose – children."	American Petroleum Institute, Amoco Corporation, ARCO, Ashland Inc., Foundation, BASF, BP America, Inc., Chevron Research and Technology Company, CITGO Petroleum Corporation, Exxon, Mobil Foundation, Inc., Oxford Oil, Oxygenated Fuels Association, Shell Oil Company Foundation, Unocal	No Disclosure
Curt Suplee, "Assessing the Risk in Contract's 'Cost-Benefit' Curb on Regulations," *Washington Post*, Feb. 28, 1995.	Benzene in outdoor air, pesticides, fuel economy standards. The article was about the proposed risk assessment "regulatory reform" bill in general.	Community violence reduction, lead paint from old homes, increasing preventive health services – *and airline safety* In response to an EPA rule concerning a one in a million *additional* chance of getting cancer from pesticides, Graham argued that "a baby born today, at current mortality rates, incurs a risk of four in a million of being struck and killed on the ground by a crashing airplane."	American Petroleum Institute, Amoco Corporation, ARCO, Ashland Inc., Foundation, BASF, BP America, Inc., Chevron Research and Technology Company, CITGO Petroleum Corporation, Exxon, Mobil Foundation, Inc., Oxford Oil, Oxygenated Fuels Association, Shell Oil Company Foundation, Unocal	No Disclosure
Emily T. Smith, "Voodoo Regulation?" *Business Week*. Mar. 13, 1995.	Benzene, environmental regulation in general. The article discussed whether risk assessment-based regulatory "reform" should be enacted.	Screenings for breast and cervical cancer "This country, says Graham, "is paranoid and neglectful about risk at the same time." Graham also said on the regulatory rollback bill: "We need a bill if we want to improve risk assessment . . .It will force the bureaucracy and private sector to improve the process."	American Petroleum Institute, Amoco Corporation, ARCO, Ashland Inc., Foundation, BASF, BP America, Inc., Chevron Research and Technology Company, CITGO Petroleum Corporation, Exxon, Mobil Foundation, Inc., Oxford Oil, Oxygenated Fuels Association, Shell Oil Company Foundation, Unocal	No Disclosure
"Science Advisory Board Questions Major Parts of EPA Dioxin Report," Air Water Pollution Report, May 22, 1995.	Dioxin. The subject was the Science Advisory Board's response to EPA's 1994 draft risk assessment on dioxin.	Graham generally criticized the EPA's findings: "The report overstates the carcinogenic risks that dioxins and related compounds may pose and fails to seriously analyze uncertainties about these chemicals and to show how incremental changes in exposure could affect health, said John Graham."	Philip Morris documents specifically suggested that the EPA's approach to risk assessment in areas other than tobacco and second-hand smoke should be criticized. Graham has received money from Kraft, a Philip Morris subsidiary. **HCRA is funded by 48 dioxin producers. See below.**	No disclosure

Source, date, and title of article	Regulatory subject/s discussed in the article	The regulatory programs that Graham recommends instead	Sources of HCRA funding relevant to the article's subject	Disclosure of any of Graham's funding sources?
Stuart Anderson ("policy director" of the Alexis De Tocqueville Institute), "Measuring the Cost of Regulation: How To Save More Lives For the Money," *The San Diego Tribune*, Oct. 1, 1995.	Fuel economy standards	Graham suggests that fuel economy standards have resulted in smaller cars are less safe.	Amoco Corp., American Petroleum Institute, Bethlehem Steel Corp., BP America, Chevron, CITGO Petroleum, Exxon, Ford Motor Co., GM, Mobil, Oxford Oil, Oxygenated Fuels Assoc., Shell Oil, Texaco, Union Carbide, Unocal, Automobile Manufacturers Assoc.	No disclosure
David Lore, "Determining Toxic Risks is Costly Voodoo, Lawyer Says," *The Columbus Dispatch*, Nov. 24, 1995.	Toxin control rules (chemicals)	Health care and injury prevention Graham says, "'The failure to compare the costs of toxin control rules to rules on health care and injury prevention and to allocate resources based on those comparisons is resulting in 'statistical murder.'"	Dow, DuPont, American Chemistry Council., Millenium Chemical Co., Monsanto, Atlantic Richfield Corp., ARCO Chemical Co., FBC Chemical Corp., Eastman Chemical Co., Louisiana Chemical Co., Air Products and Chemicals, Inc. Chlorine Chemistry Council, Rohm and Haas Co., and many others.	No disclosure
Scott Allen, "US Accepts $129 M for Cleanup of Love Canal; Some Say Set a Wrong Course," *The Boston Globe*, Dec. 22, 1995.	Superfund cleanup of Love Canal paid for by Occidental Chemical Corp. 20,000 tons of chemicals were dumped into Love Canal in Niagara Falls, NY from 1942 to 1953.	Violence prevention and pregnancy prevention. "'Does it really make sense to spend, say $50 million on speculative risks when you don't have the resources to provide violence prevention or pregnancy prevention in the schools?' asks John Graham . . . Graham said his review of more than 100 Superfund cases found 'a basic reluctance to apply basic principles of cost-benefit analysis.'"	Graham generally attacked the Superfund program, which affects many funders. Specifically, according to its Web site, Occidental's partners in its petrochemicals operations are Lyondell Chemical Co. and Millenium Chemicals. Both are donors to HCRA.	No disclosure
Rick Weiss & Gary Lee, "Pollution's Effect on Human Hormones," *The Washington Post*, Mar. 31, 1996.	Endocrine disruptors, DDT, PCBs, DDE, pesticides, dioxin (also mentions electromagnetic fields and global warming) The article described reactions to the publication of *Our Stolen Future*, a book on endocrine disruptors, which detailed the evidence that they may cause reproductive problems, childhood hyperactivity and a decline in global intelligence.	"'True or not, the idea that chemicals are wreaking havoc with our reproductive systems has all the elements needed to provoke a public panic," said John Graham." A quote from Graham also ended the article: "'We are just beginning to understand why we are so paranoid about some risks and tragically neglectful of others,' [Graham] said. 'But in the final analysis, it often comes down to. Who do we trust? *And that makes risk management very difficult these days, because people aren't inclined to trust anyone.*'"	**American Crop Protection Association**, **American Chemistry Council (formerly the Chemical Manufacturers Association), Chlorine Chemistry Council**, Dow (the leading producer of dioxin), CIBA-Geigy, General Electric, DuPont, Georgia-Pacific, Hoecsht-Celanese, ICI Americas, Kodak, Monsanto, Olin, Kraft Foods, Frito-Lay, PepsiCo Inc., Coca-cola, DowElanco, Grocery Manufacturers of America, International Paper, National Food Processors Association	**No disclosure** The article also described the chemical industry's proactive plans to "counterattack against the issue of endocrine disruptors" in anticipation of the book's publication: "Among those in the huddle were the **Chemical Manufacturers Association, the Chlorine Chemistry Council . . . and the American Crop Protection Association**."

Source, date, and title of article	Regulatory subject/s discussed in the article	The regulatory programs that Graham recommends instead	Sources of HCRA funding relevant to the article's subject	Disclosure of any of Graham's funding sources?
John Graham, "There's a Deadly Confusion About Health Risks," *The Houston Chronicle*, Nov. 29, 1996.	Electro-magnetic fields (EMFs), silicone breast implants, Superfund and abandoned industrial waste sites, cancer	Bicycle helmets, injury prevention (accidental crashes and falls), lead in peeling paint [removal is mostly the responsibility of individual landowners], firearm violence, encouraging regular physical exercise	On EMFs only: Edison Electric Institute, General Electric, Electric Power Research Institute, Emerson Electric, New England Power Service, England Electric System	**No disclosure--** Note that Graham is the author
Steve Schenck, "The Chemical Flood," *Alt HealthWatch*, Oct. 1996.	Endocrine disruptors, including dioxin, and cosmetics, DDT, PCBs, Bisphenol-A (used in canned foods and dental sealants), Phthalates (plastics), estrogen pills, hormone replacement therapy	Said Graham, "'We are just beginning to understand why we are so paranoid about some risks and tragically neglectful of others,' [Graham] said. 'But in the final analysis, it often comes down to. Who do we trust? And that makes risk management very difficult these days, because people aren't inclined to trust anyone.'"	Dioxin-Producing Companies:[126] Air Products and Chemicals Inc., Eastman Kodak Company, WMX Technologies Inc., Fort James International Paper, The James River Corporation Foundation, Mead Corporation, Potlatch Corporation, Westvaco Corporation, Boise Cascade, Georgia Pacific, Asarco Inc., Bethlehem Steel, Inland Steel, National Steel Nippon Yakin Kogyo, Alcoa Foundation, Reynolds Metals Company Foundation, Cement Kiln Recycling Coalition, American Crop Protection Association, Arco Chemical Corporation, Ashland Inc. Foundation, BASF, Cabot Corporation Foundation, Chemical Manufacturers Association, (aka American Chemistry Council), Chlorine Chemistry Council, CIBA-GEIGY, Cytec Industries, Dow Chemical Corporation/Union Carbide, DowElanco (Dow AgroSciences), DuPont Agricultural Products, FBC Chemical Corporation, FMC Corporation, Hoechst AG, ICI Americas, Louisiana Chemical Association, Lyondell Chemical, Olin Corporation, 3M, Praxair Inc., The Geon Company, Rohm & Haas Company, Petroleum Industry, American Petroleum Institute, Amoco, BP America Inc., Charles G. Koch Foundation, Chevron Corporation CITGO Petroleum, ExxonMobil, Oxford Oil, Oxygenated Fuels Association, Shell Oil Foundation, Texaco Foundation, Unocal Corporation, Edison Electric Institute, General Electric Foundation, Monsanto Company, New England Power Service, Westinghouse Electric Corporation	**No Disclosure**

[126] Dioxin producers were identified by the Center for Health and Environmental Justice.

Source, date, and title of article	Regulatory subject/s discussed in the article	The regulatory programs that Graham recommends instead	Sources of HCRA funding relevant to the article's subject	Disclosure of any of Graham's funding sources?
Hilary Shenfield, "The Environment Often Seems Far More Hazardous To Your Health Than It Really Is," *Chicago Daily Herald*, Mar. 15, 1999.	The topic was our irrational "fears" — mentions our fears of toxins and chemicals in general, toxic waste, creosote (a coal-byproduct), pesticides, EMFs, power lines, tap water, cell phones, Alar, benzene, EDB, asbestos, amalgam dental fillings	Graham said, "We should strive to spend our *mental health budget* on prevention of the big killers and not be distracted by the syndrome of the month." The American Council on Science and Health also weighed in: "'We have a limited capacity for dealing with health scares,' said Jeff Steier, associate director of ACSH. 'So we have to prioritize.'"	Pesticides, power lines, benzene and EMFs are elsewhere in the table. Creosote from coal: 3M, American Petroleum Institute, BASF, Amoco, BP America, Koch Foundation, CITGO Petroleum, Exxonmobil, Unocal, Shell Oil	**No disclosure of HCRA or ACSH sources** This article makes repeated use of especially suspect conclusions. One example suggests that asbestos should not be feared (i.e., regulated) because its removal can sometimes stir up greater level of the toxin.
Noah Adams, "EPA Report on Dioxin is Released and Confirms a Cancer Risk Exists to All Americans," *All Things Considered, National Public Radio*, June 15, 2000.	Dioxin. EPA scientists found dioxin could cause the average American "an *additional* lifetime risk of cancer as high as one in a hundred."	The story continued, "That would put dioxin *on par* with other common risks," said Graham. 'The average American in their lifetime has about one chance in a hundred of dying in a car crash. . . So this type of risk they're talking about here, if true, would be a significant risk, but it would not be something that would be out of the norm of what people experience in daily life.'"	Dow (the leading producer of dioxin), Chlorine Chemistry Council, CIBA-Geigy, General Electric, DuPont, Georgia-Pacific, Hoescht-Celanese, ICI Americas, Kodak, Monsanto, Olin Corp., American Crop Protection Association, American Chemistry Council. **HCRA is funded by 48 dioxin producers.**	**No disclosure** And the risks are cumulative (not merely "on par"). Although Graham did not say so, according to these data, we now know that we have *both* a 1 % chance of dying in a car crash *and* a 1 % chance of contracting cancer from dioxin.

Appendix 3: While the Precautionary Principle is No Unicorn, Regulatory Accounting is a Chimera[127]

The single most important casualty of OIRA's insistence upon regulatory accounting is that this approach blocks warranted consideration of the precautionary principle. In a speech before the European Union, Dr. Graham mocked the precautionary principle on behalf of the U.S. government, saying "the U.S. government supports precautionary approaches to risk management but we do not recognize any universal precautionary principle. We consider it to be a mythical concept, perhaps like a unicorn."

This view is unfortunate. The precautionary principle suggests a paradigm shift in regulation to a "safety first" approach, and away from the cost-benefit straitjacket. Research in risk perception has persistently demonstrated that the public is far more concerned with prevention (and preventative action) than are the so-called "experts."[128] The precautionary principle follows the public's intuition, stating that: "*When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.*"[129] This age-old wisdom is also captured in the adage: *an ounce of prevention is worth a pound of cure.* The precautionary principle is grounded in the following ethical and political concepts:[130]

- People have a duty to take anticipatory action to prevent harm.
- The burden of proof lies with the proponents of a technology, not with the public.
- Before using a new technology, process, or chemical, or starting a new activity, people have an obligation to examine a full range of alternatives, and an obligation to address the certainty or uncertainty associated with understanding the threats of harm from a proposed activity or substance.
- Decisions applying the precautionary principle must be open, informed, and democratic and must include affected parties.

This approach is 180 degrees away from Graham's approach to risk and cost-benefit analysis, yet its philosophy is the underpinning of some regulatory statutes, such as the U.S. pre-market

[127] From Merriam-Webster: **Chimera**: 1) a fire-breathing she-monster in Greek mythology having a lion's head, a goat's body, and a serpent's tail; 2) an illusion or fabrication of the mind; especially : an unrealizable dream.

[128] Branden Johnson, "Advancing Understanding of Knowledge's Role in Lay Risk Perception," *Risk*, Summer, vol. 4 (2000). On the Internet at <www.fplc.edu/risk/vol4/summer/johnson.htm>. *See also* Ellen K. Silbergeld, "The Risks of Comparing Risks," N.Y.U. Environ. Law. J. 3 (1994).

[129] Wingspan Conference on Implementing the Precautionary Principle, January 1998. For more information on the precautionary principle, see the Science and Environmental Health Network Web site: <www.sehn.org>.

[130] See <www.sehn.org>.

testing of pharmaceuticals.

Appendix 4: Washington City Paper Uncovers Truth About Industry-Funded Mercatus Center

BULL MARKET

Enron collapsed. The Earth is warming up. And GMU's Mercatus Center says the solution lies in two public policy heroes: supply and demand.

by
Garance Franke-Ruta

There are plenty of laissez-faire Republicans who'll tell you that the greenhouse effect is bogus science. But in the Virginia suburbs, there's a stronghold of anti-regulation zealots who say that heightened ozone concentrations are, in fact, a public good.

The thinking goes like this: The ozone layer protects us from the sun's rays, fending off sunburns, skin cancer, and the like. But the ozone layer is thinning, so there's no harm in trying to patch up that protective coating with a little man-made ozone from, say, auto emissions. Sure, ground-level ozone, the key ingredient in smog, has been blamed for everything from kids' breathing problems to global warming. But there's no point trying to fight those ill effects if it just means more people, in the end, wind up suffering from sunstroke.

So declared a precursor to the Mercatus Center of George Mason University (GMU) in a 1997 public comment on a proposed Environmental Protection Agency (EPA) rule setting new standards for ambient ozone. "Ozone protects against harmful ultra-violet radiation, and the detrimental health effects of increased UV-B penetration are likely to be greater than the projected health benefits of lowering ozone concentrations," the center wrote.

As director of the Mercatus Center's Regulatory Studies Program, Enron Corp. board member Wendy Lee Gramm, wife of Republican Sen. Phil Gramm of Texas, channels the resources of her university center toward making arguments such as this. Responsibility for protecting the citizenry lies with individual cities and companies, not the federal government, Gramm says. She calls it deferring to individual "choice" and promoting "the public interest."

And individual choice, in the Mercatus mind-set, means leaving things like water purification up to the consumer. Last October, Mercatus submitted a carefully calibrated comment to the EPA when it was evaluating the final version of the new, more stringent national standards for arsenic levels in drinking water originally developed under President Bill Clinton.

D.C. residents who already hassle daily with Brita filters to clean micro-organisms such as giardia and cryptosporidium out of our foul-tasting public water supply might find the Mercatus conclusions advocating increased individual action startling.

Not only were the regulations not supported by the data on arsenic, the center asserted, but communities like ours would be better served by efforts that focused on putting new products on

the shelves of hardware stores rather than new national rules on the books. "[C]ommunities concerned about elevated arsenic levels in their drinking water can implement controls to reduce those levels, and individual households can install filters at their taps to remove arsenic," noted the public comment. "Compelling communities to reduce arsenic takes money that could be used to protect against bio-terrorism threats, or to buy better schools, new emergency response equipment, or increased traffic safety."

The EPA's March 2001 effort to retract the Clinton-era arsenic rule blew up into the first major political fiasco of George W. Bush's presidency. Stung by the outrage, the administration this fall opted for the stringent standard that it had inherited.

Score one defeat for Mercatus.

Extreme libertarian views on issues of public policy aren't hard to find around Washington. The Cato Institute, for example, has been fighting inheritance taxes, social security, and the hand of big government for the past quarter-century. The conservative Heritage Foundation shares many of its positions.

But the Mercatus Center makes for a case study in how anti-regulatory rhetoric gets minted and passed along as political currency in the nation's capital. At a time when more than 10 different congressional inquiries are deconstructing the partnerships, self-dealing, and conflicts of interest that passed for energy giant Enron's financial and accounting practices, it's worth taking a look at the ideology that fueled the company's rise—and ultimately led to its fall.

This particular strain of thinking, which holds that virtually every federal regulation hurts consumers, lives on in well-funded enclaves such as Mercatus, an oil-money-backed quasi-think-tank, which received $50,000 in donations from Enron over the past six years—as well as $10,000 from former Enron Chief Executive Officer Kenneth L. Lay and his wife, Linda Lay.

On the fourth floor of the GMU School of Law's 3-year-old white curved building in Arlington, an Enron board member, a former New Zealand cabinet minister, a would-be cultural critic, and an eccentric proponent of a new economics subspecialty continue to work together to promote energy deregulation, utility privatization, and an optimistic assessment of market-based popular culture.

They fund yearly all-expenses-paid retreats for top congressional staffers and arrange catered breakfast lectures for the more junior ones, featuring luminaries from the University of Chicago, GMU, and other market-oriented-economics centers. They promote transparency and accountability in government—although they believe in the "executive privilege" of Vice President Dick Cheney's energy task force.

And they conduct magnetic resonance imaging (MRI) experiments looking at the brain activity of experimental subjects engaged in "economic thinking"—yet still manage to be taken seriously.

The center, which gained its current name in 1998, wouldn't exist without $16 million in grants from the Charles G. Koch Charitable Foundation, one of the largest funders of conservative

causes in the country. Last year, Koch dollars made up 37 percent of Mercatus' $5.3 million budget, despite incoming monies from nearly 6,000 other contributors.

Certainly the Koch (pronounced "Koke") Foundation, backed by money from oil conglomerate Koch Industries Inc., has good reason to fight the feds. In early 2000, the Department of Justice and the EPA levied a $30 million fine against Koch Industries for causing more than 300 oil spills in six states—the largest civil penalty ever secured under federal environmental laws. A further 97-count indictment against Koch Industries and Koch Petroleum Group LP for violating the Clean Air Act and hazardous-waste laws, filed in 2000, was settled last year with a $20 million assessment and an admission by the company that it had vented benzene, a carcinogen, directly into the air at its Corpus Christi, Texas, plant. Koch Petroleum Group also received a five-year probation term.

Gramm's promotion of the Koch companies' line at Mercatus earned her January's "Villain of the Month" status from the Clean Air Trust, a group founded by two former senators to promote the Clean Air Act. Mercatus, under Gramm, has called for reassessment of 44 federal regulations.

Bankrolled by convicted polluters and singed by their association with the energy scandal, Mercatus Center staffers nonetheless say they have no plans to alter their lobbying and research efforts—or re-examine their ideology—in the wake of the Enron fiasco's damning indictment of a regulation-lite economy.

"My perspective on regulation was really cooked in the '80s, when I was in government. It really hasn't changed that much," says the 57-year-old Gramm, an Enron board member since 1993, in her only public interview since the scandal broke. Gramm remains •ne of only two scandal-era Audit and Compliance Committee members on the Enron board. All told, seven directors announced resignations in February.

Gramm's crusade against government regulation wends through a hodgepodge of institutions. She left her post as chair of the Commodity Futures Trading Commission (CFTC) in January 1993, two years before her term was set to end. She joined the Enron board five weeks later. It was a classic revolving-door segue, because one of Gramm's last acts at the CFTC was to champion an Enron-friendly draft regulation exempting the burgeoning energy-derivatives swaps market from regulation. Energy derivatives, long-term contracts of a sort that operate like insurance against future fluctuations in energy prices, went on to become Enron's biggest product. (The exemption was eventually adopted by Gramm's successor at the CFTC).

Gramm argued for the exemption using phrases she still trots out in conversation. "At CFTC, all the things that you learned and tried to do, you got a chance to try out," says Gramm.

"It's like we're overseeing a great garden that produces lots of fruits and vegetables and is very productive for the American economy. But we also have to watch out for the weeds," says Gramm. "You have to be careful especially when dealing with innova□ive new products in innovative ways. If we pull up everything green because we think it might become a weed, then pretty soon we won't have a garden left."

For a number of years after leaving the CFTC, Gramm, a former Texas A&M University economics professor with a specialty in labor economics, worked out of her home, organizing a series of brown-bag lunches on economic topics that brought together a mix of government officials and academics. And she began a lucrative new career in corporate and organizational governance.

Her unabashedly pro-industry views and energy-sector expertise yielded spots on the boards of companies often frustrated by the government's regulatory reach. In addition to Enron, she joined the boards of directors of Longitude, a derivatives trading firm; Invesco Funds, a mutual-fund company; IBP Inc., a meat-processing company; and State Farm Insurance Cos. (Gramm resigned from the Invesco board earlier this year following a campaign by the AFL-CIO to force Enron directors from their other corporate oversight positions. Her tenure at IBP was previously marred by revelations that the Phil Gramm for President campaign had arranged buses to pick up IBP employees in three states to take them to vote in the Republican Party's Iowa straw poll in 1996.)

Gramm went on collecting conservative credentials like war medals. During the '90s, she sat on the boards of the Ronald Reagan Alumni Association, the International Republican Institute, and the Independent Women's Forum, where she worked with Lynne Cheney and other prominent female conservatives.

By 1995, Gramm was looking for a workplace to call home. She made some overtures to the University of Texas about setting up a regulatory study center there, but soon realized that any effort to affect policy or be taken seriously in Washington would have to be based closer to the center of power. "It was just too hard to do it from afar," she says.

She set up an advisory board—stocked with academics she calls "friends of Wendy who have become deans"—and approached Robert Tollison, then the general director of the Center for the Study of Public Choice at GMU and now a professor of economics at the University of Mississippi, about creating a center at GMU. He was an old colleague from the Federal Trade Commission, where they had worked together in the early '80s. "I said, 'I want to do this,'" recounts Gramm. "He said, 'Fine.' And that's where I started it and because we were really very policy oriented....We decided a better place would be at [GMU's] Center for Market Processes."

She joined the organization in 1997, just as the Center for Market Processes was becoming the Mercatus Center. Now she uses her perch to encourage other academics to adopt her perspectives, through the Regulatory Studies Program. "A lot of times, academics don't know exactly which issue to write a paper on," says Gramm. "We want to get them hooked on the issues we care about."

That those issues happen to coincide neatly with the perspectives of industry certainly doesn't hurt Mercatus' fundraising. Kenneth Lay, a longtime friend and backer of Sen. Phil Gramm, contributed sums of $5,000 to Mercatus in 1998 and 2000. And former Enron Energy Services director Lou L. Pai contributed an amount "under $10,000," according to Mercatus public affairs director Laura Hill. Their names are still prominently listed as donors on two silver-toned plaques at the entrance to Mercatus' suite at the law school.

Lay and Pai donated over several years, making the "Liberty Circle" of funders, the plaques proudly note. When asked whether Lay's involvement in the recent Enron scandal would trigger his removal from the Liberty Circle, Hill responds, "Why would we do that?"

Mercatus benefactor Charles G. Koch helped create the libertarian Cato Institute in 1977, and his brother, David Koch, was the Libertarian Party vice-presidential candidate in 1980. The overlap between the Koch-funded organizations is so apparent that some GMU staffers jokingly call the Mercatus Center the "Mercato Institute." Susan Dudley, the 46-year-old deputy director of the Regulatory Studies Program, even writes a three-page update for the Cato quarterly journal, *Regulation*.

Tom Firey, managing editor of *Regulation*, first proposed the relationship last year and, he says, has been very pleased with Dudley's work. But Mercatus occasionally goes a bit overboard on the anti-regulation language for even the Cato crowd, says Firey. "The material that they send to us, they try to tone down," he says. "Cato is more of a public policy research organization. We may be a little more academic than they are."

But Mercatus' disdain for the *Federal Register* is its stock in trade among corporate philanthropists. In addition to the Koch grants, Mercatus received $100,000 from the Sarah Scaife Foundation, run by archconservative former *American Spectator* financier Richard Mellon Scaife, along with tens of thousands of dollars from the conservative Philip M. McKenna Foundation.

After the first Koch bequest, in 1997, big corporations and trade associations also started ponying up thousands. Along with Enron, the American Petroleum Institute and Phillip Morris Cos. each threw in more than $10,000. The Electric Power Supply Co. and the Business Roundtable gave enough to join the Liberty Circle.

"Companies see university vehicles as a way to get messages out. It gives an aura of objectivity that's very valuable to them," notes Jennifer Washburn, a New America Foundation fellow who is writing a book on private funding of university research efforts.

A recent donation of $3 million from Koch—part of its $16 million total contribution—paved the way for GMU to hire Vernon L. Smith from the University of Arizona. Though Smith, a mustachioed 75-year-old with a long yellowish-white ponytail and three silver rings on each hand, looks as if he'd just gotten off the Greyhound from Sedona, he is widely considered to be the father of experimental economics and a possible Nobel Prize candidate. He arrived at GMU with six colleagues in tow to found the Interdisciplinary Center for Economic Science (ICES), which is affiliated with Mercatus but housed in a different building.

Smith's expensive brand of hands-on research invokes medicine and psychology, along with economics, requiring a continued influx of donations.

"People offer you financial support, and within reason you tend to accept it," says Maurice P. McTigue, a former member of the New Zealand parliament, who is now director of Mercatus' Government Accountability Program.

Economist Tyler Cowen, the Mercatus Center's director, has just given a talk to his peers on his theories about why people make irrational choices in the political marketplace as well as the commercial one. It didn't go over very well, he says. His colleagues in the GMU Department of Economics are among some of the staunchest proponents of rational-choice theory in the nation, outside of the University of Chicago, where the philosophy originated. Rational-choice theory posits that people make clearheaded decisions based on their self-interest, requiring little government oversight. But "the rational-choice model doesn't account well for self-deception," says Cowen. "People are irrational and impulsive in many ways." And their self-interest and their best interest don't always coincide.

It seems fitting that Cowen would be the one to argue for a deeper appreciation of the role of unpredictable emotions in human economic and political behavior. Cowen is a bit of an odd bird at Mercatus. Whereas most of the other scholars come from powerful policy backgrounds or work on abstruse economic questions, Cowen has been slowly sliding into the humanities with his research and teaching. This semester, he's teaching a small seminar on law and literature, featuring readings from Greek tragedy and Shakespeare. Ferociously intelligent, with slightly greasy brown hair combed forward over a bald spot and all the grace of an overzealous, socially awkward teenager, the 40-year-old polymath plays nonpartisan idealist to Gramm and Dudley's more tendentious roles.

"I don't think of us as a think tank," says Cowen. "We're part of a university. A think tank has a position. Mercatus positions are universal."

Cowen's own career has taken him far afield from the kind of economics he wrote about after earning his Ph.D. from Harvard University in 1987. His first book, 1988's *The Theory of Market Failure: A Critical Examination*, was a fairly straightforward analysis of phenomena, such as health care, where values and forces other than market ones have to be taken into account for society to achieve morally decent ends. It bears little resemblance to his current work in progress, *Creative Destruction: How Globalization Is Reshaping the World's Cultures*, forthcoming from Princeton University Press, or to 1998's provocative valentine to pop culture and contemporary art, *In Praise of Commercial Culture*, published by Harvard University Press to positive reviews.

Cowen differs as well with the right-wing consensus on the cultural impact of racy prime-time TV, the Internet, and other pop media: "The culture of modernity is fundamentally healthy, and we should be optimistic about our culture," he says.

Cowen, who is nonetheless a free-market proponent, has advised more than 20 graduate dissertations over the past decade. And Mercatus graduate research assistantships have fueled the careers of more than 100 students, 42 of whom have earned Ph.D.s. After receiving a thorough education in market-oriented solutions to public policy problems, Mercatus GMU alumni scatter throughout academia, business, policy institutes, and government.

- Wayne T. Brough, class of 1987, works at the Koch-funded Citizens for a Sound Economy, where he is chief economist. There, he advocates for a flat tax, insurance deregulation, and increased competition in the energy and technology sectors.
- Kurt A. Schuler, class of 1992, works as an economist for the committee staff of Rep. Jim

Saxton, Republican of New Jersey and chair of the Joint Economic Committee of Congress. Most recently, Schuler has been working to reform the alternative minimum tax, an initiative widely supported by large corporations.

- Ralph A. Rector, class of 1994, went to the Heritage Foundation as a research fellow. He directs the organization's research and development program and focuses on tax policy. Earlier, he did a stint with the Tax Policy Economics Group at accounting firm Coopers & Lybrand L.L.P.
- Chris R. Edwards, class of 1992, is director of fiscal policy studies at the Cato Institute. He previously worked as a senior economist on the Joint Economic Committee of Congress, as a tax consultant and manager at accounting firm PricewaterhouseCoopers, and as an economist with the Tax Foundation, an educational group born of business opposition to taxes.
- Wayne A. Leighton, class of 1996, is an economist with the Federal Communications Commission and was a senior economist with the U.S. Senate Banking Committee until November 2000. He occasionally writes policy primers for the Cato Institute.

Mercatus, though, isn't content to influence the Hill indirectly. The center's Capitol Hill "campus" conducts catered breakfast and lunch-hour seminars in the Rayburn House Office Building for invitation-only audiences of congressional staffers. The program is run in Virginia and holds events in a conference room on the ground floor of the Rayburn Building.

On Feb. 11, Richard A. Epstein, a professor at the University of Chicago Law School, comes to the campus to speak on "Putting Change Into Perspective: How Will Reactions to September 11 Change America?"

Epstein, a Mercatus favorite, is one of the most prominent conservative legal scholars in the country. A pioneer in his field, Epstein seeks to apply rational-actor economic theory to the law. This is his fourth time talking at a Mercatus event.

Epstein is a force of nature and surprisingly amusing in a fast-talking, wisecracking, you-are-not-going-to-get-a-word-in-edgewise kind of way. His lecture focuses on how the government can maintain its legitimacy by not overstepping its bounds in an environment that calls for beefed-up security. The audience of 40-plus people, nibbling on libertarian eggs and bacon, pays close attention.

Questions from the crowd, though, reveal more about the milieu than does the speaker's address. "I have a legitimacy-of-response question," says one congressional staffer. "If al Qaeda had five suitcase bombs and two went off, would it then be appropriate to bomb Mecca?"

"Why would you want to bomb Mecca if the appropriate target is Baghdad? Or Tehran? Or North Korea?" asks Epstein in reply. It's the kind of debate that, within an academic environment, would be understood as a purely hypothetical way of getting at a broader question of equity and logic. Within the halls of Congress, however, it sounds shocking.

The Capitol Hill campus of Mercatus also holds annual retreats for senior congressional staffers, with free-market-oriented lectures from in-house economists, dinners with the likes of management guru Tom Peters, and presentations from scholars such as Francis Fukuyama, formerly of GMU and now with the School of Applied International Studies at Johns Hopkins University, and author of *The End of History and the Last Man.*

Richard Boykin, chief of staff to Rep. Danny K. Davis, Democrat of Illinois, has attended the last three retreats, including January's at the Williamsburg Lodge in Colonial Williamsburg, Va. He's been grateful to learn about the role supply and demand play in social problems, he says, such as the market for illegal drugs. "They give out certificates, so people can feel like you go to classes and you learn. The teachers are from George Mason, from University of Chicago. These are actual instructors," he says. "It's an outstanding institution."

If Boykin has any critiques of the all-expenses-paid retreats to posh Virginia resorts, they center around the Mercatus perspective that comes with the weekend in the country. "Mercatus tends to be a little right. Let's just say it for what it is. I'm a little bit more balanced, a little bit toward the left. But I'm one of those Democrats who likes to understand there's two sides to every coin," says Boykin. Still, he's quick to add: "I wouldn't say that I subscribe to their philosophy.

"I've encouraged them," Boykin continues. "I said I think they need to get more balanced speakers, get some folks in there who are Democrats. They had a couple of Democrats at the last retreat—but I guess they were Reagan Democrats."

In the mid-'80s, New Zealand was teetering on the brink of bankruptcy, its highly regulated, centrally controlled economy a disaster of socialist economics. But by the early '90s, a free-market reform movement was pushing through a series of policy changes intent on transforming the nation's governance and market policies. In its quest for economic vitality, the tiny island country became a guinea pig for neoclassical economists from around the globe. McTigue was then a cabinet minister responsible for privatizing New Zealand's railroads, now owned by the American company Wisconsin Central, and later took on cabinet posts reforming the labor, transportation, and education sectors.

Today, McTigue, 61, is at the Mercatus Center, trying to apply the lessons of New Zealand's successful program of economic liberalization to the United States. It's a strange test case: The United States is already one of the world's least regulated markets and a nation that, until recent months, had one of the most dynamic economies in the world. And McTigue is working again with Smith, whom he first met in New Zealand during the early '90s.

One way McTigue's Government Accountability Program (GAP) proposes to aid Americans is by zeroing out government programs that can't show public benefits. "If you can demonstrate that something isn't working, that makes it hard to continue to fund," he says.

GAP is also a major proponent of transparency in government, and for the past two years it has released ranked scorecards indicating how good federal agencies have been at informing the public of their activities. But that focus on transparency doesn't extend to the executive office itself. "The government should be able to take advice and take that advice confidentially," says McTigue of Vice President Dick Cheney's energy task force, which is being sued by the General

Accounting Office for documents relating to participation by Enron in its meetings, as part of a congressional investigation.

The outcome of the battle over White House energy policy is also a preoccupation of Mercatus staffer Vernon L. Smith, a socialist-sympathizer-turned-free-market-devotee. Smith has developed a model for energy pricing that would allow consumers to choose to have power interrupted or to be charged more for energy use during peak hours, just like long distance calls, for which rates go up during business hours. Such a system would encourage people to use energy during off-peak hours, Smith explains, thereby reducing the prices for everyone and freeing up extra capacity during the day.

"If your objective is to create efficient markets, it's very environmentally friendly to stop subsidizing people on peaks and taxing people off peaks," says Smith. "The idea is to get efficient markets. Everyone pays the cost that he imposes on everyone else."

Smith developed the plan on the basis of behavioral laboratory experiments conducted at ICES and the University of Arizona. It's a fairly new way for economists to evaluate human behavior. Sometimes ICES uses MRI machines to scan the brain functions of human volunteers engaged in economic game-playing to learn more about the neural processes behind economic activity.

"In our daily lives, we are always involved in social exchanges. You have me to dinner and a few days later I have you to dinner," says Smith. "We're all into this reciprocity, even chimps and capuchin monkeys." Eventually, it all links up with "the study of extant hunter-gatherer groups who have social exchanges for sharing meat."

The idea is to learn how to allocate goods most efficiently and achieve the holy grail—the Platonic form of a perfectly functioning market.

In a worldview that prizes such a search, the collapse of Enron can been seen as the outcome of a functional market. "Companies are born, they prosper, and they die," says McTigue. "It's a natural part of the market process, and you can't stop it from happening."

Most companies over the past century have failed. That's what they do over time, he argues, and investors shouldn't find it surprising. "Investors are taking a risk," says McTigue. "Every now and then that risk will be fulfilled. There's nothing wrong with that process."

Still, concedes McTigue, perhaps some "more stringent regulations on the trusteeship of retirement accounts" might be needed "to protect the innocent," such as the thousands of former Enron employees whose retirement savings accounts are now worth as little as the company's stock. Better accounting standards and fuller corporate disclosure might not be such bad ideas, either, he notes.

Despite her role in the oversight of Enron, Gramm's colleagues unsurprisingly say they see her as a bit of a victim, duped by fraudulent activities she never knew about.

Experts in corporate governance have pointed to Enron's contributions to Mercatus as creating a conflict of interest that may have prevented Gramm from fulfilling her oversight role of the company with as much zeal as she might otherwise have. How could she be independent if, in

addition to gifts of stock and direct compensation for sitting on the board, her job—at the organization she helped create—was partly funded by a company she was supposed to oversee? How could she be independent if her husband's career was bound up with that of the leader of the company she was monitoring?

Lay, after all, was not only a donor to Mercatus and to Gramm's husband, but the regional chair of the Gramm for President Campaign in 1996. Sen. Gramm received $97,350 in support from Enron since 1989, according to the Center for Responsive Politics.

The Powers Report on Enron's collapse, written by University of Texas School of Law Dean and short-term Enron board member William C. Powers Jr., found little evidence of close oversight. According to the report, the Enron audit committee on which Gramm sat spent as little as 10 to 15 minutes per meeting discussing Enron's complex—and ultimately fatal—partnerships.

But a look at Gramm's career suggests that an influence more pernicious than money may have been at the heart of the problem. Wendy Gramm was, like the company's executives, a true believer in laissez-faire economics and deregulation. In 1987, the *New York Times* described her as "one of the Reagan administration's most vigorous deregulators."

So if Gramm was duped, some of the blame must lie with her own faith in the market's ability to self-regulate.

That belief has yielded some spectacular wreckage in the Gramm family: Amalgamated Bank of New York is suing Enron and its executives and directors, including Wendy Gramm, for $25 billion. Her husband's colleagues on the Senate Permanent Subcommittee on Investigations in January subpoenaed records of her relationship with Enron. Sen. Gramm announced his retirement Sept. 5, in a move that some speculated was provoked by early knowledge of the coming scandal. (He has denied any connection.) Once mentioned as a possible Treasury secretary, Sen. Gramm is now most likely heading back to Texas. Wendy Gramm is planning to leave the Mercatus Center at the end of his term in January 2003. She has dropped her positions on most of the nonprofit boards she once sat on and has resigned from several corporate directorships. Slowly, she's trying to transition out of public life—and Washington.

"I don't think we're looking at anything in town," says Gramm.

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Five-Hundred Life-Saving Interventions and Their Misuse in the Debate Over Regulatory Reform

by Lisa Heinzerling*

RISK (forthcoming 2002)

I. Introduction

John D. Graham is perhaps the most powerful policy analyst in America today. As the head of the Office of Information and Regulatory Affairs (OIRA) within the Office of Management and Budget (OMB), Graham oversees White House review of all of the major regulations proposed by dozens of federal agencies.[1] Although he has been in this job for less than a year, Graham already has begun to exert a large influence on the shape and scope of federal regulation. He has given notice to the agencies that he essentially intends to veto any rules he deems inconsistent with OIRA's economic precepts and methodologies,[2] and indeed he has already sent two rules back to the Environmental Protection Agency (EPA) on account of what he described as inadequate analysis.[3] These

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[1] Exec. Or. 12866, 3 C.F.R. 638 (1993), reprinted in 5 U.S.C. § 601 app. at 557-61 (1994).

[2] Memorandum from John D. Graham, OIRA Administrator to President's Management Council, (Sept. 20, 2001) (available <http://www.whitehouse.gov/omb/inforeg/oira_review-process.html>).

[3] See Letter from John. D. Graham, OIRA Administrator to the Honorable Jeffrey R. Holmstead (Sept. 24, 2001) (available <http://www.whitehouse.gov/omb/inforeg/spark_engines_epa_sep2001.html>); Letter from John D. Graham, OIRA Administrator to Tracy Mehan, Assistant Administrator for

events could presage an era of White House involvement with agency rulemaking not seen since the days of Dan Quayle's much-criticized Council on Competitiveness.

Before coming to OIRA, John Graham was the director of the Harvard Center for Risk Analysis. In that capacity, Graham was a leading proponent of reforming risk regulation through increased reliance on cost-benefit and cost-effectiveness analysis. In his collaborative research with Tammy O. Tengs, Graham attempted to show that our current life-saving priorities squandered opportunities to save many more lives with the same resources we now spend. Perhaps most famously, Tengs and Graham claimed that over 60,000 more lives could be saved in this country every year if we shifted resources from cost-ineffective life-saving programs to cost-effective ones.[4]

Tengs and Graham's collaborative work has had a large influence on debates over health, safety, and environmental regulation. In particular, Tengs and Graham's claims regarding the cost-effectiveness of various life-saving interventions and the life-saving potential of a rearrangement of our life-saving priorities have been widely circulated and widely accepted by other scholars, elected representatives, and the interested public. These claims are, however, exceedingly problematic for four basic reasons. First, Tengs and Graham's results are skewed by their mistaken assumption that many environmental programs that were never implemented, nor even proposed, were in fact implemented. The practical effect of this mistaken assumption would have been to "take" money from unimplemented programs and "give" it to other programs, but since the money "taken" was not in fact being spent, it could not be "given" to other programs. Second, Tengs and Graham's set of life-saving interventions is exceedingly narrow; for example, the interventions representing toxin control are

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Water (Oct. 2, 2001) (available <http://www.whitehouse.gov/omb/inforeg/epa_water_quality_rtnltr.html>).

[4] Tammy O. Tengs & John D. Graham, *The Opportunity Costs of Haphazard Social Investments in Life-Saving,* in **Risks, Costs, and Lives Saved: Getting Better Results from Regulation** 167, 172 (Robert W. Hahn ed., Oxford University Press & AEI Press 1996) [hereinafter Opportunity Costs].

almost entirely comprised of two regulatory programs that have been defunct for many years. Third, Tengs and Graham's research ignores many benefits of regulation, particularly environmental regulation. Benefits that do not consist of quantified human lives saved are ignored in Tengs and Graham's calculus. Finally, Tengs and Graham's research rests on controversial moral judgments about whose life is worth saving.

Moreover, Dr. Graham has perpetuated and encouraged a misinterpretation of his and Tengs' data, one that wrongly holds that these data show that federal regulations result in the "statistical murder" (to borrow Graham's phrase) of 60,000 Americans every year. Dr. Graham's misuse of his own data in the service of an anti-regulatory agenda warrants assiduous monitoring - by scholars, the public interest community, and the federal agencies themselves - of his activities as head of OIRA. There is reason to believe that a substantial segment of Congress shares this skeptical attitude toward Graham: his nomination to lead OIRA received more negative votes in the Senate (37) than any of President Bush's other nominees for positions concerning health, safety, and environmental regulation.

II. Five-Hundred Life-Saving Interventions and 60,000 Lives

Tammy Tengs and John Graham's collaborative research on the cost-effectiveness of various life-saving interventions consists of two major studies. The first looked at the cost-effectiveness of over 500 life-saving interventions. The second considered the opportunity costs, in terms both of lives saved and money spent, of the pattern of life-saving investments found in the first study. John Graham has aptly summarized the combined message of this pair of studies: by spending life-saving resources the way we do now, we commit the "statistical murder" of approximately 60,000 Americans every year. These 60,000 people are the people who, according to Tengs and Graham, might have been saved if a more cost-effective pattern of life-saving interventions had been pursued. In this section, I briefly describe each study and its conclusions.

A. Five-Hundred Life-Saving Interventions and Their Cost-Effectiveness

In research supervised by Dr. Graham, graduate student Tammy O. Tengs and several co-authors analyzed the costs and benefits of 587 life-saving measures.[5] These measures fall into three broad categories: fatal injury reduction, toxin control, and medicine.[6] The specific measures included under the heading of fatal injury reduction encompass such things as airplane safety, automobile safety, and fire prevention. The category of toxin control includes measures to control arsenic, asbestos, benzene, radiation, and other hazardous substances. Finally, the category of medicine includes a wide variety of preventive and curative measures ranging from vaccinations to advice about quitting smoking.[7] Tengs and Graham's reported criterion for the inclusion of a life-saving intervention in this study was the availability of quantitative data on the intervention's costs and benefits.[8] Tengs and Graham also required that the studies be written in English and contain information on interventions pertinent to the United States.[9]

In this study, Tengs and Graham found that the costs per year of life saved varied widely across interventions and often reached very high levels. Tengs and Graham also found that toxin control was the least cost-effective of the categories of life-saving interventions they considered.[10] Specifically, they found that the costs per life-year saved of toxin control ranged

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[5] Tammy O. Tengs et al., *Five-Hundred Life-Saving Interventions and Their Cost-Effectiveness*, 15 **Risk Analysis** 369 (1995) [hereinafter *Five-Hundred Life Saving Interventions*] (I refer hereafter only to Tengs and Graham as the authors of this study, as they are the study's lead and senior authors).

[6] *Id.* at 373-384 (listing interventions analyzed in this study).

[7] *Id.*

[8] *Id.* at 370.

[9] *Id.*

[10] *Id.* at 371.

from less than or equal to zero (meaning that some interventions saved more money than they cost) to as high as $99 billion for every year of life saved. They found that many toxin controls cost tens of millions of dollars for every year of life they saved.[11]

B. The Opportunity Costs of Haphazard Social Investments in Life-Saving

In a study building upon "Five-Hundred Life-Saving Interventions and Their Cost-Effectiveness," Tengs and Graham set out "to assess the opportunity costs of our present pattern of social investment in life-saving."[12] In other words, they purported to ask, what do we give up in addressing life-threatening risks the way we now do?

This second study, entitled "The Opportunity Costs of Haphazard Social Investments in Life-Saving," considered a subset of the 587 interventions included in "Five-Hundred Life-Saving Interventions." In this study, Tengs and Graham reportedly required that data on costs and effectiveness be national in scope; thus, the number of interventions included in the second study dropped from 587 to 185.[13] Ninety of these interventions (almost half of all those included in the study) were toxin control measures that would, if proposed or implemented, fall within the jurisdiction of the Environmental Protection Agency.[14]

Tengs and Graham's conclusions in this second study are

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[11] *Id.* at 375-378 app. A.

[12] Opportunity Costs, *supra* n. 4 at 168.

[13] *Id.* at 169.

[14] See Tammy O. Tengs, *Optimizing Societal Investments in the Prevention of Premature Death* (unpublished thesis submitted in partial fulfillment of requirements for teh degree of Doctor of Science, Harvard Univ., June, 1994) (on file with School of Public Health, Harvard Univ.) at 150 app. Q (indicating that ninety interventions based on "EPA Regulation" were considered in the dissertation which formed the basis of Tengs and Graham's "Opportunity Costs" study) [hereinafter Optimizing Societal Investments].

now famous. They found that if resources now spent on life-saving investments were held constant but were redirected "so as to maximize lives saved," the country could save "an additional 60,200 lives" as compared to the number we now save with these investments.[15] Alternatively, holding constant the number of lives saved but redirecting resources to minimize expenditures on this life-saving activity, we could save $31.1 billion per year while saving the same number of lives.[16]

The vast majority of lives saved through Tengs and Graham's proposed reallocation of life-saving resources occurred in the categories of fatal injury reduction and medicine; over half of the life-saving potential was found in the medical category alone.[17] Only about five percent of the life-saving benefits found by Tengs and Graham came from the category of toxin control.[18] Even more strikingly, less than two percent of the total life-saving benefits found by Tengs and Graham could be obtained by reallocating EPA's regulatory resources within EPA.[19]

III. Taking Money From Unimplemented Programs

Tengs and Graham's studies both include many life-saving measures that have never been undertaken by anyone. As Tengs and Graham acknowledged in "Five-Hundred Life-Saving Interventions," that study includes life-saving measures that are fully implemented, "those that are only partially implemented, and those that are implemented not at all."[20]

In fact, a very large number of the toxin controls studied by

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[15] Opportunity Costs, *supra* n. 4 at 172.

[16] *Id.* at 173.

[17] Optimizing Societal Investments, *supra* n. 11 at 144-46 apps. K-M (showing life-years saved in separate categories of fatal injury reduction, medicine, and toxin control).

[18] Id. at 146 app. M.

[19] Id. at 150 app. Q.

[20] Five-Hundred Life-Saving Interventions, *supra* n. 5 at 372 (emphasis added).

Tengs and Graham in that article were never implemented by any agency, frequently for the very reason that their costs were thought to exceed their benefits. An equally large number of these controls were never even proposed by any agency. Indeed, although nine of the ten most expensive life-saving interventions in the entire study involved toxin control, not one of those nine interventions was ever implemented by a regulatory agency.[21] The most expensive intervention on Tengs and Graham's list — the control of chloroform from paper mills, purportedly costing $99 billion per year of life saved — was never even proposed.[22] To determine which regulatory interventions on Tengs and Graham's list were implemented (or even proposed) by the relevant regulatory agency, one must consult the original studies providing the costs and effectiveness data on which Tengs and Graham relied.[23]

Similarly, of the ninety environmental measures included in "The Opportunity Costs of Haphazard Social Investments in Life-Saving" (representing almost half of all the measures considered), only eleven were ever implemented by the relevant agency, EPA. In other words, seventy-nine of the environmental measures included in this study were never implemented. Most of these were rejected (or never even proposed) by EPA itself.[24] For example, almost half of the environmental measures included in the study are bans on certain asbestos products. As the study on which Tengs and

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[21] See Optimizing Societal Investments, *supra* n. 14 at 25, tbl. 8 (showing "Ten Most Expensive Interventions").

[22] See Ralph A. Luken, *Toxic Pollutants*, in **Efficiency in Environmental Regulation: A Benefit-Cost Analysis of Alternative Approaches** 249, 249 (Kluwer Academic Publishers 1990) (referring to chapter as study of "potential regulations").

[23] See Five-Hundred Life-Saving Interventions, *supra* n. 5, at 385-390.

[24] See George L. Van Houtven & Maureen L. Cropper, When Is a Life Too Costly to Save?, Policy Research Working Paper 1260, tbl. 1 (Environment, Infrastructure, and Agriculture Division, Policy Research Department, World Bank Mar. 1994).

Graham relied for their data on the costs and effectiveness of these measures clearly states, however, ten of these products were never in fact banned by EPA.[25] As for the remaining twenty-one asbestos product bans on Tengs and Graham's list, all were overturned in a single controversial judicial decision.[26]

In "The Opportunity Costs of Haphazard Social Investments in Life-Saving," Tengs and Graham assert that they considered the extent to which the interventions they discuss have been implemented:

> For each intervention, we supplemented cost-effectiveness data with two measures of the degree to which that intervention was implemented. For the subset of interventions where a "go/no-go" decision was made (for example, laws, regulations, or uniform building codes), we collected binary data on the implementation decision (B_{ijk}). Because some degree of implementation can exist even in the presence of a "no-go" decision, or can be absent even with a "go" decision, however, we also collected data on "percent implementation" (Pijk). We defined that measure as "the percent of people in the target population who received the life-saving intervention as of 1992."[27]

Tengs and Graham then explain that to gather information on "percent implementation" they consulted two independent experts. In estimating how many women over age twenty receive annual cervical cancer screening, for example, they consulted two experts in cervical cancer.[28]

Unfortunately, however, Tengs and Graham do not, in their study, give any information as to which measures they considered implemented, which unimplemented, and which partially implemented, and my requests for this information have gone unanswered by Tengs and Graham. However, in a

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[25] *Id.*

[26] See *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201, 1230 (5th Cir. 1991) (overturning EPA's nationwide ban on asbestos products in part because the court disagreed with the agency's cost-benefit analysis).

[27] Opportunity Costs, *supra* n. 4 at 169-170.

[28] *Id.* at 170.

statement filed in response to my testimony on John Graham's nomination to be head of OIRA, Tammy Tengs stated that the "Opportunity Costs" study assumed zero implementation for only twenty of the 185 interventions considered.[29] Yet, as I have noted, seventy-nine of the environmental interventions alone were never implemented. The reasons for Tengs and Graham's apparent assumption that at least fifty-nine rules that were never issued were nevertheless implemented remain mysterious.[30] For example, based on information provided in related research, it is clear that Tengs and Graham assumed that EPA's nationwide ban on asbestos was fully implemented — which, as noted above, it was not.

Here is the sum total of what Tengs has had to say most recently on the point: "Toxin control interventions that were never promulgated (or even considered) by the EPA might nevertheless have some percent implementation, at least according to the experts we interviewed."[31] Thus it appears that Tengs and Graham assumed that even absent government regulation, firms were voluntarily undertaking the environmentally protective measures discussed in their study.

It is highly unlikely, however, that a firm would voluntarily undertake toxin controls that cost as much money as Tengs and Graham say they cost. Most economists would argue that a firm would undertake such controls only if they could save money by doing so, yet the cost figures cited by Tengs and Graham hardly show money-saving potential. Furthermore, one of the signature features of environmental problems is that the person or firm that invests in solving them cannot capture all,

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[29] Nomination of John D. Graham as Adm'r of the Office of Info. and Regulatory Affairs at the Office of Mgmt. and Budget: Hearing Before the Comm. on Governmental Affairs, 107th Cong., at 8 (forthcoming 2001) (testimony of Dr. Tammy Tengs) [hereinafter "Tengs Testimony"].

[30] See Tammy O. Tengs, *Dying Too Soon: How Cost-Effectiveness Analysis Can Save Lives*, National Center for Policy Analysis Report No. 204, at 6, tbl. II (May 1997) (available at <http://www.ncpa.org/s204.html>) (showing assumption of "100%" implementation of invalidated asbestos rule).

[31] Tengs Testimony, *supra* n. 29 at 8.

or even most, of the benefits of doing so, as environmental problems involve "public goods" enjoyed by all. The implication of this "public goods" analysis is that profit-maximizing firms will not undertake large-scale environmentally protective measures on their own initiative. All in all, without a good deal of empirical information about voluntary toxin control undertaken by firms (information not apparent in any of Tengs and Graham's research discussed here), it would be unreasonable to assume that such voluntary behavior occurs and that it costs what Graham says toxin control costs. Yet Tengs' statement suggests that this is precisely what they did, without explaining the reasoning behind such a problematic assumption and without revealing the identity or area of expertise of any of the "experts" who purportedly endorsed this assumption.

In sum, for at least fifty-nine of the ninety environmental measures considered by Tengs and Graham, the authors assumed that the measures were at least partially implemented even though no agency ever did so. This means that Tengs and Graham assumed that the costs associated with these measures could be transferred to other activities and programs, and thus produce either life-saving or money-saving opportunities. If I am correct in arguing that Tengs and Graham's assumption of voluntary implementation by firms is unreasonable, then Tengs and Graham took money from places where it was not being spent in order to produce artificial life-saving or money-saving opportunities elsewhere.

The opacity of Tengs and Graham's "Opportunity Costs" study on the question of percent implementation, and their subsequent declinations to explain their conclusions and reasoning on this point, make it impossible to draw more specific and critical conclusions about this aspect of their research. One can observe, as I have, that they treated many unimplemented regulatory interventions as if they had been implemented. One could also wonder whether Tengs and Graham made the quite opposite error of treating some unimplemented measures as if they were infinitely expandable, or at least capable of being implemented in more circumstances than is practically achievable. But without more information in the study or from the authors themselves, it is impossible to confirm such speculations.

Tengs and Graham's research almost certainly overstated life-saving and money-saving opportunities in another way as

well. Tengs and Graham's first study did not in fact look at 587 different interventions. In numerous cases, Tengs and Graham examined the very same life-saving measure, but from the perspective of different analysts. These analysts obviously had very different views about the costs and effectiveness of the very same life-saving measures. For example, Tengs and Graham report two estimates of the cost per life-year saved of a ban on urea-formaldehyde foam insulation in homes: one estimate puts the cost at $11,000 per life-year saved, and another at $220,000 per life-year saved.[32] Tengs and Graham also offer two estimates of the cost-effectiveness of controlling arsenic emissions at glass plants: one estimate (for "glass manufacturing plants") is $2.3 million per life-year saved and the other (for "glass plants") is $51 million per life-year saved.[33] "Glass plants" and "glass manufacturing plants" are one and the same in EPA's regulations.[34]

Likewise, in "The Opportunity Costs of Haphazard Social Investments in Life-Saving," many life-saving measures appear more than once, even though only one such measure would ever be undertaken or even proposed. Arsenic emission controls at glass plants appear twice on the list; arsenic emission controls at primary copper smelters appear three times; benzene emission controls at chemical manufacturing process vents appear twice; benzene controls at bulk gasoline plants and at bulk gasoline terminals both appear twice; radionuclide controls at elemental phosphorous plants appear a stunning five times; and radionuclide controls at coal-fired industrial and utility boilers appear thrice and twice, respectively.

Tengs and Graham provide no guidance as to how one might choose between these strikingly different perspectives on the cost-effectiveness of the very same life-saving measures. They also do not face up to the strange consequence of their duplication of life-saving measures: one might conclude that

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[32] Five-Hundred Life-Saving Interventions, *supra* n. 5 at 377 app. A.

[33] *Id.*

[34] See Lisa Heinzerling, *Regulatory Costs of Mythic Proportions*, 107 **Yale L.J.** 1981, 2013 (1998).

we could save a large amount of money in arsenic control simply by adopting the views of the $2 million analyst rather than the $51 million analyst! Once again, given the limited information provided by Tengs and Graham, it is impossible to determine what role these duplications played in Tengs and Graham's results. The most that can be said is that if Tengs and Graham assumed that resources could be saved simply by choosing one expert's views over another, this would again lead to an overstatement of life-saving and money-saving opportunities.

IV. Limited Set of Interventions

As I will explain later in this article, many people, including Graham himself, have used the "Opportunity Costs" study to launch a large-scale attack on environmentally protective programs. Not only does this attack ignore the fact that the vast majority of the environmental measures included in this study were never implemented; it also ignores the extremely limited scope of Tengs and Graham's analysis insofar as it applies to environmental measures. Although ninety of the 185 measures in the "Opportunity Costs" study were environmental measures — thus, superficially suggesting a rather comprehensive look at environmental regulation — fifty (over one-half) of these measures were (or would have been, if they had ever been adopted) implemented under just one provision of one environmental statute, section 112 of the Clean Air Act, dealing with hazardous air pollutants. Moreover, Tengs and Graham's analysis applies to measures undertaken (or, mostly *not* undertaken) under an earlier version of section 112 which no longer exists: section 112 was completely overhauled in the 1990 Amendments to the Clean Air Act.[35] In addition, thirty-one of the environmental measures were part of EPA's nationwide ban on asbestos, undertaken under section 6(a) of the Toxic Substances Control Act.[36] That ban was overturned in court ten years ago,[37] and

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[35] See 42 U.S.C. § 7412 (2001).

[36] 15 U.S.C. § 2605(a) (2001).

[37] *Corrosion Proof Fittings*, 947 F.2d at 1230.

since then EPA has not banned a single substance under section 6.

To sum up, out of ninety environmental measures considered by Tengs and Graham, eighty-one were undertaken (or not undertaken) under statutory provisions that are either formally or effectively defunct and have been so for at least a decade. Therefore, to the extent one attempts to develop a critique of environmental protection based on this study, one's critique will be at least a decade out of date.

Tengs and Graham's research is unduly narrow in another way as well. As noted above, they consider three categories of private and public life-saving measures - medical interventions, fatal injury reduction, and toxin control - in order to see how many more lives we could save if we spent the same amount of money on these programs we now spend, but spent it differently (or, alternatively, how much money we could save by saving the same number of lives but through a different arrangement of programs). Their analytical universe not only includes only a small slice of the array of life-saving measures we actually take, but also fails to include activities we undertake that do not save lives but that cost a lot of money that might otherwise be spent on saving lives.

As to the first problem, Tengs and Graham's research overlooks some of the most expensive kinds of life-saving measures we undertake today. The whole category of military expenditures, for example, appears nowhere in their work. Yet if one is serious about reallocating life-saving expenditures to the place where they do the most good, then would should think hard about whether the billions spent on, say, the B-2 bomber were an effective means of protecting American lives. Of course it is true that in the current climate, questioning military expenditures might not be a politically expedient thing to do; but political expediency that prevents cost-effective life-saving strategies is an attitude John Graham has purported to fight against, not to embrace. One might also point out that military expenditures, for example, protect national interests - such as protecting a "way of life" - beyond the saving of human life. The same is certainly true of environmental protection, yet this did not stop Tengs and Graham from evaluating the cost-effectiveness of environmental protection solely in terms of life-years saved.

A second problem along these lines is that Tengs and Graham seek to reallocate expenditures only among programs

that save lives. They do not ask, for example, whether the billions of dollars in subsidies to the mining, logging, ranching, and farming industries might be better spent on, say, smoking cessation and childhood immunizations. They do not even ask whether money spent subsidizing tobacco itself might better be spent on smoking cessation programs!

Finally, given that Tengs and Graham do not limit their analysis to regulatory programs, one must wonder why they do not consider whether the combined billions spent in this country on soft drinks, fad diets, leaf blowers, riding lawn mowers, and cable television might be better spent on Nicoret gum and the nicotine patch. Suppose an individual, in deciding whether to go to the doctor when ill, thought very hard about the other health-improving activities for which this money might be used (such as, perhaps, a health club membership) – without considering whether to eliminate other, non-health-related expenditures first. Might not that person seem a little crazy? Yet this is essentially the way Tengs and Graham's research proceeded.

V. Disregard of Many Benefits of Health, Safety, and Environmental Protection

Another important limitation of Tengs and Graham's studies is that they assume that the only benefit of environmental protection is to prevent fatal illnesses in humans. These studies ignore many significant benefits of environmental programs. Most obviously, their fixation on fatal illnesses ignores nonfatal harms to human health. Most lethal substances also cause nonfatal health effects. Toxic chemicals can, for example, cause respiratory, neurological, reproductive, hematological, and other health-impairing disorders. Not all of these disorders are fatal, yet they are nevertheless unpleasant and costly byproducts of toxic pollution. In addition, environmental toxins can harm ecosystems, harms which simply do not show up in Tengs and Graham's limited analysis.

Tengs and Graham's analysis not only excludes the many benefits of health, safety, and environmental regulation that do not involve life-saving; it also excludes life-saving benefits themselves if these cannot be quantified. This often means that, in the context of toxin control, any life-saving benefits other than the prevention of cancer are ignored because cancer

prevention is often the only life-saving benefit that can be quantified. One reason why it is easier to quantify the risk of cancer is that there exists a clear end point: the subject under study — either a human or a laboratory animal — either does or does not develop a tumor. With respect to other kinds of human health effects, however, such as impairments of cognitive development and reproductive capacity, the relevant end point is not so obvious. Moreover, even with respect to estimates of cancer deaths, risk assessments often use assumptions that may result in the understatement of risk. For example, one standard assumption in risk assessment is that the population targeted by regulation has the same susceptibility to the relevant harm as the population studied in the risk assessment.[38] However, most of the epidemiological studies underlying regulatory estimates of risk have involved only white male workers.[39] Women, children, the elderly, racial and ethnic minorities, and poor people may be more vulnerable to the risks in question than the relatively healthy white male workers assumed in most analyses.[40]

To be sure, Tengs and Graham acknowledge that their analysis does not capture all of the benefits of life-saving programs. But it is worth keeping in mind that their focus on quantified life-years saved ignores some of the most important benefits of the programs in question.

VI. Whose Life Is Worth Saving?

A final problem with Tengs and Graham's studies on regulatory cost-effectiveness involves the studies' assumptions about whose life is worth saving. Tengs and Graham's studies do not assume that all human lives endangered by human action are equally valuable. On the contrary, in estimating the cost-effectiveness of the life-saving measures they analyzed,

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[38] See Proposed Guidelines for Carcinogen Risk Assessment, 61 Fed. Reg. 17960, 17966 (EPA 1996) (proposed Apr. 23, 1996).

[39] See e.g. ibid; see also Robert R. Kuehn, *The Environmental Justice Implications of Quantitative Risk Assessment*, 1996 **U. Ill. L. Rev**. 103, 123 (1996).

[40] See ibid. (citing sources).

Tengs and Graham used two analytic techniques that embody controversial assumptions about whose life is worth saving.

First, they based their cost-effectiveness analysis on the regulations' effectiveness in saving *years* of life, or *life-years*.[41] Put simply, this means that in the view of Tengs and Graham and their co-authors, a measure that saves the lives of the elderly is not as good as one saving the lives of the middle-aged, and likewise, a measure saving the lives of the middle-aged is not as good as one saving the lives of the young. It also means that benefits like the prevention of nonfatal illnesses and the protection of ecosystems are not taken into account in Tengs and Graham's analysis. Tengs and Graham acknowledge that many of the interventions in their research have benefits beyond increasing the human life span,[42] but the research makes no attempt to account for such benefits.

Second, in calculating the benefits of life-saving measures, Tengs and Graham employed an analytic technique known as "discounting." Specifically, they reduced all future life-saving benefits by five percent per year.[43] Equations available in appendices to their original research seem to indicate that Tengs and Graham performed this calculation in the following way: suppose, for example, that a particular measure would save the life of a 35-year-old, thus saving forty-two life-years if one assumes that this person's life expectancy is seventy-seven years. Tengs and Graham discounted all of the years of life saved by such an intervention by five percent per year, *from the year in which the year of life would otherwise have been lived.* This means that Tengs and Graham would have discounted the last year saved by the hypothetical intervention over a period of forty-two years. As a result, the last year of life saved would be reduced in their analysis to one-eighth of a year. This large reduction in future benefits is the inexorable result of discounting, a process akin to compound interest in reverse.

Both of these analytic devices have a large negative effect on assessments of environmental programs in particular, and

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[41] Five-Hundred Life-Saving Interventions, *supra* n. 5 at 370; see also Opportunity Costs, *supra* n. 4 at 169.

[42] Five-Hundred Life-Saving Interventions, *supra* n. 5 at 372.

[43] Opportunity Costs, *supra* n. 4 at 169.

both are very controversial. Absent these assumptions, the cost-benefit ratios of the life-saving measures evaluated by Tengs and Graham, especially those involving toxin control, would have been very different. As noted, typically the only quantifiable benefit of toxic substances control is the prevention of cancer. Since cancer is a disease primarily of old age, and since it has a long latency period, the practices of looking at life-years saved and discounting future benefits produce results that systematically disfavor toxin control.

Discounting, in particular, can have a profound effect on the perceived present-day benefits of actions whose purpose is to prevent future harm. If discounted over a long enough period, even the benefits of preventing catastrophes become trivial. For example, Tengs and Graham's five percent discount rate means that the death of one billion people 500 years from now is less important than the death of one person today. The logic of discounting also means that saving the lives of your children in the future is worth less than saving your own life in the present. Discounting also systematically downgrades the importance of actions taken to prevent long-latency diseases and long-term ecological harm. Yet these long-term aspirations are among the major aims of the kinds of programs that have fared so poorly in analyses of costs per life saved, especially environmental programs.

It is not difficult to grasp the issues inherent in the question whether to evaluate life-saving programs according to the life-years or the lives, they save. The question turns, essentially, on whether one views younger and older people as equally worthy of protecting from the hazards of, say, air pollution. Our society's norms of equality weigh strongly against offering less protection to people based simply on age or life expectancy.

Discounting is more complicated. In discounting, one reduces a benefit one expects to receive in the future by a fixed rate that is designed to capture, in essence, the costs of waiting for the benefit. In the financial context, discounting future sums of money reflects the fact that money received in the future is worth less than money received today because if one receives money today, one can invest it and produce even more money for the future. One might also be impatient to receive the money now. In the life-saving context, discounting is a far more problematic and controversial concept than it is in the financial context.

In their collaborative research, Tengs and Graham do not

elaborate on their decision to discount lives. In a statement responding to my statement opposing Graham's nomination to head OIRA, however, Tammy Tengs explained that discounting is necessary in order to avoid the so-called "Keeler-Cretin" paradox.[44] The idea is that if we do not discount future benefits, we will never spend anything to save lives now because we could always put our money in the bank now and use it to save more lives in the future. This is a specious argument. First, the argument wrongly assumes that the costs of life-saving will not rise over time. Second, in a related vein, it assumes that the life-saving in question can be brought about either today or years from now; but with respect to environmental protection, at least, the things we do today cannot be done years from now to prevent deaths – they must be done now.[45] Finally, of course, citation to the Keeler-Cretin paradox assumes all regulatory decisionmakers have the same obtuse devotion to quantitative analysis as some cost-benefit analysts do - that they will simply tote up the numbers and, if they come out in the way Tengs suggest, keep their life-saving money in the bank *forever*. I do not know of anyone who behaves this way.

In addition, even Tengs' unconvincing cite to the Keeler-Cretin paradox does not explain why Tengs and Graham discounted in these particular studies. The life-saving interventions whose benefits they discounted would have prevented deaths predominantly due to cancer, and would have done so by reducing exposures to carcinogens in the air, water, and land. These reductions in exposures would predominantly have coincided with the costs expended to reduce them. Where costs and benefits occur contemporaneously, the case for discounting disappears.

The controversy over the discounting of life-saving benefits is complex, but there are three additional, basic reasons why discounting is problematic in this setting.[46] First, lives do not

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[44] See Tengs Testimony, *supra* n. 29.

[45] See Lisa Heinzerling, *Environmental Law and the Present Future*, 87 **Geo. L.J.** 2025, 2073-74 (1999).

[46] See Heinzerling, *Regulatory Costs of Mythic Proportions*, *supra* n. 34 at 2043-2056; Lisa Heinzerling, *Environmental Law and the Present Future*, 87 **Geo. L.J.** 2025 (1999); Lisa

compound the way money does. You cannot put a life — or a life-year, for that matter — in the bank and earn money on it. Although one could argue that lives do indeed "compound" through human births, no serious scholar in the literature on discounting advances this as an argument in favor of discounting future life-saving.

Second, it is inaccurate to suggest that a human life, or life-year, lost in the future is somehow not a "whole" life or life-year. If a person dies thirty years from now due to cancer caused by exposure to arsenic, a whole life is lost. Yet at a discount rate of five percent, analysts like Tengs and Graham would deem a regulation saving that person's life to have saved less than one-quarter of a life. But human lives do not come in fractions.

Finally, although many people who advocate discounting purport to do so on the basis of people's preferences, it would surprise me to learn that most members of the public agree with the idea, implicit in discounting at a five percent rate, that lives saved in the future are essentially trivial compared with lives saved today. Indeed, one could make a very plausible argument that the existence and widespread popularity of dozens of federal statutes ensuring a high level of environmental protection belie the claim, implicit in discounting, that the future matters relatively little to the ordinary person. Closer to home, most parents, I think, are at least as concerned about their children's future, and as anxious to make it good, as they are concerned about their own present well-being. Discounting ignores — indeed, it discourages — this fundamental human impulse.

VII. How Graham's Research Has Been Misused

> We did not conduct an analysis of the output of the regulatory system, nor do we imply otherwise. . . . No where in either paper do we advocate for, or even discuss, shifting EPA responsibilities, radon, or loans and tax incentives. These papers are simply

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Heinzerling, *Discounting Our Future*, 34 **Land & Water L. Rev**. 39 (1999); Lisa Heinzerling, *Discounting Life*, 108 **Yale L.J**. 1911 (1999); Lisa Heinzerling, *The Temporal Dimension in Environmental Law*, 31 **ELR** 11055 (2001) (for more extended discussion of the case against discounting).

> not focussed on the EPA. To say otherwise is a grave and deliberate misrepresentation of our work.[47]

Many observers have misinterpreted Tengs and Graham's research. Most prominently, they have cited the "Opportunity Costs" study as if it shows that *government regulation* results in the "statistical murder" (to use Graham's phrase) of 60,000 Americans every year. This misinterpretation appears frequently in the academic, political, and popular literature on risk regulation. The Senate's Governmental Affairs Committee, for example, has been told more than once that Tengs and Graham's research shows that a rearrangement of *regulatory* priorities would save 60,000 lives per year.[48]

The misrepresentations of Tengs and Graham's data began, in fact, simultaneously with their initial publication. In the introduction to the book in which the "Opportunity Costs" study appears, Robert Hahn claims that the study by Tengs and Graham "compiles new data on hundreds of regulatory interventions and estimates their costs and life-saving benefits."[49] This study, Hahn continues, "assesses the opportunity costs of the current activity and determines an 'optimal portfolio' of regulatory activity that could save more lives at less cost."[50] The ink was not even dry on Tengs and Graham's study, in other words, before it was being misused as an indictment of government regulation - and misused in precisely the way Tengs criticizes in the epigraph to this section.

It is not only other researchers, however, who have misrepresented Tengs and Graham's research; Dr. Graham himself has misrepresented his own research. These

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[47] Tengs Testimony, *supra* n. 29 at 2, 9.

[48] See, e.g., Hearing on S. 981, the Regulatory Improvement Act of 1998, Before the Senate Comm. on Governmental Affairs 105th Congress 4 (Feb. 24, 1998) (Joint Testimony of Robert W. Hahn & Robert E. Litan, The American Enterprise Institute and The Brookings Institution).

[49] Robert W. Hahn, *Introduction* to **Risks, Costs, and Lives Saved,** *supra* n. 4 at 1.

[50] *Id.* at 1, 3 (emphasis added).

misrepresentations fall into two general categories. First, Graham has marketed his research as if it revealed government regulation to be the primary culprit in the misallocation of life-saving resources. Second, he has misstated the regulatory cost-effectiveness found by his studies.

Attributing Resource Misallocations to Regulation. In congressional testimony, Dr. Graham has used the research set forth in "Five Hundred Life-Saving Interventions" and "Opportunity Costs" as a basis for calling the present allocation of life-saving resources "statistical murder."[51] Dr. Graham has told the Senate Committee on Governmental Affairs that his research demonstrates that federal regulation is in serious need of reform. In testifying in favor of Newt Gingrich's "Contract With America" bills several years ago, Dr. Graham stated:

> For the past fifteen years, I have studied the decision making of federal agencies responsible for protecting public health, safety, and the environment. These agencies include, for example, the Consumer Product Safety Commission, the Environmental Protection Agency, the Food and Drug Administration, the National Highway Traffic Safety Administration, the Occupational Safety and Health Administration, and the Nuclear Regulatory Commission. Although each of these agencies serve[s] a vital public function, I have found that the decisions of these agencies are not always based on a good understanding of science, engineering, and economics. As a result, our regulatory system is far less effective and efficient than it could and should be. One of my previous doctoral students at [the Harvard Center for Risk Analysis], Professor Tammy Tengs of the University of California at Irvine, found in her doctoral dissertation that lifesaving investments in the United States are often inefficient. Based on a sample of 200 policies, she estimated that a reallocation of lifesaving resources to cost-effective programs could save 60,000 more lives per year than we are currently saving, at no increased cost to taxpayers or the private sector! In short, a smarter regulatory system can provide the public with more protection against hazards at less cost than we are achieving today.[52]

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[51] Risk Assessment and Cost Benefit Analysis: Hearings Before the Comm. on Science, United States House of Representatives, 104th Cong., 1st Sess. 1124 (1995) (written testimony of John D. Graham).

[52] Testimony of John D. Graham, Ph.D., Director, Center for

Similarly, two years ago, Dr. Graham joined a group of economists in signing onto a brief filed in the U.S. Supreme Court in a case challenging the constitutionality of the federal Clean Air Act. In that brief, Dr. Graham and his co-signatories urged the Court to interpret the Clean Air Act to require cost-benefit analysis of national air quality standards. They premised their argument on the perceived failings of current health, safety, and environmental regulation. As they put it, "both the direct benefits and costs of environmental, health, and safety regulations are substantial–estimated to be several hundred billion dollars annually. If these resources were better allocated with the objective of reducing human health risk, scholars have predicted that tens of thousands more lives could be saved each year."[53]

In his academic work, moreover, Graham has used the research conducted with Dr. Tengs to launch a large-scale attack on regulatory programs that protect health, safety, and the environment. Calling the "public's general reaction to health, safety, and environmental dangers" a "syndrome of paranoia and neglect," Graham has chosen to focus his disapproval on regulatory agencies rather than, say, the medical professionals whose apparent failure to offer smoking cessation advice to their patients results in a good deal of lost opportunity for life-saving.[54] For example, he has contended

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Risk Analysis, Harvard School of Public Health, Before the Committee on Governmental Affairs, United States Senate (April 21, 1999) (testimony on S. 746, the Regulatory Improvement Act of 1999); see also Risk Assessment and Cost/Benefit Analysis for New Regulations: Joint Hearings Before the Subcomm. on Commerce, Trade, and Hazardous Materials and the Subcomm. on Health and Environment of the Comm. on Commerce, 104th Cong., 1st Sess. 307 (1995) (written testimony of John D. Graham).

[53] Br. of Amici Curiae AEI-Brookings Jt. Ctr. for Reg. Stud. et al., at 1-2, *Am. Trucking Assns. v. Whitman*, 531 U.S. 457 (2001) (citing Opportunity Costs, *supra* n. 4) (emphasis added).

[54] John D. Graham, *Making Sense of Risk: An Agenda for Congress*, in **Risks, Costs, and Lives Saved**, *supra* n. 4 at 183-207.

that the data he has compiled with Dr. Tengs "call for reconsideration of the toxin-control budgets of agencies such as EPA and [Occupational Safety and Health Administration] OSHA."[55]

Thus, in testimony, Supreme Court briefing, and academic writing, Graham himself has misused his "Opportunity Costs" study. He has suggested that this study supports the conclusion that the current regulatory system squanders the opportunity to save tens of thousands of additional lives every year. This conclusion does not follow from Graham's research. As noted, most of the life-saving potential found in Graham's research comes from reallocating expenditures in the field of medicine, not from reallocating resources used by, say, the EPA or the OSHA. It is a myth that federal regulation "statistically murders" 60,000 Americans every year. Yet not only has John Graham apparently done nothing to correct the widespread impression that his own research supports this claim, he has also actively promoted this misinterpretation of his own data.

Inaccurate Statements About Regulatory Cost-Effectiveness. Tengs and Graham's studies include both regulatory and non-regulatory life-saving measures. Many of these measures would be undertaken, if at all, in the non-regulatory environment of individuals acting in their private capacities, such as doctors advising patients about quitting smoking[56] or 35-year-old men undertaking an exercise regimen.[57] Many other measures would entail government regulation or intervention. Indeed, in "Five-Hundred Life-Saving Measures," the category of toxin control consists almost entirely of measures that might be (but in many cases have not been) undertaken by the government.[58]

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[55] John D. Graham, Comparing Opportunities to Reduce Health Risks: Toxin Control, Medicine and Injury Prevention, National Center for Policy Analysis Report No. 192 (June 1995) (available <http://www.ncpa.org/studies/s192/s192.html>).

[56] Five-Hundred Life-Saving Interventions, *supra* n. 5 at 384 app. A.

[57] *Id.* at 380 app. A.

[58] *Id.* at 377 app. A.

There is, of course, nothing inherently wrong with including both regulatory and non-regulatory life-saving programs in such a study. In that case, however, one must be careful to avoid attributing the costs and misallocations of private decisions to governmental actors. Graham has misused his own research in this fashion as well.

For example, as noted above, the most expensive intervention in the "Five-Hundred Life-Saving Interventions" study — the control of chloroform from paper mills, weighing in at $99 billion per year of life saved — was never even proposed.[59] Yet Graham has cited this measure as an "EPA standard for chloroform emissions" and has stated that it "imposes over $99 billion in costs for each year of life added."[60] But the "standard" was never proposed, and hence the costs never "impose[d]."

In addition, in treating unimplemented environmental measures as if they were implemented, Tengs and Graham' "Opportunity Costs" study greatly reduces the apparent cost-effectiveness of environmental regulation. Again, it is impossible to determine the magnitude of this inflation based on the public record, but given the available evidence as described in Part II of this article, it appears to be very large.

One last point bears mentioning here. Although Tengs and Graham devote considerable energy to arguing that we should reallocate our life-saving resources, they actually provide no concrete examples in their "Opportunity Costs" study of what we should be doing instead of what we are now doing. Only by studying Tengs's unpublished Ph.D. dissertation, written under Graham's supervision, can one learn which life-saving interventions these researchers favor. I will limit my observations here to toxin control.

As it turns out, most of the toxin controls that Tengs and Graham found to be cost-effective have already been implemented. A handful of apparently cost-effective interventions regarding asbestos and benzene were not

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[59] Luken, Toxic Pollutants, *supra* n. 22 at 249.

[60] John D. Graham, How to Save 60,000 Lives, Electric Edison Institute (1995) (available <http:// www.eei.org) [hereinafter "How to Save 60,000 Lives"].

implemented, but these rules together would have saved a total of only twenty-four lives — nowhere close to the 60,000 lives cited in the Tengs and Graham study. The only large life-saving opportunity in the area of toxin control that is identified by Tengs and Graham is radon remediation in homes, as encouraged by government funding of low cost loans, tax write-offs, or other financial incentives.[61] In effect, then, the consequence of following Tengs and Graham's research would be a wholesale shift of EPA's responsibilities from the regulation of pollution of the air, water, and land through mandatory controls on polluters to the encouragement of residential radon remediation, which typically involves simply caulking basements, through loans and tax incentives. Nowhere do Tengs and Graham face up to the shrinking, indeed trivialization, of environmental law that their proposals would entail.

VIII. Conclusion

Perhaps the most famous empirical claim in Tammy Tengs and John Graham's research — indeed, one of the most famous claims in all of the literature on risk regulation — is that we could save 60,000 more lives per year if we reallocated our life-saving resources. Tengs and Graham's empirical research has frequently been misinterpreted as supporting a claim that we are "statistically murdering" approximately 60,000 Americans every year through foolish government regulations. At least some of the life-saving potential Tengs and Graham have found, however, is based on elimination of government regulations that were never implemented. Most of this life-saving potential, moreover, has nothing to do with government regulations, but instead comes from a rearranging of priorities in non-regulatory situations such as the advice doctors give to patients about quitting smoking.

Tammy Tengs and John Graham have, from all appearances, done nothing to correct the widespread misinterpretation of their own research. Indeed, Graham himself has frequently encouraged this misinterpretation — by telling the Supreme Court that 60,000 lives could be saved if

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[61] See Kenneth L. Mossman & Marissa A. Sollitto, *Regulatory Control of Indoor Rn*, 60 **Health Phys**. 169 (1991).

resources now spent on regulation were spent more wisely;[62] by publishing articles that refer to unimplemented, indeed unproposed, environmental measures as if they were implemented;[63] and by testifying that bills that would have substantially changed environmentally protective programs in this country were a good idea because without such reform we could be rightly accused of "statistical murder."[64] These are not someone else's misrepresentations of Graham's data; they are Graham's misrepresentations.

Even if Tengs and Graham's work accurately represented the products of the current regulatory system, which it does not, their work nevertheless would begin from premises systematically skewed against environmentally protective programs. The exclusive fixation on human lives saved and the discounting of future lives saved both bias the conclusions against environmental protection – which does many more things than save human lives and which focuses in significant part on the future – from the outset. Moreover, Tengs and Graham's use of prospective estimates of life-saving costs will tend to overstate costs of environmental rules, which have as one of their goals the development of cheaper, more effective technologies to reduce pollution. In these ways, Tengs and Graham's conclusion that toxin controls fare poorly in terms of cost-effectiveness when compared to other kinds of life-saving interventions comes as no surprise; it is a conclusion that is embedded in the very premises of Tengs and Graham's studies.

Using Tengs and Graham's research on life-saving priorities and assuming that maximizing the number of lives with current investments is the goal, it would appear that priorities for reform of life-saving investments would be established as follows: first, reform health-care expenditures; second, redirect expenditures on fatal injury reduction; and, only as a distant third, reform our approach to controlling

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[62] Br. of Amici Curiae AEI-Brookings Jt. Ctr. for Reg. Stud., et al., *supra*, n. 53 at 1-2.

[63] How to Save 60,000 Lives, *supra* n. 60.

[64] Risk Assessment and Cost Benefit Analysis: Hearings Before the Comm. on Science, United States House of Representatives, 104th Cong., 1st Sess. 1124 (1995) (written testimony of John D. Graham).

toxins. Moreover, EPA's operations would be of relatively little concern in this schema, given the quite small contribution even a major overhaul of this agency's priorities could make to overall life-saving results, according to his research.

Curiously, however, this is not how Dr. Graham has allocated his own resources. Indeed, as I have explained, he has used his research on the cost-effectiveness of life-saving measures in arguing for a major restructuring of our regulatory system. And he has reserved a special disfavor for environmentally protective programs. Scholars, citizens, and government representatives who have an interest in ensuring a high degree of environmental protection in this country should closely monitor Graham's work as Administrator of the Office of Information and Regulatory Affairs in order to see that the built-in anti-environmental biases of his previous work do not find their way into federal regulatory policy.

The Washington Post

TUESDAY, DECEMBER 4, 2001

Business Lobbyists Asked To Discuss Onerous Rules

GOP Aide Identifies 57 Regulations to Target

By MICHAEL GRUNWALD
Washington Post Staff Writer

Republican congressional aide Barbara Kahlow sent the e-mail to a dozen business lobbyists on Sept. 26: "Here's our non-public chart," it said. She underlined "non-public" and put it in boldface.

"This was hush-hush, behind-closed-doors stuff," one of the lobbyists recalled.

Kahlow explained in her e-mail that President Bush's new regulatory czar, John D. Graham, had "asked me to convene key lobbyists to identify and rank" regulations that business groups found overly burdensome.

Her chart listed 57 of the most paperwork-intensive rules the business community wants to target. The rules, which deal with health, safety and the environment, govern everything from pesticide use to coal-mine ventilation, to standards for blood-borne pathogens. They cover such areas as air and water quality, food labeling, lead-paint disclosure, truck safety inspections, toxic-release reporting, and family and medical leave.

Graham, who became administrator of the Office of Information and Regulatory Affairs (OIRA) at the Office of Management and Budget in July, after a nasty confirmation fight, acknowledged last week that he had invited Kahlow and others to let him know about overly burdensome regulations. But he said he had not seen Kahlow's chart of 57 "sunset review candidates" and pledged not to change any regulations without input from affected agencies and the public.

Still, the chart and other documents from a fledgling anti-paperwork campaign provide another glimpse of behind-the-scenes strategy-setting by business lobbyists and conservative Republicans in government, during the Bush administration. In April, an industry memo urged lobbyists to get "DRESSED DOWN" like "REAL WORKER types" for an event promoting the GOP tax cut's impact on blue-collar families. In May, an energy lobbyist asking people to pay $5,000 to join a corporate coalition to push the president's energy bill warned in a letter that absolute unity was a must: "I have been advised that this White House will 'have a long memory.' "

Now there is Kahlow's e-mail announcing an Oct. 2 meeting with trade-group lobbyists and GOP staffers to discuss the 57 regulations. "We intend to share the group's list with [Graham] confidentially," wrote Kahlow, who served for 25 years as an OIRA official before becoming deputy director of the House subcommittee overseeing federal regulations. Her e-mail went out to the U.S. Chamber of Commerce, the National Federation of Independent Business, the Business Roundtable, the American Farm Bureau, the Associated Builders and Contractors, the Associated General Contractors of America and the Small Business Survival Committee.

The e-mail and the chart were provided to The Washington Post by a lobbyist who attended the meeting, in the House Rayburn Building. The lobbyist said he was disturbed by what he perceived as an "underhanded" campaign to use obscure paperwork guidelines as a back-door mechanism to gut long-established regulations. He said he was told that the campaign had Graham's blessing, if not his fingerprints. The campaign is being run out of the House Government Reform subcommittee on energy policy, natural resources and regulatory affairs, which is chaired by Rep. Doug Ose (R-Calif.), who is Kahlow's boss.

"This was a secret campaign to circumvent the process," said the lobbyist, who asked not to be named. "With Graham in that job, we figured we could get whatever we want."

Graham's background proved controversial when he was named to oversee the federal government's various rules. He founded the Harvard Center for Risk Analysis, a think tank that is funded in large part by industry groups and individual businesses and that has argued that many regulations and policies are misguided.

Graham's nomination as head of OIRA was opposed by liberal groups and Democrats, who declared him an enemy of regulations. He responded that he supported cost-effective, science-based regulations that promoted public health and welfare and was confirmed by a 61-37 vote.

In September, he signaled his intent to take an activist role in a memo to his staff, warning that "if not properly developed, regulations can lead to an enormous burden on the economy."

In an interview, though, Graham said trade groups might be surprised if they think they will get "whatever they want" in his tenure. He said he had invited business lobbyists and congressional aides to approach him to discuss bad regulations, but that he did not remember telling Kahlow to "convene key lobbyists" to pursue candidates for "paperwork & regulatory burden reduction," as her e-mail said. And echoing a point made by his liberal critics, he emphasized that just because a regulation is onerous does not mean it is bad.

"I am happy to meet personally with lobbyists of all stripes to discuss burdensome paperwork and regulatory requirements," Graham said. "However, OMB will not order changes without considering the public benefits of these requirements."

Joan Claybrook, president of the advocacy group Public Citizen, said she wasn't surprised that Graham didn't remember telling Kahlow to convene lobbyists. She said he often replied to questions at his confirmation hearing by saying that he didn't remember. She warned that the Bush administration and its supporters in the business community had launched a campaign to roll back health and safety regulations that protect ordinary people from corporate malfeasance.

"There's no question where all this is headed," she said. "These lobbyists have no shame."

Kahlow declined to comment. But it is no secret that business-friendly Republicans in general and Ose's committee in particular have pushed to rein in regulations and paperwork. In August, Graham's staff gave Kahlow a computer printout of government rules that produced more than 1 million hours of paperwork a year. Ose then asked OMB to evaluate some of them, governing new drugs, sewage sludge disposal and "safety management of highly hazardous chemicals."

Kahlow then whittled the printout down to 57 "candidates for discussion" before the Oct. 2 meeting. The goal, several attendees said, was not just to reduce unnecessary paperwork, but to persuade Graham to use little-known provisions of the Paperwork Reduction Act to try to weaken paperwork-intensive regulations.

Jim Tozzi, Kahlow's former boss at OIRA, said in an interview that he used to do just that, using paperwork technicalities as an excuse to review otherwise untouchable rules. "I have to plead guilty to that," said Tozzi, who is now on the advisory board at the Center for Regulatory Effectiveness. "The paperwork is a way in, you know?"

Another lobbyist who attended the Oct. 2 meeting said that even though Graham was not present, he was almost there in spirit.

"There was the implication that it was something he would want done, if you catch the fine line there," said this lobbyist, who also asked not to be named.

But Bill Kovacs, the U.S. Chamber of Commerce vice president for regulatory affairs, said that even though his group supported the goal of reducing government regulations, it was not impressed with the strategies floated on Oct. 2. He supports a

more systematic attack.

"You can't just put 57 regulations on the table and say, 'Go to it,' " said Kovacs, who did not attend the Oct. 2 meeting but sent three staffers. "It would be political suicide."

Some of the 57 regulations, after all, are potentially inflammatory. For example, some business groups would like to reshape the Family and Medical Leave Act to stop parents from taking their leave in small increments, but that could have significant political consequences. Unions would fight any changes to the so-called Davis-Bacon prevailing-wage rules on government construction projects. The Bush administration might be reluctant to tinker with food labeling rules, "needlestick safety" standards for hospital workers and community right-to-know requirements that force industries to disclose their toxic chemicals.

But regardless of the politics, the business community believes that many regulations provide negligible benefits to consumers or workers while inflicting unbearable costs to entrepreneurs. Larry Fineran, a National Association of Manufacturers lobbyist who attended the Oct. 2 meeting, said that paperwork was as good a place to start slimming down as any.

"The cost is just enormous," Fineran said. "And so far, nobody's done much about it."

FILE PHOTO/BY DAYNA SMITH—THE WASHINGTON POST

John D. Graham, head of the Office of Information and Regulatory Affairs, asked a GOP aide and others to alert him to burdensome rules.

www.washingtoncitypaper.com

COVER STORY
by Garance Franke-Ruta
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"I don't think of us as a think tank. We're part of a university. A think tank has a position. Mercatus positions are universal."
-- Mercatus Center director Tyler Cowen

"Companies are born, they prosper, and they die. It's a natural part of the market process."
—Government Accountability Program director Maurice P. McTigue

"The idea is to get efficient markets.

BULL MARKET

Enron collapsed. The Earth is warming up. And GMU's Mercatus Center says the solution lies in two public policy heroes: supply and demand.

There are plenty of laissez-faire Republicans who'll tell you that the greenhouse effect is bogus science. But in the Virginia suburbs, there's a stronghold of anti-regulation zealots who say that heightened ozone concentrations are, in fact, a public good.

The thinking goes like this: The ozone layer protects us from the sun's rays, fending off sunburns, skin cancer, and the like. But the ozone layer is thinning, so there's no harm in trying to patch up that protective coating with a little man-made ozone from, say, auto emissions. Sure, ground-level ozone, the key ingredient in smog, has been blamed for everything from kids' breathing problems to global warming. But there's no point trying to fight those ill effects if it just means more people, in the end, wind up suffering from sunstroke.

So declared a precursor to the Mercatus Center of George Mason University (GMU) in a 1997 public comment on a proposed Environmental Protection Agency (EPA) rule setting new standards for ambient ozone. "Ozone protects against harmful ultra-violet radiation, and the detrimental health effects of increased UV-B penetration are likely to be greater than the projected health benefits of lowering ozone concentrations," the center wrote.

As director of the Mercatus Center's Regulatory Studies Program, Enron Corp. board member Wendy Lee Gramm, wife of Republican Sen. Phil Gramm of Texas, channels the resources of her university

Everyone pays the cost that he imposes on everyone else." —Interdisciplinary Center for Economic Science founder Vernon L. Smith

The Mercatus Center makes for a case study in how anti-regulatory rhetoric gets minted and passed along as political currency in the nation's capital.

"[C]ommunities concerned about elevated arsenic levels in their drinking water can implement controls to reduce those levels, and individual households can install filters at their taps to remove arsenic." —Mercatus Center Regulatory Studies Program

"My perspective on

center toward making arguments such as this. Responsibility for protecting the citizenry lies with individual cities and companies, not the federal government, Gramm says. She calls it deferring to individual "choice" and promoting "the public interest."

And individual choice, in the Mercatus mind-set, means leaving things like water purification up to the consumer. Last October, Mercatus submitted a carefully calibrated comment to the EPA when it was evaluating the final version of the new, more stringent national standards for arsenic levels in drinking water originally developed under President Bill Clinton.

D.C. residents who already hassle daily with Brita filters to clean micro-organisms such as giardia and cryptosporidium out of our foul-tasting public water supply might find the Mercatus conclusions advocating increased individual action startling.

Not only were the regulations not supported by the data on arsenic, the center asserted, but communities like ours would be better served by efforts that focused on putting new products on the shelves of hardware stores rather than new national rules on the books. "[C]ommunities concerned about elevated arsenic levels in their drinking water can implement controls to reduce those levels, and individual households can install filters at their taps to remove arsenic," noted the public comment. "Compelling communities to reduce arsenic takes money that could be used to protect against bio-terrorism threats, or to buy better schools, new emergency response equipment, or increased traffic safety."

The EPA's March 2001 effort to retract the Clinton-era arsenic rule blew up into the first major political fiasco of George W. Bush's presidency. Stung by the outrage, the administration this fall opted for the stringent standard that it had inherited.

Score one defeat for Mercatus.

"My perspective on regulation was really cooked in the '80s....It really hasn't changed that much." —Wendy Lee Gramm

Extreme libertarian views on issues of public policy aren't hard to find around Washington. The Cato Institute, for example, has been fighting inheritance taxes, social security, and the hand of big government for the past quarter-century. The conservative Heritage Foundation shares many of its positions.

But the Mercatus Center makes for a case study in how anti-regulatory rhetoric gets minted and passed along as political currency in the nation's capital. At a time when more than 10 different congressional inquiries are deconstructing the partnerships, self-dealing, and conflicts of interest that passed for energy giant Enron's financial and accounting practices, it's worth taking a look at the ideology that fueled the company's rise—and ultimately led to its fall.

This particular strain of thinking, which holds that virtually every federal regulation hurts consumers, lives on in well-funded enclaves such as Mercatus, an oil-money-backed quasi-think-tank, which received $50,000 in donations from Enron over the past six years—as well as $10,000 from former Enron Chief Executive Officer Kenneth L. Lay and his wife, Linda Lay.

On the fourth floor of the GMU School of Law's 3-year-old white curved building in Arlington, an Enron board member, a former New Zealand cabinet minister, a would-be cultural critic, and an eccentric proponent of a new economics subspecialty continue to work together to promote energy deregulation, utility privatization, and an optimistic assessment of market-based popular culture.

They fund yearly all-expenses-paid retreats for top congressional staffers and arrange catered breakfast lectures for the more junior ones, featuring luminaries from the University of Chicago, GMU, and other market-oriented-economics centers. They promote transparency and accountability in

government—although they believe in the "executive privilege" of Vice President Dick Cheney's energy task force.

And they conduct magnetic resonance imaging (MRI) experiments looking at the brain activity of experimental subjects engaged in "economic thinking"—yet still manage to be taken seriously.

The center, which gained its current name in 1998, wouldn't exist without $16 million in grants from the Charles G. Koch Charitable Foundation, one of the largest funders of conservative causes in the country. Last year, Koch dollars made up 37 percent of Mercatus' $5.3 million budget, despite incoming monies from nearly 6,000 other contributors.

Certainly the Koch (pronounced "Koke") Foundation, backed by money from oil conglomerate Koch Industries Inc., has good reason to fight the feds. In early 2000, the Department of Justice and the EPA levied a $30 million fine against Koch Industries for causing more than 300 oil spills in six states—the largest civil penalty ever secured under federal environmental laws. A further 97-count indictment against Koch Industries and Koch Petroleum Group LP for violating the Clean Air Act and hazardous-waste laws, filed in 2000, was settled last year with a $20 million assessment and an admission by the company that it had vented benzene, a carcinogen, directly into the air at its Corpus Christi, Texas, plant. Koch Petroleum Group also received a five-year probation term.

Gramm's promotion of the Koch companies' line at Mercatus earned her January's "Villain of the Month" status from the Clean Air Trust, a group founded by two former senators to promote the Clean Air Act. Mercatus, under Gramm, has called for reassessment of 44 federal regulations.

Bankrolled by convicted polluters and singed by their association with the energy scandal, Mercatus Center staffers nonetheless say they have no plans to

alter their lobbying and research efforts—or re-examine their ideology—in the wake of the Enron fiasco's damning indictment of a regulation-lite economy.

"My perspective on regulation was really cooked in the '80s, when I was in government. It really hasn't changed that much," says the 57-year-old Gramm, an Enron board member since 1993, in her only public interview since the scandal broke. Gramm remains •ne of only two scandal-era Audit and Compliance Committee members on the Enron board. All told, seven directors announced resignations in February.

Gramm's crusade against government regulation wends through a hodgepodge of institutions. She left her post as chair of the Commodity Futures Trading Commission (CFTC) in January 1993, two years before her term was set to end. She joined the Enron board five weeks later. It was a classic revolving-door segue, because one of Gramm's last acts at the CFTC was to champion an Enron-friendly draft regulation exempting the burgeoning energy-derivatives swaps market from regulation. Energy derivatives, long-term contracts of a sort that operate like insurance against future fluctuations in energy prices, went on to become Enron's biggest product. (The exemption was eventually adopted by Gramm's successor at the CFTC).

Gramm argued for the exemption using phrases she still trots out in conversation. "At CFTC, all the things that you learned and tried to do, you got a chance to try out," says Gramm.

"It's like we're overseeing a great garden that produces lots of fruits and vegetables and is very productive for the American economy. But we also have to watch out for the weeds," says Gramm. "You have to be careful especially when dealing with innova ive new products in innovative ways. If we pull up everything green because we think it might become a weed, then pretty soon we won't have a

garden left."

For a number of years after leaving the CFTC, Gramm, a former Texas A&M University economics professor with a specialty in labor economics, worked out of her home, organizing a series of brown-bag lunches on economic topics that brought together a mix of government officials and academics. And she began a lucrative new career in corporate and organizational governance.

Her unabashedly pro-industry views and energy-sector expertise yielded spots on the boards of companies often frustrated by the government's regulatory reach. In addition to Enron, she joined the boards of directors of Longitude, a derivatives trading firm; Invesco Funds, a mutual-fund company; IBP Inc., a meat-processing company; and State Farm Insurance Cos. (Gramm resigned from the Invesco board earlier this year following a campaign by the AFL-CIO to force Enron directors from their other corporate oversight positions. Her tenure at IBP was previously marred by revelations that the Phil Gramm for President campaign had arranged buses to pick up IBP employees in three states to take them to vote in the Republican Party's Iowa straw poll in 1996.)

Gramm went on collecting conservative credentials like war medals. During the '90s, she sat on the boards of the Ronald Reagan Alumni Association, the International Republican Institute, and the Independent Women's Forum, where she worked with Lynne Cheney and other prominent female conservatives.

By 1995, Gramm was looking for a workplace to call home. She made some overtures to the University of Texas about setting up a regulatory study center there, but soon realized that any effort to affect policy or be taken seriously in Washington would have to be based closer to the center of power. "It was just too hard to do it from afar," she says.

She set up an advisory board—stocked with academics she calls "friends of Wendy who have become deans"—and approached Robert Tollison, then the general director of the Center for the Study of Public Choice at GMU and now a professor of economics at the University of Mississippi, about creating a center at GMU. He was an old colleague from the Federal Trade Commission, where they had worked together in the early '80s. "I said, 'I want to do this,'" recounts Gramm. "He said, 'Fine.' And that's where I started it and because we were really very policy oriented....We decided a better place would be at [GMU's] Center for Market Processes."

She joined the organization in 1997, just as the Center for Market Processes was becoming the Mercatus Center. Now she uses her perch to encourage other academics to adopt her perspectives, through the Regulatory Studies Program. "A lot of times, academics don't know exactly which issue to write a paper on," says Gramm. "We want to get them hooked on the issues we care about."

That those issues happen to coincide neatly with the perspectives of industry certainly doesn't hurt Mercatus' fundraising. Kenneth Lay, a longtime friend and backer of Sen. Phil Gramm, contributed sums of $5,000 to Mercatus in 1998 and 2000. And former Enron Energy Services director Lou L. Pai contributed an amount "under $10,000," according to Mercatus public affairs director Laura Hill. Their names are still prominently listed as donors on two silver-toned plaques at the entrance to Mercatus' suite at the law school.

Lay and Pai donated over several years, making the "Liberty Circle" of funders, the plaques proudly note. When asked whether Lay's involvement in the recent Enron scandal would trigger his removal from the Liberty Circle, Hill responds, "Why would we do that?"

Mercatus benefactor Charles G. Koch helped create the libertarian Cato Institute in 1977, and his brother, David Koch, was the Libertarian Party vice-presidential candidate in 1980. The overlap between the Koch-funded organizations is so apparent that some GMU staffers jokingly call the Mercatus Center the "Mercato Institute." Susan Dudley, the 46-year-old deputy director of the Regulatory Studies Program, even writes a three-page update for the Cato quarterly journal, *Regulation*.

Tom Firey, managing editor of *Regulation*, first proposed the relationship last year and, he says, has been very pleased with Dudley's work. But Mercatus occasionally goes a bit overboard on the anti-regulation language for even the Cato crowd, says Firey. "The material that they send to us, they try to tone down," he says. "Cato is more of a public policy research organization. We may be a little more academic than they are."

But Mercatus' disdain for the *Federal Register* is its stock in trade among corporate philanthropists. In addition to the Koch grants, Mercatus received $100,000 from the Sarah Scaife Foundation, run by archconservative former *American Spectator* financier Richard Mellon Scaife, along with tens of thousands of dollars from the conservative Philip M. McKenna Foundation.

After the first Koch bequest, in 1997, big corporations and trade associations also started ponying up thousands. Along with Enron, the American Petroleum Institute and Phillip Morris Cos. each threw in more than $10,000. The Electric Power Supply Co. and the Business Roundtable gave enough to join the Liberty Circle.

"Companies see university vehicles as a way to get messages out. It gives an aura of objectivity that's very valuable to them," notes Jennifer Washburn, a New America Foundation fellow who is writing a

book on private funding of university research efforts.

A recent donation of $3 million from Koch—part of its $16 million total contribution—paved the way for GMU to hire Vernon L. Smith from the University of Arizona. Though Smith, a mustachioed 75-year-old with a long yellowish-white ponytail and three silver rings on each hand, looks as if he'd just gotten off the Greyhound from Sedona, he is widely considered to be the father of experimental economics and a possible Nobel Prize candidate. He arrived at GMU with six colleagues in tow to found the Interdisciplinary Center for Economic Science (ICES), which is affiliated with Mercatus but housed in a different building.

Smith's expensive brand of hands-on research invokes medicine and psychology, along with economics, requiring a continued influx of donations.

"People offer you financial support, and within reason you tend to accept it," says Maurice P. McTigue, a former member of the New Zealand parliament, who is now director of Mercatus' Government Accountability Program.

Economist Tyler Cowen, the Mercatus Center's director, has just given a talk to his peers on his theories about why people make irrational choices in the political marketplace as well as the commercial one. It didn't go over very well, he says. His colleagues in the GMU Department of Economics are among some of the staunchest proponents of rational-choice theory in the nation, outside of the University of Chicago, where the philosophy originated. Rational-choice theory posits that people make clearheaded decisions based on their self-interest, requiring little government oversight. But "the rational-choice model doesn't account well for self-deception," says Cowen. "People are irrational and impulsive in many ways." And their

self-interest and their best interest don't always coincide.

It seems fitting that Cowen would be the one to argue for a deeper appreciation of the role of unpredictable emotions in human economic and political behavior. Cowen is a bit of an odd bird at Mercatus. Whereas most of the other scholars come from powerful policy backgrounds or work on abstruse economic questions, Cowen has been slowly sliding into the humanities with his research and teaching. This semester, he's teaching a small seminar on law and literature, featuring readings from Greek tragedy and Shakespeare. Ferociously intelligent, with slightly greasy brown hair combed forward over a bald spot and all the grace of an overzealous, socially awkward teenager, the 40-year-old polymath plays nonpartisan idealist to Gramm and Dudley's more tendentious roles.

"I don't think of us as a think tank," says Cowen. "We're part of a university. A think tank has a position. Mercatus positions are universal."

Cowen's own career has taken him far afield from the kind of economics he wrote about after earning his Ph.D. from Harvard University in 1987. His first book, 1988's *The Theory of Market Failure: A Critical Examination*, was a fairly straightforward analysis of phenomena, such as health care, where values and forces other than market ones have to be taken into account for society to achieve morally decent ends. It bears little resemblance to his current work in progress, *Creative Destruction: How Globalization Is Reshaping the World's Cultures*, forthcoming from Princeton University Press, or to 1998's provocative valentine to pop culture and contemporary art, *In Praise of Commercial Culture*, published by Harvard University Press to positive reviews.

Cowen differs as well with the right-wing consensus on the cultural impact of racy prime-time TV, the Internet, and other pop media: "The culture of

modernity is fundamentally healthy, and we should be optimistic about our culture," he says.

Cowen, who is nonetheless a free-market proponent, has advised more than 20 graduate dissertations over the past decade. And Mercatus graduate research assistantships have fueled the careers of more than 100 students, 42 of whom have earned Ph.D.s. After receiving a thorough education in market-oriented solutions to public policy problems, Mercatus GMU alumni scatter throughout academia, business, policy institutes, and government.

- Wayne T. Brough, class of 1987, works at the Koch-funded Citizens for a Sound Economy, where he is chief economist. There, he advocates for a flat tax, insurance deregulation, and increased competition in the energy and technology sectors.
- Kurt A. Schuler, class of 1992, works as an economist for the committee staff of Rep. Jim Saxton, Republican of New Jersey and chair of the Joint Economic Committee of Congress. Most recently, Schuler has been working to reform the alternative minimum tax, an initiative widely supported by large corporations.
- Ralph A. Rector, class of 1994, went to the Heritage Foundation as a research fellow. He directs the organization's research and development program and focuses on tax policy. Earlier, he did a stint with the Tax Policy Economics Group at accounting firm Coopers & Lybrand L.L.P.
- Chris R. Edwards, class of 1992, is director of fiscal policy studies at the Cato Institute. He previously worked as a senior economist on the Joint Economic Committee of Congress, as a tax consultant and manager at accounting firm PricewaterhouseCoopers, and as an economist with the Tax Foundation, an educational group born of business opposition to taxes.
- Wayne A. Leighton, class of 1996, is an economist with the Federal Communications

Commission and was a senior economist with the U.S. Senate Banking Committee until November 2000. He occasionally writes policy primers for the Cato Institute.

Mercatus, though, isn't content to influence the Hill indirectly. The center's Capitol Hill "campus" conducts catered breakfast and lunch-hour seminars in the Rayburn House Office Building for invitation-only audiences of congressional staffers. The program is run in Virginia and holds events in a conference room on the ground floor of the Rayburn Building.

On Feb. 11, Richard A. Epstein, a professor at the University of Chicago Law School, comes to the campus to speak on "Putting Change Into Perspective: How Will Reactions to September 11 Change America?"

Epstein, a Mercatus favorite, is one of the most prominent conservative legal scholars in the country. A pioneer in his field, Epstein seeks to apply rational-actor economic theory to the law. This is his fourth time talking at a Mercatus event.

Epstein is a force of nature and surprisingly amusing in a fast-talking, wisecracking, you-are-not-going-to-get-a-word-in-edgewise kind of way. His lecture focuses on how the government can maintain its legitimacy by not overstepping its bounds in an environment that calls for beefed-up security. The audience of 40-plus people, nibbling on libertarian eggs and bacon, pays close attention.

Questions from the crowd, though, reveal more about the milieu than does the speaker's address. "I have a legitimacy-of-response question," says one congressional staffer. "If al Qaeda had five suitcase bombs and two went off, would it then be appropriate to bomb Mecca?"

"Why would you want to bomb Mecca if the

appropriate target is Baghdad? Or Tehran? Or North Korea?" asks Epstein in reply. It's the kind of debate that, within an academic environment, would be understood as a purely hypothetical way of getting at a broader question of equity and logic. Within the halls of Congress, however, it sounds shocking.

The Capitol Hill campus of Mercatus also holds annual retreats for senior congressional staffers, with free-market-oriented lectures from in-house economists, dinners with the likes of management guru Tom Peters, and presentations from scholars such as Francis Fukuyama, formerly of GMU and now with the School of Applied International Studies at Johns Hopkins University, and author of *The End of History and the Last Man*.

Richard Boykin, chief of staff to Rep. Danny K. Davis, Democrat of Illinois, has attended the last three retreats, including January's at the Williamsburg Lodge in Colonial Williamsburg, Va. He's been grateful to learn about the role supply and demand play in social problems, he says, such as the market for illegal drugs. "They give out certificates, so people can feel like you go to classes and you learn. The teachers are from George Mason, from University of Chicago. These are actual instructors," he says. "It's an outstanding institution."

If Boykin has any critiques of the all-expenses-paid retreats to posh Virginia resorts, they center around the Mercatus perspective that comes with the weekend in the country. "Mercatus tends to be a little right. Let's just say it for what it is. I'm a little bit more balanced, a little bit toward the left. But I'm one of those Democrats who likes to understand there's two sides to every coin," says Boykin. Still, he's quick to add: "I wouldn't say that I subscribe to their philosophy.

"I've encouraged them," Boykin continues. "I said I think they need to get more balanced speakers, get some folks in there who are Democrats. They had a couple of Democrats at the last retreat—but I guess

they were Reagan Democrats."

In the mid-'80s, New Zealand was teetering on the brink of bankruptcy, its highly regulated, centrally controlled economy a disaster of socialist economics. But by the early '90s, a free-market reform movement was pushing through a series of policy changes intent on transforming the nation's governance and market policies. In its quest for economic vitality, the tiny island country became a guinea pig for neoclassical economists from around the globe. McTigue was then a cabinet minister responsible for privatizing New Zealand's railroads, now owned by the American company Wisconsin Central, and later took on cabinet posts reforming the labor, transportation, and education sectors.

Today, McTigue, 61, is at the Mercatus Center, trying to apply the lessons of New Zealand's successful program of economic liberalization to the United States. It's a strange test case: The United States is already one of the world's least regulated markets and a nation that, until recent months, had one of the most dynamic economies in the world. And McTigue is working again with Smith, whom he first met in New Zealand during the early '90s.

One way McTigue's Government Accountability Program (GAP) proposes to aid Americans is by zeroing out government programs that can't show public benefits. "If you can demonstrate that something isn't working, that makes it hard to continue to fund," he says.

GAP is also a major proponent of transparency in government, and for the past two years it has released ranked scorecards indicating how good federal agencies have been at informing the public of their activities. But that focus on transparency doesn't extend to the executive office itself. "The government should be able to take advice and take that advice confidentially," says McTigue of Vice President Dick Cheney's energy task force, which is

being sued by the General Accounting Office for documents relating to participation by Enron in its meetings, as part of a congressional investigation.

The outcome of the battle over White House energy policy is also a preoccupation of Mercatus staffer Vernon L. Smith, a socialist-sympathizer-turned-free-market-devotee. Smith has developed a model for energy pricing that would allow consumers to choose to have power interrupted or to be charged more for energy use during peak hours, just like long distance calls, for which rates go up during business hours. Such a system would encourage people to use energy during off-peak hours, Smith explains, thereby reducing the prices for everyone and freeing up extra capacity during the day.

"If your objective is to create efficient markets, it's very environmentally friendly to stop subsidizing people on peaks and taxing people off peaks," says Smith. "The idea is to get efficient markets. Everyone pays the cost that he imposes on everyone else."

Smith developed the plan on the basis of behavioral laboratory experiments conducted at ICES and the University of Arizona. It's a fairly new way for economists to evaluate human behavior. Sometimes ICES uses MRI machines to scan the brain functions of human volunteers engaged in economic game-playing to learn more about the neural processes behind economic activity.

"In our daily lives, we are always involved in social exchanges. You have me to dinner and a few days later I have you to dinner," says Smith. "We're all into this reciprocity, even chimps and capuchin monkeys." Eventually, it all links up with "the study of extant hunter-gatherer groups who have social exchanges for sharing meat."

The idea is to learn how to allocate goods most efficiently and achieve the holy grail—the Platonic

form of a perfectly functioning market.

In a worldview that prizes such a search, the collapse of Enron can been seen as the outcome of a functional market. "Companies are born, they prosper, and they die," says McTigue. "It's a natural part of the market process, and you can't stop it from happening."

Most companies over the past century have failed. That's what they do over time, he argues, and investors shouldn't find it surprising. "Investors are taking a risk," says McTigue. "Every now and then that risk will be fulfilled. There's nothing wrong with that process."

Still, concedes McTigue, perhaps some "more stringent regulations on the trusteeship of retirement accounts" might be needed "to protect the innocent," such as the thousands of former Enron employees whose retirement savings accounts are now worth as little as the company's stock. Better accounting standards and fuller corporate disclosure might not be such bad ideas, either, he notes.

Despite her role in the oversight of Enron, Gramm's colleagues unsurprisingly say they see her as a bit of a victim, duped by fraudulent activities she never knew about.

Experts in corporate governance have pointed to Enron's contributions to Mercatus as creating a conflict of interest that may have prevented Gramm from fulfilling her oversight role of the company with as much zeal as she might otherwise have. How could she be independent if, in addition to gifts of stock and direct compensation for sitting on the board, her job—at the organization she helped create—was partly funded by a company she was supposed to oversee? How could she be independent if her husband's career was bound up with that of the leader of the company she was monitoring?

Lay, after all, was not only a donor to Mercatus and

to Gramm's husband, but the regional chair of the Gramm for President Campaign in 1996. Sen. Gramm received $97,350 in support from Enron since 1989, according to the Center for Responsive Politics.

The Powers Report on Enron's collapse, written by University of Texas School of Law Dean and short-term Enron board member William C. Powers Jr., found little evidence of close oversight. According to the report, the Enron audit committee on which Gramm sat spent as little as 10 to 15 minutes per meeting discussing Enron's complex—and ultimately fatal—partnerships.

But a look at Gramm's career suggests that an influence more pernicious than money may have been at the heart of the problem. Wendy Gramm was, like the company's executives, a true believer in laissez-faire economics and deregulation. In 1987, the *New York Times* described her as "one of the Reagan administration's most vigorous deregulators."

So if Gramm was duped, some of the blame must lie with her own faith in the market's ability to self-regulate.

That belief has yielded some spectacular wreckage in the Gramm family: Amalgamated Bank of New York is suing Enron and its executives and directors, including Wendy Gramm, for $25 billion. Her husband's colleagues on the Senate Permanent Subcommittee on Investigations in January subpoenaed records of her relationship with Enron. Sen. Gramm announced his retirement Sept. 5, in a move that some speculated was provoked by early knowledge of the coming scandal. (He has denied any connection.) Once mentioned as a possible Treasury secretary, Sen. Gramm is now most likely heading back to Texas. Wendy Gramm is planning to leave the Mercatus Center at the end of his term in January 2003. She has dropped her positions on most of the nonprofit boards she once sat on and has

resigned from several corporate directorships. Slowly, she's trying to transition out of public life—and Washington.

"I don't think we're looking at anything in town," says Gramm. **CP**

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PRICING THE PRICELESS:

Cost-Benefit Analysis of Environmental Protection

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Lisa Heinzerling is a Professor of Law at Georgetown University Law School, specializing in environmental law. Before joining the Georgetown faculty, Professor Heinzerling practiced environmental law in the Massachusetts attorney general's office and was a Skadden Fellow at a public interest group in Chicago. She clerked for Judge Richard A. Posner of the U.S. Court of Appeals for the Seventh Circuit and for Justice William J. Brennan, Jr., of the U.S. Supreme Court. Professor Heinzerling was editor-in-chief of the University of Chicago Law Review and has contributed to numerous law journals, including the Yale Law Journal, the Harvard Law Review, and the University of Chicago Law Review. She has been a visiting professor at the Yale and Harvard law schools.

Frank Ackerman is an environmental economist and research director of the Global Development and Environment Institute (G-DAE) at Tufts University. He has written widely on the economics of waste and energy, and on alternative approaches to economic theory. He is the author of *Why Do We Recycle? Markets, Values, and Public Policy* (Island Press 1997), and of two books on the economic policies of the Reagan administration. He is also the lead editor of three books in the G-DAE series on "Frontier Issues in Economic Thought," published by Island Press. Before coming to Tufts Dr. Ackerman worked at the Tellus Institute on energy and environmental research, and was a founding editor of *Dollars & Sense* magazine. He has taught economics at Tufts and at the University of Massachusetts, and received his PhD in economics from Harvard University.

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EXECUTIVE SUMMARY

In recent years the use of "cost-benefit" analysis to set environmental standards has attracted a large and high-profile group of supporters. According to its advocates, cost-benefit analysis offers a way of achieving superior environmental results at a lower overall cost to society than other available approaches.

This view is mistaken. Cost-benefit analysis is a deeply flawed method that repeatedly leads to biased and misleading results. Far from providing a panacea, cost-benefit analysis offers no clear advantages in making regulatory policy decisions and often produces inferior results, in terms of both environmental protection and overall social welfare, compared to other approaches.

In order to assess the pros and cons of any particular regulatory standard, cost-benefit analysis seeks to translate all relevant considerations into monetary terms. In cost-benefit analysis, therefore, both the costs of, say, putting a scrubber on a power plant to reduce air pollution and the benefits of doing so, including the saving of human lives and the prevention of debilitating and painful diseases, are presented in terms of dollars. The costs and (particularly) the benefits of regulation often will be realized in the future; in such cases the numeric estimates of costs and benefits are "discounted," i.e. treated as equivalent to smaller amounts of money today.

Proponents of cost-benefit analysis make two basic arguments in its favor. First, use of cost-benefit analysis ostensibly leads to more "efficient" allocation of society's resources by better identifying which potential regulatory actions are worth undertaking and in what fashion. Advocates of cost-benefit analysis also contend that this method produces more objective and more transparent government decision-making by making more explicit the assumptions and methods underlying regulatory actions.

In fact, cost-benefit analysis is incapable of delivering what it promises. First, cost-benefit analysis cannot produce more efficient decisions because the process of reducing life, health, and the natural world to monetary values is inherently flawed.

Efforts to value life illustrate the basic problems. Cost-benefit analysis implicitly equates the risk of death with death itself, when in fact they are quite different and should be accounted for separately in considering the benefits of regulatory actions. Cost-benefit analysis also ignores the fact that citizens are concerned about risks to their families and others as well as themselves, ignores the fact that market decisions are generally very different from political decisions, and ignores the incomparability of many different types of risks to human life. The kinds of problems which arise in attempting to define the value of human life in monetary terms also arise in evaluating the benefits of protecting human health and the environment in general.

Second, the use of discounting systematically and improperly downgrades the importance of environmental regulation. While discounting makes sense in comparing alternative *financial*

investments, it cannot reasonably be used to make a choice between preventing noneconomic harms to present generations and preventing similar harms to future generations. Nor can discounting reasonably be used even to make a choice between harms to the current generation; the choice between preventing an automobile fatality and a cancer death should not turn on prevailing rates of return on financial investments. In addition, discounting tends to trivialize long-term environmental risks, minimizing the very real threat our society faces from potential catastrophes and irreversible environmental harms, such as those posed by global warming and nuclear waste.

Third, cost-benefit analysis ignores the question of *who* suffers as a result of environmental problems and, therefore, threatens to reinforce existing patterns of economic and social inequality. Cost-benefit analysis treats questions about equity as, at best, side issues, contradicting the widely shared view that equity should count in public policy. Poor countries, communities, and individuals are likely to express less "willingness to pay" to avoid environmental harms simply because they have fewer resources. Therefore, cost-benefit analysis would justify imposing greater environmental burdens on them than on their wealthier counterparts. With this kind of analysis, the poor get poorer.

Finally, cost-benefit analysis fails to produce the greater objectivity and transparency promised by its proponents. For the reasons described above, cost-benefit analysis rests on a series of assumptions and value judgments that cannot remotely be described as objective. Moreover, the highly complex, resource-intensive, and expert-driven nature of this method makes it extremely difficult for the public to understand and participate in the process. Thus, in practice, cost-benefit analysis is anything but transparent.

Beyond these inherent flaws, cost-benefit analysis suffers from serious defects in practical implementation. Many benefits of public health and environmental protection have not been quantified and cannot easily be quantified given the limits on time and resources; thus, in practice, cost-benefit analysis is often akin to shooting in the dark. Even when the data gaps are supposedly acknowledged, public discussion tends to focus on the misleading numeric values produced by cost-benefit analysis while relevant but non-monetized factors are simply ignored. Finally, the cost side of cost-benefit analysis is frequently exaggerated, because analysts routinely fail to account for the economies that can be achieved through innovative efforts to meet new environmental standards.

Real-world examples of cost-benefit analysis demonstrate the strange lengths to which this flawed method can be taken. For example, the consulting group Arthur D. Little, in a study for the Czech Republic, concluded that encouraging smoking among Czech citizens was beneficial to the government because it caused citizens to die earlier and thus reduced government expenditures on pensions, housing, and health care. In another study, analysts calculated the value of children's lives saved by car seats by estimating the amount of time required to fasten the seats correctly and then assigning a value to the time based on the mothers' actual or imputed hourly wage. These studies are not the work of some lunatic fringe; on the contrary, they apply methodologies that are perfectly conventional within the cost-benefit framework.

Fortunately, there are many good alternatives to the use of cost-benefit analysis. In fact, virtually all of the environmental protections adopted in the United States over the last several decades were developed without the use of cost-benefit analysis. Technology-based regulation, market-based regulation such as pollution trading, and environmental right-to-know programs all have reduced pollution and protected the environment without relying on the problematic method of cost-benefit analysis.

Given the deep and varied flaws in cost-benefit analysis, given the fact that a lot of time and money are required to generate cost-benefit studies, and given that superior, time-tested regulatory alternatives are available, cost-benefit analysis should be rejected as a tool for evaluating environmentally protective regulation.

1. Introduction

How strictly should we regulate arsenic in drinking water? Or carbon dioxide in the atmosphere? Or pesticides in our food? Or oil drilling in scenic places? The list of environmental harms and potential regulatory remedies often appears to be endless.

Is there an objective way to decide how to proceed? Cost-benefit analysis promises to provide the solution. The sad fact is that cost-benefit analysis is fundamentally unable to fulfill this promise.

This paper aims to demonstrate that the case for cost-benefit analysis of environmental protection is, at best, wildly optimistic and, at worst, demonstrably wrong. For a variety of reasons intrinsic to the methodology, cost-benefit analysis simply does not offer the policy-making panacea its adherents promise. Moreover, in practice, cost-benefit analysis frequently produces false and misleading results.

Section 2 of this paper introduces cost-benefit analysis and describes its methods of evaluating costs and benefits. Section 3 summarizes the leading arguments for the use of cost-benefit analysis. Section 4 lays out the fundamental problems with cost-benefit analysis, and Section 5 dissects some of the most prominent and misleading examples of the use of cost-benefit analysis. Section 6 argues that there are better alternatives for establishing and evaluating public policy. Section 7 offers brief conclusions.

2. What Is Cost-Benefit Analysis?

Cost-benefit analysis tries to mimic a basic function of markets by setting an economic standard for measuring the success of the government's projects and programs. That is, cost-benefit analysis seeks to perform, for public policy, a calculation that markets perform for the private sector. In evaluating a proposed new initiative, how do we know if it is worth doing or not? The answer, it turns out, is much simpler in business than in government.

Private businesses, striving to make money, only produce things that they believe someone is willing to pay for. That is, firms only produce things for which the benefits to consumers, measured by consumers' willingness to pay for them, are expected to be greater than the costs of production. It is technologically possible to produce men's business suits in brightly colored polka dots. Successful producers suspect that no one is willing to pay for such products, and usually stick to at most minor variations on suits in somber, traditional hues. If some firm *did* happen to produce a polka-dotted business suit, no one would be forced to buy it; the producer would bear the entire loss resulting from the mistaken decision.

Government, in the view of many critics, is in constant danger of drifting toward producing polka dot suits - and making people pay for them. Policies, regulations, and public spending do not face the test of the marketplace; there are no consumers who can withhold their dollars from the government until it produces the regulatory equivalent of navy blue and charcoal gray. There is no single quantitative objective for

the public sector comparable to profit maximization for businesses. Even with the best of intentions, critics suggest, government programs can easily go astray for lack of an objective standard by which to judge whether or not they are meeting citizens' needs.

Cost-benefit analysis sets out to do for government what the market does for business: add up the benefits of a public policy and compare them to the costs. The two sides of the ledger raise very different issues.

Cost-benefit analysis sets out to do for government what the market does for business: add up the benefits of a public policy and compare them to the costs.

Estimating Costs

The first step in a cost-benefit analysis is to calculate the costs of a public policy. For example, the government may require a certain kind of pollution control equipment, which businesses must pay for. Even if a regulation only sets a ceiling on emissions, it results in costs that can be at least roughly estimated through research into available technologies and business strategies for compliance.

The costs of protecting human health and the environment through the use of pollution control devices and other approaches are, by their very nature, measured in dollars. Thus, at least in theory, the cost side of cost-benefit analysis is relatively straightforward. (In practice, as we shall see, it is not quite that simple.)

The consideration of the costs of environmental protection is not unique to cost-benefit analysis. Development of environmental regulations has almost always involved consideration of economic costs, with or without formal cost-benefit techniques. What is unique to cost-benefit analysis, and far more problematic, is the other side of the balance, the monetary valuation of the benefits of life, health, and nature itself.

Monetizing Benefits

Since there are no natural prices for a healthy environment, cost-benefit analysis requires the creation of artificial ones. This is the hardest part of the process. Economists create artificial prices for health and environmental benefits by studying what people would be willing to pay for them. One popular method, called "contingent valuation," is essentially a form of opinion poll. Researchers ask a cross-section of the affected population how much they would be willing to pay to preserve or protect something that can't be bought in a store.

Many surveys of this sort have been done, producing prices for things that appear to be priceless. For example, the average American household is supposedly willing to pay $257 to prevent the extinction of bald eagles, $208 to protect humpback whales, and $80 to protect gray wolves. These numbers are quite large: since there are about 100 million households in the country, the nation's total willingness to pay for the preservation of bald eagles alone is ostensibly more than $25 billion.

An alternative method of attaching prices to unpriced things infers what people are willing to pay from observation of their behavior in other markets. To assign a dollar value to risks to human life, for example, economists usually calculate the extra wage - or "wage premium" - that is paid to workers who accept more risky jobs. Suppose that two jobs are comparable, except that one is more dangerous and better paid. If workers understand the risk and voluntarily accept the more dangerous job, then they are implicitly setting a price on risk by accepting the increased risk of death in exchange for increased wages.

What does this indirect inference from wage rates have to say about the value of a life? A common estimate in recent cost-benefit analyses is that avoiding a risk that would lead, on average, to one death is worth roughly $6.3 million.[2] This number, in particular, is of great importance in cost-benefit analyses because avoided deaths are the most thoroughly studied benefits of environmental regulations.

Discounting the Future

One more step requires explanation to complete this quick sketch of cost-benefit analysis. Costs and benefits of a policy frequently occur at different times. Often, costs are incurred today, or in the near future, to prevent harm in the more remote future. When the analysis spans a number of years, future costs and benefits are *discounted*, or treated as equivalent to smaller amounts of money in today's dollars.

Discounting is a procedure developed by economists in order to evaluate investments that produce future income. The case for discounting begins with the observation that $100, say, received today is worth more than $100 received next year, even in the absence of inflation. For one thing, you could put your money in the bank today and earn a little interest by next year. Suppose that your bank account earns 3 percent interest. In that case, if you received the $100 today rather than next year, you would earn $3 in interest, giving you a total of $103 next year. Likewise, in order to get $100 next year you only need to deposit $97 today.[3] So, at a 3% *discount rate*, economists would say that $100 next year has a *present value* of $97 in today's dollars.

For longer periods of time, the effect is magnified: at a 3% discount rate, $100 twenty years from now has a present value of only $55. The larger the discount rate, and the longer the time intervals involved, the smaller the present value: at a 5% discount rate, for example, $100 twenty years from now has a present value of only $38.

Cost-benefit analysis routinely uses the present value of future benefits. That is, it compares current costs, not to the actual dollar value of future benefits, but to the smaller amount you would have to put into a hypothetical savings account today to obtain those benefits in the future. This application of discounting is essential, and indeed commonplace, for many practical financial decisions. If offered a choice of investment opportunities with payoffs at different times in the future, you can (and should) discount the future payoffs to the present in order to compare them to each other. The important issue for environmental policy, as we shall see, is whether this logic also applies to outcomes far in the future, and to opportunities - like long life and good health - that are not naturally stated in dollar terms.

WHAT IS THE DIFFERENCE BETWEEN COST-BENEFIT ANALYSIS AND OTHER ANALYTICAL METHODS?

■ There are several similar-sounding decision-making frameworks that may be confused with cost-benefit analysis; it is important to understand the ways in which they are different. The basic difference is simple to state: no other analytical method requires the translation of the benefits of regulation - long life, good health, clean air - into dollars.

"Risk assessment" is a scientific method for estimating, often in quantitative terms, the human-health consequences of a particular threat. A risk assessment concerning benzene in the workplace, for example, might conclude that an individual worker faces an increased lifetime risk of cancer of 1 in 1,000 from exposures to this substance. Combined with figures on the total population of workers exposed to benzene, this probabilistic estimate might be used to generate an estimate of the total number of workers expected to get cancer from occupational exposures to benzene. Risk assessment is a building block of many cost-benefit analyses, but it is far more limited than cost-benefit analysis itself. Risk assessment does not, for example, attempt to attach a monetary value to the health outcomes it predicts, nor does it purport to make any judgment about the relative worth of lives saved today and lives saved in the future.

A similar phrase, *"comparative risk analysis,"* is used to describe yet another method. Comparative risk analysis, in basic terms, attempts to consider the many different ways risk might be reduced in our society and to identify those risks that might be most effectively reduced with the resources we have. In colloquial terms, this analysis tries to get the "biggest bang" for our risk-reducing "buck." (The same is true of a similar method, *"cost-effectiveness analysis."*)

Comparative risk analysis does not entail translation of lives and health into dollars. In other respects, however, it often replicates the most basic shortcomings of cost-benefit analysis; comparative risk analysis tends, for example, to consider only risks to humans, and only fatal risks at that, in assessing the results of environmental protection; it tends to treat all numerical risks - whether posed by arsenic in drinking water or snowboarding in the Rockies - as equivalent; and it generally incorporates the technique of discounting human lives saved in the future.

"Risk-benefit analysis" is usually a mirror-image of cost-benefit analysis: in risk-benefit analysis, the "benefits" are the economic advantages of maintaining the current level of environmentally damaging activity, and "risks" are the disadvantages of doing so.

Finally, *any* simultaneous consideration of economic costs and health or other benefits is sometimes referred to as "cost-benefit analysis." For our purposes, this usage is imprecise and misleading. As we discuss in section 6, many environmental statutes require agencies to take into account both the economic consequences and the human-health and environmental results of regulatory standards. But only one federal environmental statute (the Safe Drinking Water Act) expressly permits an agency to translate life, health, and nature into dollars, and no statute expressly permits or requires any agency to discount the lives of those saved in the future. The cost-benefit analysis we discuss in this paper embraces both of these analytical techniques. ■

3. What are the Arguments in Favor of Cost-Benefit Analysis?

Before describing the problems with cost-benefit analysis, it will be useful to set forth the arguments in favor of this type of analysis. Many different arguments for cost-benefit analysis have been offered over the years. Most of the arguments fall into one of two broad categories. First, there are economic assertions that better results can be achieved with cost-benefit analysis. Second, there are legal and political claims that a more objective and more open government process can emerge through this kind of analysis.

Better Results

Economics frequently focuses on increasing efficiency - on getting the most desirable results from the fewest resources. How do we know that greater regulatory efficiency is needed? For many economists, this is an article of faith: greater efficiency is always a top priority, in regulation or elsewhere. Cost-benefit analysis supposedly furthers efficiency by ensuring that regulations are only adopted when benefits exceed costs and by helping direct regulators' attention to those problems for which regulatory intervention will yield the greatest net benefits.

But many advocates also raise a more specific argument, imbued with a greater sense of urgency. The government, it is said, often issues rules that are insanely expensive, out of all proportion to their benefits - a problem that could be solved by the use of cost-benefit analysis to screen proposed regulations. Thus much of the case *for* cost-benefit analysis depends on the case *against* current regulation.

One does not have to read very far into the literature on risk regulation before running across lengthy tables listing the costs per life saved of various federal regulations. The numbers on such tables are fantastic: according to these lists, we are often spending hundreds of millions, and sometimes billions, of dollars for every single human life, or even year of life, we save through regulation.[4]

These estimates of regulatory costs and benefits have become ubiquitous in political debates on environmental law. Scarcely a congressional hearing on this subject occurs in which these kinds of numbers do not figure prominently. Economists routinely cite these estimates as proof of the need for more economic analysis. Browse the web sites of any of a variety of think tanks, and you will find numerous references to the extravagant costs of regulation.

One widely cited study claims that the cost per year of life saved by life-saving interventions varies from zero or negative (some life-saving measures impose no new costs, and may even save money) up to *$99 billion*. The table on the following page is excerpted from that study. (Note, however, that not one of the pollution control measures listed in this table has ever been proposed by the government, much less implemented.)

COSTS PER LIFE-YEAR SAVED OF HYPOTHETICAL POLLUTION CONTROLS AT PAPER MILLS[6]

POLLUTION CONTROL MEASURE	COST PER LIFE-YEAR
Chloroform emission standard at 17 low cost pulp mills	Zero or Negative
Chloroform private well emission standard at 7 papergrade sulfite mills	$25,000
Chloroform private well emission standard at 7 pulp mills	$620,000
Chloroform reduction by replacing hypochlorite with chlorine dioxide at 1 mill	$990,000
Dioxin emission standard of 5 lbs/air dried ton at pulp mills	$4,500,000
Dioxin emission standard of 3 (vs. 5) lbs/air dried ton at paper mills	$7,500,000
Chloroform emission standard of 0.001 (vs. 0.01) risk level at pulp mills	$7,700,000
Chloroform reduction by replacing hypochlorite with chlorine dioxide at 70 mills	$8,700,000
Chloroform reduction at 70 (vs. 33 worst) pulp and paper mills	$15,000,000
Chloroform reduction at 33 worst pulp and paper mills	$57,000,000
Chloroform private well emission standard at 48 pulp mills	$99,000,000,000

Source: Tammy O. Tengs, et al., Five-Hundred Life-Saving Interventions and Their Cost-Effectiveness, 15 Risk Analysis 369(1995).

Numbers like these have been used to argue that current regulatory costs are not only chaotically variable but also unacceptably high. They have even been relied upon to claim that the existing regulatory system actually *kills people* by imposing some very costly life-saving requirements while other, less expensive and more effective life-saving possibilities remain untouched. Indeed, the study that is the source of these data concluded that we could save as many as 60,000 more lives every year with no increase in costs if we simply spent our money on the least rather than most expensive opportunities for saving lives. Relying on this research, John Graham, the current head of the Office of Information and Regulatory Affairs in the Office of Management and Budget and a prominent proponent of cost-benefit analysis, has called the existing state of affairs "statistical murder."[5]

From this perspective, cost-benefit analysis emerges as both a money-saver *and* a life-saver. By subjecting regulations to a cost-benefit test, we would not only stop spending hundreds of millions or billions of dollars to save a single life, we could also take that money and spend it on saving even more lives through different life-saving measures.

That, at least, is the theory. We will argue in the following sections that there are good reasons to question both the theory and the facts it rests on. Nevertheless, the notion that the current system produces crazy, even deadly, rules, and that better economic analysis would avert

this terrible result, remains one of the most persistent arguments offered on behalf of cost-benefit analysis.

Objectivity and Transparency

A second important set of arguments holds that cost-benefit analysis would produce a better regulatory process - more objective and more transparent, and thus more accountable to the public.

The holy grail of administrative law is agency decision making based on objective standards. The idea is to prevent an agency either from just doing anything it wants or, more invidiously, from benefiting politically favored groups through its decisions. Cost-benefit analysis has been offered as a means of constraining agency discretion to avoid these kinds of results.

Another important goal, said to be promoted by cost-benefit analysis, is transparency of administrative procedures. Decisions about environmental protection are notoriously complex. They reflect the input of biologists, toxicologists, epidemiologists, economists, engineers, lawyers, and other experts whose work is complicated and arcane. The technical details of these decisions often raise important questions about how much scientific uncertainty is too much, which human populations should be protected from illness and even death, and how important the future is relative to the present.

In order for the public to be part of the process of decision making about the environment, these judgments must be offered and debated in language accessible to people who are not biologists, toxicologists, or other kinds of experts. Many advocates of cost-benefit analysis believe that their methodology provides such a language. They also assert that cost-benefit analysis renders decision-making transparent insofar as it requires decision-makers to reveal all of the assumptions and uncertainties reflected in their decisions.

4. Why it Doesn't Work: Fundamental Flaws

As we have seen, cost-benefit analysis involves the creation of artificial markets for things - like good health, long life, and clean air - that are not bought and sold. It also involves the devaluation of future events through discounting.

So described, the mind-set of the cost-benefit analyst is likely to seem quite foreign. The translation of all good things into dollars and the devaluation of the future are inconsistent with the way many people view the world. Most of us believe that money doesn't buy happiness. Most religions tell us that every human life is sacred; it is obviously illegal, as well as immoral, to buy and sell human lives. Most parents tell their children to eat their vegetables and do their homework, even though the rewards of these onerous activities lie far in the future. Monetizing human lives and discounting future benefits seem at odds with these common perspectives.

The cost-benefit approach also is inconsistent with the way many of us make daily decisions. Imagine performing a new cost-benefit analysis to decide whether to get up and go to work every morning, whether to exercise or eat right on any given day, whether to wash the dishes or leave them in the sink, and so on. Inaction would win far too often - and an absurd amount of effort would be spent on analysis. Most people have long-run goals, commitments, and habits that make such daily balancing exercises either redundant or counterproductive. The same might be true of society as a whole undertaking individual steps in the pursuit of any goal, set for the long haul, that cannot be reached overnight - including, for example, the achievement of a clean environment.

Moving beyond these intuitive responses, we offer in this section a detailed explanation of why cost-benefit analysis of environmental protection fails to live up to the hopes and claims of its advocates. There is no quick fix, because these failures are intrinsic to the methodology, appearing whenever it is applied to any complex environmental problem. In our view, cost-benefit analysis suffers from four fundamental flaws, addressed in each of the next four subsections:

- *The standard economic approaches to valuation are inaccurate and implausible.*
- *The use of discounting improperly trivializes future harms and the irreversibility of some environmental problems.*
- *The reliance on aggregate, monetized benefits excludes questions of fairness and morality.*
- *The value-laden and complex cost-benefit process is neither objective nor transparent.*

Dollars Without Sense

Recall that cost-benefit analysis requires the creation of artificial prices for all relevant health and environmental impacts. To weigh the benefits of regulation against the costs, we need to know the monetary value of preventing

the extinction of species, preserving many different ecosystems, avoiding all manner of serious health impacts, and even saving human lives. Without such numbers, cost-benefit analysis cannot be conducted.

Artificial prices have been estimated for many, though by no means all, benefits of regulation. As discussed, preventing the extinction of bald eagles reportedly goes for somewhat more than $250 per household. Preventing retardation due to childhood lead poisoning comes in at about $9,000 per lost IQ point (although, as we will see in Section 5, a much lower price has recently been proposed). Saving a life is ostensibly worth $6.3 million.

This quantitative precision, achieved through a variety of indirect techniques for valuation, comes at the expense of accuracy and even common sense. Though problems arise in many areas of valuation, we will focus primarily on the efforts to attach a monetary value to human life, both because of its importance in cost-benefit analysis and because of its glaring contradictions.

There Are No "Statistical" People

What can it mean to say that saving one life is worth $6.3 million? Human life is the ultimate example of a value that is not a commodity, and does not have a price. You cannot buy the right to kill someone for $6.3 million, nor for any other price. Most systems of ethical and religious belief maintain that every life is sacred. If analysts calculated the value of life itself by asking people what it is worth to them (the most common method of valuation of other environmental benefits), the answer would be infinite, as "no finite amount of money could compensate a person for the loss of his life, simply because money is no good to him when he is dead."[6]

The standard response is that a value like $6.3 million is not actually a price on an individual's life or death. Rather, it is a way of expressing the value of small risks of death; for example, it is one million times the value of a one in a million risk. If people are willing to pay $6.30 to avoid a one in a million increase in the risk of death, then the "value of a statistical life" is $6.3 million.

Unfortunately, this explanation fails to resolve the dilemma. It is true that risk (or "statistical life") and life itself are distinct concepts. But if human life is too sacred to buy and sell, why is it permissible to trade small risks of losing that ultimate value? One-millionth of an immeasurable or infinite value is still immeasurable or infinite, not $6.30.[7]

Human life is the ultimate example of a value that is not a commodity, and does not have a price.

In practice, moreover, analysts often ignore the distinction between valuing risk and valuing life.[8] Many regulations reduce risk for a large number of people, and avoid actual death for a much smaller number. A complete cost-benefit analysis should, therefore, include valuation of both of these benefits. However, the standard practice is to calculate a value only for "statistical" life and to ignore life itself.

The confusion between the valuation of risk and the valuation of life itself is embedded in current regulatory practice in another way as well. The Office of Management and Budget - which reviews cost-benefit analyses prepared by federal

agencies pursuant to Executive Order - instructs agencies to discount the benefits of life-saving regulations from the moment of avoided death, rather than from the time when the *risk* of death is reduced.[9]

Most spiritual beliefs call on us to value the lives of others - not only those closest to us, but also those whom we have never met.

This approach to discounting is plainly inconsistent with the claim that cost-benefit analysis seeks to evaluate risk. When a life-threatening disease - such as cancer - has a long latency period, many years may pass between the time when a risk is imposed and the time of death. If monetary valuations of statistical life represented risk, and not life, then the value of statistical life would be discounted from the date of a change in risk (typically, when a new regulation is enforced) rather than from the much later date of avoided actual death.[10]

In acknowledging the monetary value of reducing risk, economic analysts have contributed to our growing awareness that life-threatening risk itself - and not just the end result of such risk, death - is an injury. But they have blurred the line between risks and actual deaths, by calculating the value of reduced risk while pretending that they have produced a valuation of life itself. The paradox of monetizing the infinite or immeasurable value of human life has not been resolved; it has only been glossed over.

People Care About Other People

Another large problem with this approach to valuation of life is that it asks individuals (either directly through surveys, or indirectly through observing wage and job choices) only about their attitudes toward risks to themselves.

A recurring theme in literature suggests that our deepest and noblest sentiments involve valuing someone else's life more highly than our own: think of parents' devotion to their children, soldiers' commitment to those whom they are protecting, lovers' concern for each other. Most spiritual beliefs call on us to value the lives of others - not only those closest to us, but also those whom we have never met.

This point echoes a procedure that has become familiar in other areas of environmental valuation. Economists often ask about existence values: how much is the existence of a wilderness area or an endangered species worth to you, even if you will never personally experience it? If this question makes sense for bald eagles and national parks, it must be at least as important when applied to safe drinking water and working conditions for people we don't know.

The difficulty is that the answer to this type of question cannot be deduced solely from your attitudes toward risks to yourself. We are not aware of any attempts to quantify the existence value of the life of a stranger, let alone a relative or a friend, but we are sure that most belief systems affirm that this value is substantial (assuming, of course, that the value of life is a number in the first place).

Voting Is Different From Buying

Cost-benefit analysis, which relies on estimates of individuals' preferences as consumers, also fails to address the collective choice presented to society by most public health and environmental problems.

Under the cost-benefit approach, valuation of environmental benefits is based on individuals' private decisions as consumers or workers, not on their public values as citizens. However, policies that protect the environment are often public goods, and are not available for purchase in individual portions. In a classic example of this distinction, the philosopher Mark Sagoff found that his students, in their role as citizens, opposed commercial ski development in a nearby wilderness area, but, in their role as consumers, would plan to go skiing there if the development was built.[11] There is no contradiction between these two views: as individual consumers, the students would have no way to express their collective preference for wilderness preservation. Their individual willingness to pay for skiing would send a misleading signal about their views as citizens.

It is often impossible to arrive at a meaningful social valuation by adding up the willingness to pay expressed by individuals. What could it mean to ask how much you personally are willing to pay to clean up a major oil spill? If no one else contributes, the clean-up won't happen regardless of your decision. As the Nobel Prize-winning economist Amartya Sen has pointed out, if your willingness to pay for a large-scale public initiative is independent of what others are paying, then you probably have not understood the nature of the problem.[12] Instead, a *collective* decision about collective resources is required.

In a similar vein, the philosopher Henry Richardson argues that reliance on the cost-benefit standard forecloses the process of democratic deliberation that is necessary for intelligent decision-making. In his view, attempts to make decisions based on monetary valuation of benefits freeze preferences in advance, leaving no room for the changes in response to new information, rethinking of the issues, and negotiated compromises that lie at the heart of the deliberative process.[13]

Cost-benefit analysis turns public citizens into selfish consumers, and interconnected communities into atomized individuals. In this way, it distorts the question it sets out to answer: how much do we, *as a society*, value health and the environment?

Numbers Don't Tell Us Everything

A few simple examples illustrate another problem - that numerically equal risks are not always equally deserving of regulatory response. The death rate is roughly the same (somewhat less than one in a million) from a day of downhill skiing, from a day of working in the construction industry, or from drinking about 20 liters of water containing 50 parts per billion of arsenic, the old regulatory limit that was recently revised by the Bush administration. This does not mean that society's responsibility to reduce risks is the same in each case.

Most people view risks imposed by others, without an individual's consent, as more worthy of government intervention than risks that an individual knowingly accepts. On that basis, the highest priority among our three examples is to reduce drinking water contamination, a hazard to which

no one has consented. The acceptance of a risky occupation such as construction is at best quasi-voluntary - it involves somewhat more individual discretion than the "choice" of public drinking water supplies, but many people go to work under great economic pressure, and with little information about occupational hazards. In contrast, the choice of risky recreational pursuits such as skiing is entirely discretionary; obviously no one is forced to ski. Safety regulation in construction work is thus more urgent than regulation of skiing, despite the equality of numerical risk.

In short, even for ultimate values such as life and death, the social context is decisive in our evaluation of risks. Cost-benefit analysis assumes the existence of generic, acontextual risk, and thereby ignores the contextual information that determines how many of us, in practice, think about real risks to real people.

Artificial Prices Are Expensive

Finally, the economic valuation called for by cost-benefit analysis is fundamentally flawed because it demands an enormous volume of consistently updated information, which is beyond the practical capacity of our society to generate.

All attempts at valuation of the environment begin with a problem: the goal is to assign monetary prices to things that have no prices, because they are not for sale. One of the great strengths of the market is that it provides so much information about real prices. For any commodity that is actually bought and sold, prices are communicated automatically, almost costlessly, and with constant updates as needed. To create artificial prices for environmental values, economists have to find some way to mimic the operation of the market. Unfortunately the process is far from automatic, it is certainly not costless, and it has to be repeated every time an updated price is needed.

As a result, there is constant pressure to use outdated or inappropriate valuations. Indeed, there are sound economic reasons for doing so: no one can afford constant updates, and significant savings can be achieved by using valuations created for other cases. In the EPA's original cost-benefit analysis of arsenic (see the arsenic case study, starting at page 17), a valuation estimated for a case of chronic bronchitis was used to represent the value of a case of nonfatal bladder cancer.

This is not, we hope and believe, because anyone thinks that bronchitis and bladder cancer are the same disease. The reason is more mundane: no one has performed an analysis of the cost of bladder cancer, and even the extensive analysis of arsenic regulations did not include enough time and money to do so. Therefore, the investigators used an estimated value for a very different disease. The only explanation offered for this procedure was that it had been done before, and nothing better was available.

Use of the bronchitis valuation to represent bladder cancer can charitably be described as grasping at straws. Lacking the time and money to fill in the blank carefully, the economists simply picked a number. This is not remotely close to the level of rigor that is seen throughout the natural science, engineering, and public health portions of the arsenic analysis. Yet it will happen again, for exactly the same reason. It is not a failure of will or intellect, but rather the inescapable limitations of

time and budget, that lead to reliance on dated, inappropriate, and incomplete information to fill in the gaps on the benefit side of a cost-benefit analysis.

Summing Up

There are, in short, a host of problems with the process of valuation. On a philosophical level, human life may belong in the category of things that are too valuable to buy and sell. Most ethical and religious beliefs place the protection of human life in the same category as love, family, religion, democracy, and other ultimate values, which are not and cannot be priced.

Absent a credible monetary metric for calculating the benefits of regulation, cost-benefit analysis is inherently unreliable.

It is a biased and misleading premise to assume that individuals' willingness to pay to avoid certain risks can be aggregated to arrive at a figure for what society should pay to protect human life. Risk of death is not the same as death itself, and not all risks can reasonably be compared one to the other. Moreover, the value to society of protecting human life cannot be arrived at simply by toting up individual consumer preferences.

The same kind of problems affect other valuation issues raised by cost-benefit analysis, such as estimating the value of clean water, biodiversity, or entire ecosystems. The upshot is that cost-benefit analysis is fundamentally incapable of delivering on its promise of more economically efficient decisions about protecting human life, health, and the environment. Absent a credible monetary metric for calculating the benefits of regulation, cost-benefit analysis is inherently unreliable.

(main text continued on page 21)

COST-BENEFIT ANALYSIS IN PRACTICE: ARSENIC IN DRINKING WATER

One thing is certain: arsenic is bad for you. It causes cancers of the bladder, lungs, skin, kidneys, nasal passages, liver, and prostate, as well as other cardiovascular, pulmonary, neurological, immunological, and endocrine problems. It is found naturally in rock formations and dissolves into drinking water supplies, the principal source of exposure.

Until the Bush administration issued a new standard for arsenic, federal law limited arsenic in drinking water to 50 parts per billion (ppb), a standard set in 1942. Almost forty years ago, in 1962, the U.S. Public Health Service recommended that drinking water should not contain more than 10 ppb.[a]

On three occasions in the past thirty years, Congress has directed EPA to update the 50 ppb standard. A 1999 report by the National Academy of Sciences concluded that the 50 ppb standard "requires downward revision as promptly as possible."[b] At last, in January 2001, EPA announced a new standard of 10 ppb (the standard recommended by the World Health Organization and adopted by many European countries). Less than two months later, the Bush administration withdrew this standard - only to accept it again after eight months of further review and debate.

The Safe Drinking Water Act, as amended in 1996, is the only federal environmental statute that explicitly sanctions cost-benefit analysis based on consumers' willingness to pay for environmental protection. The controversy that has erupted over the arsenic rule well illustrates the inability of cost-benefit analysis to answer important questions of social policy. It also shows how the controversial and value-laden assumptions of cost-benefit analysis become invisible in public debates based on such analysis.

EPA's analysis

In developing the new standard, EPA considered four possible standards: 3, 5, 10, and 20 ppb.[c] Testing and monitoring are not reliable below 3 ppb, so it is the lowest possible level for regulation.

On the cost side, detailed engineering descriptions are available for an array of possible technologies for water treatment and disposal of resulting residues. The choice of technology depends on the size and circumstances of community water systems. EPA's estimates express only a narrow range of uncertainty about costs, as shown in the table on page 18. Note that if these pollution control technologies become cheaper once the arsenic rule is implemented - as often happens when environmental rules are enforced - the estimated costs will prove too high.

EPA'S ESTIMATES OF COSTS AND BENEFITS OF DIFFERENT ARSENIC STANDARDS

ARSENIC STANDARD (PPB)	COMPLIANCE COSTS (MILLIONS)	HEALTH BENEFITS (MILLIONS)	BLADDER AND LUNG CANCER CASES AVOIDED
3	$700-790	$210-490	57-140
5	$420-470	$190-360	51-100
10	$180-210	$140-200	37-56
20	$67-77	$66-75	19-20

Source: EPA, National Primary Drinking Water Regulations; Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring; Final Rules, 66 Fed. Reg. 6976, 7009, 7017 (Jan. 22, 2001) (rounded to two significant figures). Costs and benefits are in 1999 dollars.

On the benefit side, reduction in arsenic in drinking water has many health advantages. As noted, arsenic causes many different cancers and other neurological, immunological, and endocrine problems. However, EPA's analysts were only able to produce quantitative estimates of the health effects for bladder and lung cancer; all numerical analysis of benefits refers to preventing these two cancers alone.

Even with this narrow focus, EPA faced difficult challenges in monetizing the health effects of arsenic. In the U.S., death occurs within five years of diagnosis for 88% of lung cancer cases, but only 26% of bladder cancer cases. Thus the monetization of these cancers requires estimates of both the value of avoided deaths, and the value of avoided nonfatal cancers, particularly bladder cancers. EPA set the value of an avoided death at $6.1 million in 1999 dollars, based on "wage-risk" studies measuring the wage premium required to attract workers to dangerous jobs - a procedure discussed in Section 3 of the text. For other health effects, EPA found that there was no "willingness-to-pay" value available for nonfatal cancers - so it used the value of reducing chronic bronchitis instead![d] For health effects other than cancers, EPA did not provide a dollar equivalent.

The gap between the upper and lower estimates of monetized health benefits (shown in the table above) reflects solely the uncertainty about the number of avoided cancers; the valuations of fatal and non-fatal cancers are provided in precise dollar amounts. As seen in the table, costs and benefits are comparable

for 20 ppb and 10 ppb. At 5 ppb and 3 ppb, the monetized benefits are below the costs.

AEI-Brookings Analysis

The AEI-Brookings Joint Center for Regulatory Studies has been a vocal proponent of cost-benefit analysis of environmental rules. Nevertheless, when EPA issued its new rule, AEI-Brookings produced a study authored by Robert Hahn and Jason Burnett, highly critical of the rule.[c] This rival study is worth focusing on both because it achieved high visibility in the media, and because its methods reveal the extent to which the devil is in the details of cost-benefit analysis.

EPA had erred in two ways, the AEI-Brookings study concluded, which led to overestimates of the benefits of arsenic reduction. First, the study criticized EPA for failing to discount the lives saved by the arsenic rule. Because exposure to arsenic leads to cancer only after a latency period, Hahn and Burnett thought EPA should have discounted the benefits of the rule.

EPA had rejected discounting because it was unable, given current scientific knowledge, to identify the latency period for the cancers associated with arsenic. Hahn and Burnett were not deterred by this lack of knowledge. They simply picked a latency period (without citing any arsenic-related scientific evidence) of 30 years for their "best estimate" scenario. This guess at the latency period, combined with a 7 percent discount rate, had the effect of reducing the present value of a life saved from $6.1 million to $1.1 million. Second, the AEI-Brookings study criticized EPA for using a linear dose-response curve in estimating the cancer risks of arsenic. That is, EPA assumed that the number of cancer cases is proportional to total exposure, a long-established assumption that is routinely used in the absence of evidence to the contrary. Making up a different dose-response relationship, Hahn and Burnett, neither of whom is a scientist, offered their "best estimate" (again, on an almost evidence-free basis) that there were only one-fifth as many cases of cancer due to arsenic as EPA had projected.

With these and other adjustments, Hahn and Burnett found the costs to be roughly ten times the benefits of arsenic reduction, costing a shocking $65 million per life saved. They speculated that even 50 ppb might be too strict a standard, in light of the low benefits.

When the National Academy of Sciences (NAS) reviewed the arsenic standard yet again, in 2001, they found exactly the opposite of Hahn and Burnett's "best estimate." That is, NAS concluded that arsenic would cause more cancer cases than EPA had projected. This finding, no doubt combined with the public outcry over the issue, helped persuade the Bush administration to relent and accept the 10 ppb standard.

Public Debate

Once the rival EPA and Hahn-Burnett numbers made their way into the public forum, the assumptions, qualifications, and uncertainties surrounding them were forgotten. Also ignored were the benefits of the rule that EPA had been unable to quantify, and the value-laden assumptions undergirding the very different analyses offered by EPA and AEI-Brookings.

One way to gauge the misunderstanding that ensued is to look at press accounts of the arsenic rule. The Washington Post, for example, ran a series of opinion pieces criticizing EPA's 10ppb standard when originally issued in early 2001 (before the latest NAS study appeared).[f] These pieces made a variety of mistakes, all stemming from a failure to distinguish precision from accuracy.

First, these opinion pieces assumed that the Clinton-era rule was not justified unless quantified and monetized benefits were higher than the costs. Because the rule (at 10 ppb) was predicted to cost $210 billion and the benefits were valued at $170 billion, these essays concluded that the rule was not worth it. Completely ignored were the many unquantified and unmonetized benefits EPA had felt certain would flow from the rule.

Second, these essays referred to the Hahn-Burnett analysis without once even mentioning the discounting and dubious scientific adjustments that so influenced its results. Journalist Michael Kinsley noted the $65 million price tag per life saved according to Hahn and Burnett's analysis, and opined, without dwelling on the details, that its assumptions seemed to him "reasonable."[g]

The public dialogue in the aftermath of the Bush administration's initial withdrawal of the new arsenic rule was not about discounting future life-saving, or cancer risk assessment, or the value of a life. Yet the numerical estimates of the benefits turn almost entirely on these issues, and the theories on which they rest. Cost-benefit analysis has not enriched the public dialogue; it has impoverished it, covering the topic with poorly understood numbers rather than clarifying the underlying clash of values.

Footnotes

a. National Resources Defense Council, *Arsenic and Old Laws* (2000), http://www.nrdc.org.

b. National Research Council, *Arsenic in Drinking Water*: 9 (National Academy Press 1999).

c. EPA, National Primary Drinking Water Regulations; Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring; Final Rules, 66 Fed. Reg. 6976 (Jan. 22, 2001).

d. *Id.* at 7012.

e. Jason K. Burnett and Robert W. Hahn, AEI-Brookings Joint Center for Regulatory Studies, Regulatory Analysis "EPA's Arsenic Rule: The Benefits of the Standard Do Not Justify the Costs," 01-02 (Jan. 2001).

f. Sebastian Mallaby, "Saving Statistical Lives," *Washington Post* A19 (Mar. 5, 2001); Michael Kinsley, "Bush Is Right On Arsenic. Darn!," *Washington Post* A23 (Apr. 13, 2001); George F. Will, "The Costs of Moral Exhibitionism," *Washington Post* B7 (Apr. 15, 2001).

g. Michael Kinsley, "Bush Is Right On Arsenic. Darn!," *Washington Post* A23 (Apr. 13, 2001).

Trivializing the Future

One of the great triumphs of environmental law is its focus on the future: it seeks to avert harms to people and to natural resources in the future, and not only within this generation, but within future generations as well. Indeed, one of the primary objectives of the National Environmental Policy Act, which has been called our basic charter of environmental protection, is to nudge the nation into "fulfill[ing] the responsibilities of each generation as trustee of the environment for succeeding generations." [14]

Protection of endangered species and ecosystems, reduction of pollution from persistent chemicals such as dioxin and DDT, prevention of long-latency diseases such as cancer, protection of the unborn against the health hazards from exposure to toxins in the womb - all of these protections are afforded by environmental law, and all of them look to the future as well as to the present. Environmental law seeks, moreover, to avoid the unpleasant surprises that come with discontinuities and irreversibility - the kinds of events that outstrip our powers of quantitative prediction. Here, too, environmental law tries to protect the future in addition to the present.

At a discount rate of 5 percent, for example, the death of a billion people 500 years from now becomes less serious than the death of one person today.

Cost-benefit analysis systematically downgrades the importance of the future in two ways: through the technique of discounting, and through predictive methodologies that take inadequate account of the possibility of catastrophic and irreversible events.

The most common, and commonsense, argument in favor of discounting future human lives saved, illnesses averted, and ecological disasters prevented is that it is better to suffer a harm later rather than sooner. What's wrong with this argument? A lot, as it turns out.

Do Future Generations Count?

The first problem with the later-is-better argument for discounting is that it assumes that one person is deciding between dying or falling ill now, or dying or falling ill later. In that case, virtually everyone would prefer later. But many environmental programs protect the far future, beyond the lifetime of today's decision-makers. Thus the choice implicit in discounting is between preventing harms to the current generation and preventing similar harms to future generations. Seen in this way, discounting looks like a fancy justification for foisting our problems off onto the people who come after us.

The time periods involved in protecting the environment are often enormous - many decades for a wide range of problems, and even many centuries, in the case of climate change, radioactive waste, and other persistent toxins. With time spans this long, discounting at any positive rate will make even global catastrophes seem trivial. At a discount rate of 5 percent, for example, the death of a billion people 500 years from now becomes less serious than the death of one person today.

Does Haste Prevent Waste?

The argument for discounting also assumes that environmental problems won't get any worse if we wait to address them. In the market paradigm, buying environmental protection is just like buying any other commodity. You can buy a new computer now or later - and if you don't need it this year, you should probably wait. The technology will undoubtedly keep improving, so next year's models will do more yet cost less. An exactly parallel argument has been made about climate change (and other environmental problems) by some economists: if we wait for further technological progress, we will get more for our climate change mitigation dollars in the future.

If environmental protection was mass-produced by the computer industry, and if environmental problems would agree to stand still indefinitely and wait for us to respond, this might be a reasonable approach. In the real world, however, it is a ludicrous and dangerous strategy.

Too many years of delay may mean that the polar ice cap melts, the spent uranium leaks out of the containment ponds, the hazardous waste seeps into groundwater and basements and backyards - at which point we can't put the genie back in the bottle at any reasonable cost (or perhaps not at all).

Environmentalists often talk of potential "crises," of threats that problems will become suddenly and irreversibly worse. In response to such threats, environmentalists and some governments advocate the so-called "precautionary principle," which calls upon regulators to err on the side of caution and protection when risks are uncertain.

Cost-benefit analysts, for the most part, do not assume the possibility of crisis. Their worldview assumes stable problems, with control costs that are stable or declining over time, and thus finds precautionary investment in environmental protection to be a needless expense. Discounting is part of this non-crisis perspective. By implying that the present cost of future environmental harms declines, lockstep, with every year that we look ahead, discounting ignores the possibility of catastrophic and irreversible harms. For this very reason, some prominent economists have rejected the discounting of intangibles. As William Baumol wrote in an important early article on discounting the benefits of public projects:

There are important externalities and investments of the public goods variety which cry for special attention. Irreversibilities constitute a prime example. If we poison our soil so that never again will it be the same, if we destroy the Grand Canyon and turn it into a hydroelectric plant, we give up assets which like Goldsmith's bold peasantry, "... their country's pride, when once destroy'd can never be supplied." All the wealth and resources of future generations will not suffice to restore them.[15]

Most cost-benefit analysts do not exhibit this kind of humility about what the future might hold in store for us.

Begging the Question

Extensive discounting of future environmental problems lies at the heart of many recent studies of regulatory costs and benefits that charge "statistical murder." When the costs and benefits of environmental protection are compared to those of safety rules (like requiring fire extinguishers for airplanes) or medical procedures (like vaccinating children

against disease), environmental protection almost always comes out the loser. Why is this so?[16]

These studies all discount future environmental benefits by at least 5 percent per year. This has little effect on the evaluation of programs, like auto safety rules requiring seat belts and fire safety rules requiring smoke alarms, that could start saving lives right away. However, for environmental programs like hazardous waste cleanups and control of persistent toxins that save lives in the future, discounting matters a great deal - especially since, as explained above, the benefits are assumed to occur in the future when deaths are avoided, rather than in the near term when risks are reduced.

By using discounting, analysts *assume* the answer to the question they purport to be addressing, that is, which programs are most worthwhile. The researchers begin with premises that guarantee that programs designed for the long haul - like environmental protection - are not as important as programs that look to the shorter term. When repeated without discounting (or with benefits assumed to occur when risks are reduced), these studies support many more environmental programs, and the cry of "statistical murder" rings hollow.

Citizens and Consumers - Reprise

The issue of discounting illustrates once again the failure of cost-benefit analysis to take into account the difference between citizens and consumers. Many people advocate discounting on the ground that it reflects people's preferences, as expressed in market decisions concerning risk. But again, this omits the possibility that people will have different preferences when they take on a different role. The future seems to matter much more to American citizens than to American consumers, even though they are of course the same people.

For example, Americans are notoriously bad at saving money on their own, apparently expressing a disinterest in the future. But Social Security is arguably the most popular entitlement program in the United States. The tension between Americans' personal saving habits and their enthusiasm for Social Security implies a sharp divergence between the temporal preferences of people as consumers and as citizens. Thus private preferences for current over future consumption should not be used to subvert public judgments that future harms are as important as immediate ones.

Exacerbating Inequality

The third fundamental defect of cost-benefit analysis is that it tends to ignore, and therefore to reinforce, patterns of economic and social inequality. Cost-benefit analysis consists of adding up all the costs of a policy, adding up all the benefits, and comparing the totals. Implicit in this innocuous-sounding procedure is the controversial assumption that it doesn't matter who gets the benefits and who pays the costs. Both benefits and costs are measured simply as dollar totals; those totals are silent on questions of equity and distribution of resources.

Yet in our society, concerns about equity frequently do and should enter into debates over public policy. There is an important difference between spending state tax revenues to improve the parks in rich communities, and spending the same revenues to clean up pollution in poor communities. The dollar value of these

two initiatives, measured using cost-benefit analysis, might be the same in both cases, but this does not mean that the two policies are equally urgent or desirable.

The problem of equity runs even deeper. Benefits are typically measured by willingness to pay for environmental improvement, and the rich are able and willing to pay for more than the poor. Imagine a cost-benefit analysis of siting an undesirable facility, such as a landfill or incinerator. Wealthy communities are willing to pay more for the benefit of not having the facility in their backyards; thus the net benefits to society as a whole will be maximized by putting the facility in a low-income area. (Note that wealthy communities do not actually have to pay for the benefit of avoiding the facility; the analysis depends only on the fact that they are *willing* to pay.)

This kind of logic was made (in)famous in a 1991 memo circulated by Lawrence Summers (former Secretary of the Treasury, now President of Harvard University) when he was the chief economist at the World Bank. Discussing the migration of "dirty industries" to developing countries, Summers' memo explained:

The measurements of the costs of health impairing pollution depend[] on the foregone earnings from increased morbidity and mortality. From this point of view a given amount of health impairing pollution should be done in the country with the lowest cost, which will be the country with the lowest wages. I think the economic logic behind dumping a load of toxic waste in the lowest wage country is impeccable and we should face up to that.[17]

After this memo became public, Brazil's then-Secretary of the Environment Jose Lutzenburger wrote to Summers:

Your reasoning is perfectly logical but totally insane. Your thoughts [provide] a concrete example of the unbelievable alienation, reductionist thinking, social ruthlessness and the arrogant ignorance of many conventional 'economists' concerning the nature of the world we live in.[18]

If decisions are based strictly on cost-benefit analysis and willingness to pay, most environmental burdens will end up being imposed on the countries, communities, and individuals with the least resources. This theoretical pattern bears an uncomfortably close resemblance to reality. Cost-benefit methods should not be blamed for existing patterns of environmental injustice; we suspect that pollution is typically dumped on the poor without waiting for formal analysis.

If decisions are based strictly on cost-benefit analysis and willingness to pay, most environmental burdens will end up being imposed on the countries, communities, and individuals with the least resources.

Still, cost-benefit analysis rationalizes and reinforces the problem, allowing environmental burdens to flow downhill along the income gradients of an unequal world. It is hard to see this as part of an economically optimal or politically objective method of decision-making.

In short, equity is an important criterion for evaluation of public policy, but it does not fit into the cost-benefit framework.

The same is true of questions of rights and morality, principles that are not reducible to monetary terms. Calculations that are acceptable, even common sense, for financial matters can prove absurd or objectionable when applied to moral issues, as shown by the following example.

A financial investment with benefits worth five times its costs would seem like an obviously attractive bargain. Compare this to one study's estimate that front airbags on the passenger side of automobiles may cause one death, usually of a child, for every five lives saved. If we really believed that lives - even statistical lives - were worth $6 million, or any other finite dollar amount, endorsing the airbags should be no more complicated than accepting the financial investment. However, many people do find the airbag tradeoff troubling or unacceptable, implying that there is a different, non-quantitative value of a life that is at stake here. If a public policy brought some people five dollars of benefits for every one dollar it cost to others, the winners could in theory compensate the losers. No such compensation is possible if winning and losing are measured in deaths rather than dollars.[19]

In comparing the deaths of adults prevented by airbags with the deaths of children caused by airbags, or in exploring countless other harms that might be mitigated through regulation, the real debate is not between rival cost-benefit analyses. Rather, it is between environmental advocates who frame the issue as a matter of rights and ethics, and others who see it as an acceptable area for economic calculation. That debate is inescapable, and is logically prior to the details of evaluating costs and benefits.

Less Objectivity and Transparency

A fourth fundamental flaw of cost-benefit analysis is that it is unable to deliver on the promise of more objective and more transparent decision-making. In fact, in most cases, the use of cost-benefit analysis is likely to deliver less objectivity and less transparency.

Because value-laden premises permeate cost-benefit analysis, the claim that cost-benefit analysis offers an "objective" way to make government decisions is simply bogus.

For the reasons we have discussed, there is nothing objective about the basic premises of cost-benefit analysis. Treating individuals solely as consumers, rather than as citizens with a sense of moral responsibility to the larger society, represents a distinct and highly contestable worldview. Likewise, the use of discounting reflects judgments about the nature of environmental risks and citizens' responsibilities toward future generations which are, at a minimum, debatable. Because value-laden premises permeate cost-benefit analysis, the claim that cost-benefit analysis offers an "objective" way to make government decisions is simply bogus.

Furthermore, as we have seen, cost-benefit analysis relies on a byzantine array of approximations, simplifications, and counterfactual hypotheses. Thus, the actual use of cost-benefit analysis inevitably involves countless judgment calls. People with strong, and clashing, partisan positions will naturally advocate that discretion in

the application of this methodology be exercised in favor of their positions, further undermining the claim that cost-benefit analysis is objective.

Perhaps the best way to illustrate how little economic analysis has to contribute, objectively, to the fundamental question of how clean and safe we want our environment to be is to refer again to the controversy over cost-benefit analysis of EPA's regulation of arsenic in drinking water. As legal scholar Cass Sunstein has recently argued, the available information on the benefits of arsenic reduction supports estimates of net benefits from regulation ranging from less than zero, up to $560 million or more. The number of deaths avoided annually by regulation is, according to Sunstein, between 0 and 112.[20] A procedure that allows such an enormous range of different evaluations of a single rule is certainly not the objective, transparent decision rule that its advocates have advertised.

These uncertainties arise both from the limited knowledge of the epidemiology and toxicology of exposure to arsenic, and from the controversial series of assumptions required for valuation and discounting of costs and (particularly) benefits. As Sunstein explains, a number of different positions, including most of those heard in the recent controversy over arsenic regulation, could be supported by one or another reading of the evidence.[21]

Some analysts might respond that this enormous range of outcomes is not possible if the proper economic assumptions are used; if, for example, human lives are valued at $6 million apiece and discounted at a 5 percent yearly rate (or, depending on the analyst, other favorite numbers). But these assumptions beg fundamental questions about ethics and equity, and one cannot decide whether to embrace them without thinking through the whole range of moral issues they raise. Yet once one has thought through these issues, there is no need then to collapse the complex moral inquiry into a series of numbers. Pricing the priceless merely translates our inquiry into a different, and foreign, language, one with a painfully impoverished vocabulary.

For many of the same reasons, cost-benefit analysis also generally fails to achieve the goal of transparency. Cost-benefit analysis is a complex, resource-intensive, and expert-driven process. It requires a great deal of time and effort to attempt to unpack even the simplest cost-benefit analysis. Few community groups, for example, have access to the kind of scientific and technical expertise that would allow them to evaluate whether, intentionally or unintentionally, the authors of a cost-benefit analysis have unfairly slighted the interests of the community or some of its members. Few members of the public can meaningfully participate in the debates about the use of particular regression analyses or discount rates which are central to the cost-benefit method.

The translation of lives, health, and nature into dollars also renders decision-making about the underlying social values less rather than more transparent. As we have discussed, all of the various steps required to reduce a human life to a dollar value are open to debate and subject to uncertainty. However, the specific dollar values kicked out by cost-benefit analysis tend to obscure these underlying issues rather than encourage full public debate about them.

5. Why it Doesn't Work: Practical Problems

The last section showed that there are deep, inherent problems with cost-benefit analysis. In practice, these problems only get worse; leading examples of cost-benefit analysis fall far short of the theoretical model. In theory, the practical problems we are about to describe are soluble; in practice, however, they have not been resolved, and remain pervasive. The continuing existence of these practical problems further undercuts the utility and wisdom of using cost-benefit analysis to evaluate environmental policy.

The Limits of Quantification

Cost-benefit studies of regulations focus on quantified benefits of the proposed action and generally ignore other, non-quantified health and environmental benefits. This raises a serious problem because many benefits of environmental programs - including the prevention of many nonfatal diseases and harms to the ecosystem - either have not been quantified or are not capable of being quantified at this time. Indeed, for many environmental regulations, the only benefit that can be quantified is the prevention of cancer deaths. On the other hand, one can virtually always come up with *some* number for the total costs of an environmental regulation. Thus, in practice, cost-benefit analysis tends to skew decision-making against protecting public health and the environment.

For example, regulation of workers' exposure to formaldehyde is often presented as the extreme of inefficiency, supposedly costing $72 billion per life saved. This figure is based on the finding that the regulation prevents cancers, which occur only in minute numbers but which have been thoroughly evaluated in numerical terms. But the formaldehyde regulation also prevents many painful but nonfatal illnesses, excluded from the $72 billion figure. If described solely as a means of reducing cancer, the regulation would indeed be very expensive. But if described as a means of reducing cancer *and* other diseases, the regulation makes a good deal of sense. Workplace regulation of formaldehyde is not a bad answer, but it does happen to be an answer to a different question.

The formaldehyde case is by no means unique: often the only regulatory benefit that can be quantified is the prevention of cancer. Yet cancer has a latency period of between 5 and 40 years. When discounted at 5 percent, a cancer death 40 years from now has a "present value" of only one-seventh of a death today. Thus, one of the benefits that can most often be quantified - allowing it to be folded into cost-benefit analysis - is also one that is heavily discounted, making the benefits of preventive regulation seem trivial.

Ignoring What Cannot be Counted

A related practical problem is that, even when the existence of unquantified or unquantifiable benefits is recognized, their importance is frequently ignored. Many advocates of cost-benefit analysis concede that the decision-making process must make some room for non-quantitative

considerations. Some environmental benefits have never been subjected to rigorous economic evaluation. Other important considerations in environmental protection - such as the fairness of the distribution of environmental risks - cannot be quantified and priced. Even if these factors cannot be quantified, they are surely relevant.

In practice, however, unquantified values are often forgotten, or even denigrated, once all the numbers have been crunched. No matter how many times the Environmental Protection Agency, for example, says that one of its rules will produce many benefits - like the prevention of illness or the protection of ecosystems - that cannot be quantified, the non-quantitative aspects of its analyses are almost invariably ignored in public discussions of its policies.

When the Clinton Administration's EPA proposed, for example, strengthening the standard for arsenic in drinking water, it cited many human illnesses that would be prevented by the new standard but that could not be expressed in numerical terms. Subsequent public discussion of EPA's cost-benefit analysis of this standard, however, inevitably referred only to EPA's numerical analysis and forgot about the cases of avoided illness that could not be quantified.

Overstated Costs

There is also a tendency, as a matter of practice, to overestimate the costs of regulations in advance of their implementation. This happens in part because regulations often encourage new technologies and more efficient ways of doing business; these innovations reduce the cost of compliance. It is also important to keep in mind, when reviewing cost estimates, that they are usually provided by the regulated industries themselves, which have an obvious incentive to offer high estimates of costs as a way of warding off new regulatory requirements.

One study found that costs estimated in advance of regulation were more than twice actual costs in 11 out of 12 cases.[22] Another study found that advance cost estimates were more than 25 percent higher than actual costs for 14 out of 28 regulations; advance estimates were more than 25 percent too low in only 3 of the 28 cases.[23] Before the 1990 Clean Air Act Amendments took effect, industry anticipated that the cost of sulfur reduction under the amendments would be $1,500 per ton. In 2000, the actual cost was under $150 per ton.

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Of course, not all cost-benefit analyses overstate the actual costs of regulation. But given the technology-forcing character of environmental regulations, it is not surprising to find a marked propensity to overestimate the costs of such rules. In a related vein, many companies have begun to discover that environmental

protection can actually be *good* for business in some respects. Increased energy efficiency, profitable products made from waste, and decreased use of raw materials are just a few of the cost-saving or even profit-making results of turning more corporate attention to environmentally protective business practices.[24] Cost-benefit analyses typically do not take such money-saving possibilities into account in evaluating the costs of regulation.

Should We Laugh - or Cry?

Each of these problems with cost-benefit analysis as practiced - the inability to quantify all relevant values, the tendency to ignore non-quantified benefits, and the overstatement of compliance costs - describes, in a way, the trees rather than the forest of cost-benefit analysis. It is also worthwhile to look at some of the products of this method and ask, more generally, does the method make sense?

Consider the following examples, which we are not making up. They are not the work of a lunatic fringe, but on the contrary, they reflect the work products of some of the most influential and reputable of today's cost-benefit practitioners. We are not sure whether to laugh or cry; we find it impossible to treat these studies as serious contributions to a rational discussion.

Several years ago, states were in the middle of their litigation against tobacco companies, seeking to recoup the medical expenditures they had incurred as a result of smoking. At that time, W. Kip Viscusi - a professor of law and economics at Harvard and the primary source of the current $6.3 million estimate for the value of a statistical life - undertook research concluding that states, in fact, *saved* money as the result of smoking by their citizens. Why? Because they died early! They thus saved their states the trouble and expense of providing nursing home care and other services associated with an aging population.

Arthur D. Little found that smoking was a financial boon for the Czech government - in part because it caused citizens to die earlier and thus reduced government expenditure on pensions, housing, and health care.

Viscusi didn't stop there. So great, under Viscusi's assumptions, were the financial benefits to the states of their citizens' premature deaths that, he suggested, "*cigarette smoking should be subsidized rather than taxed.*"[25]

Amazingly, this cynical conclusion has not been swept into the dustbin where it belongs, but instead has recently been revived: the tobacco company Philip Morris commissioned the well-known consulting group Arthur D. Little to examine the financial benefits, to the Czech Republic, of smoking among Czech citizens. Arthur D. Little found that smoking was a financial boon for the government - in part because it caused citizens to die earlier and thus reduced government expenditure on pensions, housing, and health care.[26] This conclusion relies, so far as we can determine, on perfectly conventional cost-benefit analysis.

There is more. In recent years, much has been learned about the special risks children face due to pesticides in their food, contaminants in their drinking water, ozone in the air, and so on. As a result of the

increasing prominence of cost-benefit analysis, there is now a budding industry in valuing children's health. Its products are often bizarre.

Take the problem of lead poisoning in children. One of the most serious and disturbing effects of lead is the neurological damage it can cause in young children, including permanently lowered mental ability. Putting a dollar value on the (avoidable, environmentally caused) retardation of children is a daunting task, but economic analysts have not been daunted.

Randall Lutter, a frequent regulatory critic and a scholar at the AEI-Brookings Joint Center for Regulatory Studies, argues that the way to value the damage lead causes in children is to look at how much parents of affected children spend on chelation therapy, a chemical treatment that is supposed to cause excretion of lead from the body. Parental spending on chelation supports an estimated valuation of only about $1,500 per IQ point lost due to lead poisoning. Previous economic analyses by EPA, based on the children's loss of expected future earnings, have estimated the value to be much higher - up to $9,000 per IQ point. Based on his lower figure, Lutter claims to have discovered that too much effort is going into controlling lead:

Hazard standards that protect children far more than their parents think is appropriate may make little sense. The agencies should consider relaxing their lead standards.[27]

In fact, Lutter presents no evidence about what parents think, only about what they spend on one rare variety of private medical treatments (which, as it turns out, has not been proven medically effective for chronic, low-level lead poisoning).

Why should environmental standards be based on what individuals are now spending on desperate personal efforts to overcome social problems?

For sheer analytical audacity, Lutter's study faces some stiff competition from another study concerning children - this one concerning the value, not of children's health, but of their lives. In this second study, researchers examined mothers' car-seat fastening practices.[28] They calculated the difference between the time required to fasten the seats correctly and the time mothers actually spent fastening their children into their seats. Then they assigned a monetary value to this interval of time based on the mothers' hourly wage rate (or, in the case of non-working moms, based on a guess at the wages they might have earned). When mothers saved time - and, by hypothesis, money - by fastening their children's car seats incorrectly, they were, according to the researchers, implicitly placing a finite monetary value on the life-threatening risks to their children posed by car accidents.

Building on this calculation, the researchers were able to answer the vexing question of how much a statistical child's life is worth to its mother. (As the mother of a statistical child, she is naturally adept at complex calculations comparing the value of saving a few seconds versus the slightly increased risk to her child!) The answer parallels Lutter's finding that we are valuing our children too highly: in car-seat-land, a child's life is worth only $500,000, far less than the value usually ascribed to a life in economic analysis.

6. The Many Alternatives to Cost-Benefit Analysis

A common response to the criticisms of cost-benefit analysis is a simple question: what's the alternative? The implication is that despite its flaws, cost-benefit analysis is really the only tool we have for figuring out how much environmental protection to provide.

This is just not true. For thirty years, the federal government has been protecting human health and the environment without relying on cost-benefit analysis. The menu of regulatory options that has emerged from this experience is large and varied. Choosing among these possibilities depends on a variety of case-specific circumstances, such as the nature of the pollution involved, the degree of scientific knowledge about it, and the conditions under which people are exposed to it. As the following brief sketch of alternatives reveals, cost-benefit analysis - a "one-size-fits-all" approach to regulation - just can't be squared with the multiplicity of circumstances surrounding different environmental problems.

For the most part, environmental programs rely on a form of "technology-based" regulation, the essence of which is to require the best available methods for controlling pollution. This avoids the massive research effort needed to quantify and monetize the precise harms caused by specific amounts of pollution, which is required by cost-benefit analysis. In contrast, the technology-based approach allows regulators to proceed directly to controlling emissions. Simply put, the idea is that we should do the best we can to mitigate pollution we believe to be harmful.

Over the years, EPA has learned that flexibility is a good idea when it comes to technology-based regulation, and thus has tended to avoid specifying particular technologies or processes for use by regulated firms; instead, the agency has increasingly relied on "performance-based" regulation, which tells firms to clean up to a certain, specified extent, but doesn't tell them precisely how to do it. Technology-based regulation generally takes costs into account in determining the required level of pollution control, but does not demand the kind of precisely quantified and monetized balancing process that is needed for cost-benefit analysis.

Another regulatory strategy that has gained a large following in recent years is the use of "pollution trading," as in the sulfur dioxide emissions trading program created for power plants under the 1990 Clean Air Act Amendments. That program grants firms a limited number of permits for pollution, but allows them to buy permits from other firms. Thus firms with high pollution control costs can save money by buying permits, while those with low control costs can save money by controlling emissions and selling their permits.

The fixed supply of permits, created by law, sets the cap on total emissions; the trading process allows industry to decide where and how it is most economical to reduce emissions to fit under the cap. Trading programs have become an important part of the federal program for controlling pollution. These programs,

too, have not used cost-benefit analysis in their implementation. Congress, the EPA, or other officials set the emissions cap, and the market does the rest.

It is theoretically possible that cost-benefit analysis could be used to choose the overall limit on pollution that guides both performance-based and market-based regulatory programs. However, this has not been standard practice in the past; the limit on sulfur emissions in the 1990 Clean Air Act Amendments, for example, was set by a process of political compromise. Given the problems with cost-benefit analysis, political compromise cannot be viewed as an inferior way to set a cap on emissions. Many regulatory programs have been a terrific success without using cost-benefit analysis to set pollution limits.

One last example (a desire for reasonable brevity prevents us from listing more) is informational regulation, which requires disclosures to the public and/or to consumers about risks they face from exposures to chemicals. These "right-to-know" regimes allow citizens and consumers not only to know about the risks they face, but also empower them to do something about those risks. The Toxic Release Inventory created by the Emergency Planning and Community Right-to-Know Act, the product warning labels required by California's "Proposition 65," and the consumer notices now required regarding drinking water that contains hazardous chemicals, are all variants of this type of information-based regulation. Not one of these popular and effective programs relies on cost-benefit analysis.

The arguments for flexible technology-based regulation and for incentive-based programs like pollution trading and disclosure requirements are sometimes confused with the arguments for cost-benefit analysis. But both technology-based and incentive-based regulation take their *goals* from elected representatives rather than from economic analysts, even though the *means* adopted by these regulatory strategies are strongly influenced by attention to costs. The current style of cost-benefit analysis, however, purports to set the *ends*, not just the means, of environmental policy, and that is where its aspirations amount to arrogance.

Economic analysis has had its successes and made its contributions; it has taught us a great deal over the years about how we can most efficiently and cheaply reach a given environmental goal. It has taught us relatively little, however, about what our environmental goals should be. Indeed, while economists have spent three decades wrangling about how much a human life, or a bald eagle, or a beautiful stretch of river, is worth in dollars, ecologists, engineers, and other specialists have gone about the business of saving lives and eagles and rivers, without waiting for formal, quantitative analysis proving that saving these things is worthwhile.

7. Conclusion

... While economists have spent three decades wrangling about how much a human life, or a bald eagle, or a beautiful stretch of river, is worth in dollars, ecologists, engineers, and other specialists have gone about the business of saving lives and eagles and rivers, without waiting for formal, quantitative analysis proving that saving these things is worthwhile.

Two features of cost-benefit analysis distinguish it from other approaches to evaluating the advantages and disadvantages of environmentally protective regulations: the translation of lives, health, and the natural environment into monetary terms, and the discounting of harms to human health and the environment that are expected to occur in the future. These features of cost-benefit analysis make it a terrible way to make decisions about environmental protection, for both intrinsic and practical reasons.

Nor is it useful to keep cost-benefit analysis around as a kind of regulatory tag-along, providing information that regulators may find "interesting" even if not decisive. Cost-benefit analysis is exceedingly time- and resource-intensive, and its flaws are so deep and so large that this time and these resources are wasted on it. Moreover, given the intrinsic conflict between cost-benefit analysis and the principles of fairness that animate, or should animate, our national policy toward protecting people from being hurt by other people, the results of cost-benefit analysis cannot simply be "given some weight" along with other factors, without undermining the fundamental equality of all citizens - rich and poor, young and old, healthy and sick.

Cost-benefit analysis cannot overcome its fatal flaw: it is completely reliant on the impossible attempt to price the priceless values of life, health, nature, and the future. Better public policy decisions can be made without cost-benefit analysis, by combining the successes of traditional regulation with the best of the innovative and flexible approaches that have gained ground in recent years.

Footnotes

1. John B. Loomis and Douglas S. White, "Economic Benefits of Rare and Endangered Species: Summary and Meta-analysis," 18 *Ecological Economics* 197, 199 Table 1(1996) (converted to year 2000 dollars using the consumer price index).

2. The original calculation, based on research by W. Kip Viscusi, can be found in EPA, *The Benefits and Costs of the Clean Air Act, 1970 to 1990*, Appendix I (1997). For an example of a subsequent analysis citing the Clean Air Act analysis and adjusting only for inflation, see EPA, *Arsenic in Drinking Water Rule: Economic Analysis*, EPA Document 815-R-00-026, 5-23 (December 2000). The arsenic study used $6.1 million in 1999 dollars, which is equivalent to $6.3 million in 2000 dollars.

3. The examples in the text are rounded off to the nearest dollar.

4. See, for example, John F. Morrall III, "A Review of the Record," *Regulation*, Nov./Dec. 1986, at 25, 30 Table 4, relied upon, among others, Stephen Breyer, *Breaking the Vicious Circle: Toward Effective Risk Regulation* 24-27 (1993); W. Kip Viscusi, *Fatal Tradeoffs: Public and Private Responsibilities for Risk* 264 (1992); OMB, Regulatory Program of the United States Government, April 1, 1991-March 31, 1992, at 12 (1991) (reproducing version of Morrall's table); Kenneth J. Arrow et al., "Is There a Role for Benefit-Cost Analysis in Environmental, Health, and Safety Regulation?," 272 *Science 221* (April 1996).

5. *Risk Assessment and Cost-benefit Analysis: Hearings Before the Comm. on Science, United States House of Representatives*, 104th Cong., 1st Sess. 1124 (1995) (written testimony of John D. Graham).

6. John Broome, "Trying to Value a Life," 9 *J. Pub. Econ.* 91, 92 (1978).

7. E.g., Elizabeth Anderson, *Value in Ethics and Economics* (Harvard University Press, 1993).

8. For further elaboration, see Lisa Heinzerling, "The Rights of Statistical People," 24 *Harv. Envtl. L. Rev.* 189, 203-06 (2000).

9. Economic Analysis of Federal Regulations Under Executive Order 12, 866, at pt. III.B.5(a) (Report of Interagency Group Chaired by a Member of the Council of Economic Advisors) (Jan. 11, 1996).

10. Lisa Heinzerling, "Discounting Our Future," 34 *Land & Water L. Rev.* 39, 71 (1999); Lisa Heinzerling, "Discounting Life," 108 *Yale L.J.* 1911, 1913 (1999).

11. Mark Sagoff, *The Economy of the Earth: Philosophy, Law, and the Environment* 50-52 (Cambridge University Press, 1988).

12. Amartya Sen, "The Discipline of Cost-Benefit Analysis," 29 *Journal of Legal Studies* 931-952 (June 2000).

13. Henry S. Richardson, "The Stupidity of the Cost-Benefit Standard," 29 *Journal of Legal Studies* 971-1003 (2000). On the importance of allowing preference change in response to deliberation, see also Cass R. Sunstein, "Preferences and Politics," 1 *Philosophy and Public Affairs* 20 (1991).

14. 42 U.S.C. 4331(b)(1).

15. William J. Baumol, "On the Social Rate of Discount," 58 *Am. Econ. Rev.* 788, 801 (1968)

16. This discussion is based on Lisa Heinzerling, "Regulatory Costs of Mythic Proportions," 107 *Yale L.J.* 1981 (1998), and on Lisa Heinzerling's written testimony on John Graham's nomination to be head of OIRA: *Nomination of John D. Graham as Adm'r of the Office of Info. and Regulatory Affairs at the Office of Mgmt. and Budget: Hearing Before the Comm. on Governmental Affairs,* U.S. House of Representatives 107th Cong. 1st Sess. (2001).

17. Available at http://www.whirledbank.org/ourwords/summers.html.

18. Available at http://www.whirledbank.org/ourwords/summers.html.

19. Fred Kuchler and Elise Golan, "Assigning Values to Life: Comparing Methods for Valuing Health Risks," Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 784, 52 (1999).

20. Cass R. Sunstein, "The Arithmetic of Arsenic," AEI-Brookings Joint Center on Regulatory Studies, Working Paper 01-10, (August 2001).

21. Given this enormous range of uncertainty, it is hard to understand Sunstein's belief (expressed in the same working paper) that cost-benefit analysis is still useful for screening regulatory options. This could only be true if a significant number of serious proposals had costs that were many orders of magnitude greater than their benefits. As we have discussed, this is a widely held, but empirically false, view of environmental regulation.

22. Eban Goodstein, "Polluted Data," *American Prospect* 8, November-December 1997 (http://www.prospect.org); Hart Hodges, "Falling Prices: Cost of Complying With Environmental Regulations Almost Always Less Than Advertised," Economic Policy Institute, 1997 (http://epinet.org). Both publications report on the same study.

23. Winston Harrington, Richard D. Morgenstern, and Peter Nelson, "On the Accuracy of Regulatory Cost Estimates," 19 *Journal of Policy Analysis and Management* 297-322 (Spring 2000).

24. For a recent report on this phenomenon, see Claudia H. Deutsch, "Together at Last: Cutting Pollution and Making Money," *New York Times* (Sept. 9, 2001).

25. W. Kip Viscusi, "Cigarette Taxation and the Social Consequences of Smoking," Working Paper No. 4891, 33 (National Bureau of Economic Research October 1994).

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COVER STORY

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Bad Science

EPA's industry critics urge Congress and the new administrator to upgrade the science used in regulatory decisionmaking. They are right that science at the agency needs improvement — largely because these same self-interested critics overwhelmingly dominate research agendas and peer review

LINDA GREER and RENA STEINZOR

"The right to search for truth implies also a duty: one must not conceal any part of what one has recognized to be true." —ALBERT EINSTEIN

In Washington circles, "sound science" has become the remedy of choice for most of what ails the regulatory system. Whether it's arsenic in drinking water or particulates in the air, proponents of this seemingly simple solution argue that if the Environmental Protection Agency would only get more scientists on board and listen carefully to their sage advice, we could eliminate or at least reduce those excessive health and safety regulations that squander public funds, freeing scarce resources to address far more urgent problems.

EPA indeed practices a great deal of "bad science," but not in the sense asserted by its industry critics. What really upsets regulated industry is not the agency's supposed failure to consider "good science." Instead, the business community is driven to distraction by the fact that EPA must make most decisions on the basis of incomplete or uncertain science. However, as we explain below, Congress and EPA administrators have long recognized that the agency must act in the face of uncertainty to achieve its mission. While it is important to debate the issue of how to operate in the face of scientific uncertainty, it is unhealthy to allow that debate to obscure far more profound and troubling problems with scientific practice at EPA.

Although agency scientists do many tasks, one of their most important responsibilities is to select the salient developments among various research methodologies and findings. It is critical that they perform this function with objectivity. If their analyses are infected with bias, their scientific practice, by definition, is unsound. Unfortunately, bias and secrecy increasingly compromise not only the work of EPA's in-house scientists, but also the ultimate failsafe intended to guarantee the soundness of agency science: peer review by the ostensibly independent and objective Science Advisory Board.

EPA science is dominated by self-interested industry research and peer reviewed by self-interested industry experts. The impact of these influences on the agency's rules is magnified by a lack of transparency about what pieces of research were used as the basis for important policy conclusions and why others were rejected. These problems are compounded by the fact that "science" at the agency is increasingly thrust into the role of final arbiter of all decisionmaking. Science cannot serve this purpose because the evidence on most issues considered by EPA is not definitive.

Two case studies support our diagnosis and suggest prescriptions for a cure. The first involves the inexplicable decision by EPA's Office of Research and Development (the primary location of in-house research and analysis) to revisit the toxicity profile of vinyl chloride and downgrade its estimate of the chemical's carcinogenic effects. The second involves a misguided opinion issued by the Science Advisory Board challenging an EPA staff conclusion that dioxin is significantly more toxic than first supposed. In both cases, experts working for chemical manufacturers dominated the process, managing to manipulate the pace, content, and final outcome of those deliberations.

At this point, readers may well wonder why, if the state of EPA science is as bad as we say it is, we don't agree with the critics who call for "sound science" — or "more science" or "better science, " etc. Many reputable people, including several generations of EPA administrators, have recommended the expansion and elevation of science within

the agency, arguing that it is the crucial, missing element of wise decisionmaking. In fact, this spring Congress may consider a bill by Representative Vernon Ehlers (R-Michigan) that would establish a deputy administrator for science, to centralize administration and evaluation of the agency's research. (See "A View from the Hill," page 30.) But, as we indicate at the top of this article, the call for sound science collapses two separate issues into one.

The first of these issues is the appropriate role of science in EPA decisionmaking: should scientific evidence serve as the sole determinant — or gate-keeper — of agency decisions whether to regulate? The second issue concerns the fundamentals of what *we* would call "sound" science: when EPA evaluates available technical information, what core principles must govern its deliberations to ensure scientifically valid results? An explication of where we stand on the first issue will make it clearer why we are so concerned about the second.

EPA mismanages the scientific function to the point that it can no longer be relied upon to be either objective or fair

The unavoidable reality is that, despite widespread demands that EPA employ more science, the scientific information available to the agency rarely gives definitive answers to the difficult questions that confront it. Toxicology, epidemiology, conservation biology, ecology — these and related fields have yet to produce research results that map a straightforward path to uncontroversial policy solutions. In many, if not most, cases EPA faces the conundrum of implementing environmental statutes that command it to protect public health and the environment from risks that are unknowable, understudied, or poorly understood from a scientific perspective.

Congress appreciated this problem when it passed the statutes that define EPA's mission. Look at the language of the basic laws that protect the air we breathe and the water we drink. The Clean Air Act commands the agency to protect public health with an "adequate margin of safety." The Safe Drinking Water Act requires the EPA administrator to regulate contaminants that "may have an adverse effect on the health of persons" where "there is a substantial likelihood" that the contaminant will be "of public concern" and present "a meaningful opportunity for health risk reduction." The Clean Water Act's central purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters," a phrase that has no defined meaning in science and requires human judgment.

As recently as last year, in *American Trucking Associations v. Whitman*, a unanimous decision authored by no less a regulatory skeptic than Justice Antonin Scalia, the Supreme Court reaffirmed Congress's Clean Air Act mandate that EPA protect public health with an adequate margin of safety and without regard to costs. Recognizing that this and similar mandates mean acting in the face of scientific uncertainty, Governor Christine Todd Whitman told the National Academy of Sciences in a speech delivered in 2000: "The absence of certainty is not an excuse to do nothing. . . . Environmental policy should always be based on the soundest information available at the time." The Earth Summit's action plan, Agenda 21, used similar language, admonishing all signatories (including the United States): "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." Under all these formulations, the crucial challenge is to ensure that the available science is factually correct and appropriately interpreted, and is then weighed with other factors in making final decisions.

Consider EPA's efforts to reduce cancers caused by exposure to toxic chemicals. Despite decades of research, cancer remains a mysterious disease. Because we do not understand how it is triggered in the body, no scientist can tell how many people will suffer cancer following exposure to a given level of a suspected carcinogen. Given these and other gaps in our understanding of the toxi-

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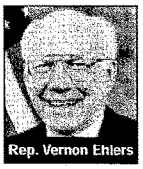
Both Sides Are Right: EPA Needs To Improve Science Function

The public discourse over how Environmental Protection Agency decisionmakers use science when determining controversial regulatory action or inaction always seems to fall into two camps. One view comes from the regulated community, who claim a controversial decision ignores the underlying science, which, in their view, shows the decision does more harm than good. Another view comes from environmental and public advocacy communities, who claim that the agency ignores the underlying science while letting the regulated community unduly influence the process. While these constituencies may forever diverge on the merits and effectiveness of a controversial decision, one theme is common to both camps — that science does not adequately imbue the regulatory decisionmaking process at the EPA.


Rep. Vernon Ehlers

The next stop for this debate is usually the halls of Congress and the judiciary, where these decisions are thoroughly scrutinized. Time and again I have heard my colleagues say, "What I really want is the use of sound science at the EPA." Time and again I have seen court decisions overturn a regulation because it did not have a proper scientific foundation. That science is not infused throughout EPA's regulatory process becomes a credible argument to wage both just and unjust legislative and legal battles over EPA action or inaction. Members of Congress and the judiciary do not have confidence that the agency uses science appropriately in its decisions. Science should not be used as a cudgel to win a battle, or as an afterthought to the regulatory process; rather it should serve as a decision's foundation.

Congressional and judicial doubt about EPA's process is borne out of both right and wrong motivations. However, it is not unfounded. Several independent reviews commissioned by Congress and EPA have concluded that there are significant problems with how science is used within the agency's decisionmaking structure. It is worth noting that these studies, for the most part, did not quarrel over the quality of the scientific research at EPA, but how it is used as proposed regulations move through the agency's bureaucracy.

In 2000, the National Academy of Sciences concluded a series of four reports collectively titled *Strengthening Science at the U.S. Environmental Protection Agency*. The NAS reviewed how science was conducted at EPA and incorporated into the regulatory decisionmaking process. The report concluded that while the use of sound science is one of the agency's avowed major goals, both intramural and extramural science should be more fully integrated into its management and decisionmaking structure.

The NAS concluded with this important statement: "The importance of science in EPA decisionmaking process should be no less than that afforded to legal considerations. Just as the advice of the agency's general counsel is relied upon by the administrator to determine whether a proposed action is legal, an appropriately qualified and adequately empowered scientific official is needed to attest to the administrator and the nation that the proposed action is scientific."

In a 1998 science policy report, approved by the House Science Committee and the full House, titled *Unlocking our Future: Toward a New National Science Policy Study*, I had reached similar conclusions about the use of science in decisionmaking — that science should not be used as a mere adjunct to the regulatory system; rather, it should be used at the beginning, middle, and end of an agency's decisionmaking process — and about its proper place in an agency's bureaucracy.

I introduced H.R. 64, The Strengthening Science at the Environmental Protection Agency Act, to capture the two primary recommendations of the NAS report and meet the goal I laid out in the science policy report. First, the legislation would establish a new Deputy Administrator for Science and Technology to serve as an advocate for and reviewer of science at the most senior levels of the agency. Second, the legislation would convert the position of the Assistant Administrator of the Office of Research and Development to a set term and give that position the title of the agency's Chief Scientist.

The Deputy Administrator position will bring a much needed change to the culture of the EPA and ensure that science has a higher profile in the agency's decisionmaking process. This person would not only be accountable to the administrator for improving and overseeing science at the agency, but would also be accountable to Congress. This relationship would bolster Congress's confidence in the appropriate role of science at EPA, and therefore in regulatory decisions.

The Deputy Administrator is also needed to coordinate research between the regulatory and scientific arms of the agency. A common problem with trying to ensure that science is involved throughout the regulatory process is that the head of the scientific arm of the agency, the Assistant Administrator for ORD, shares the same rank as the heads of the regulatory offices. The authors of the NAS report argued that since the new Deputy would rank higher than the existing AAs, this person could foster research relationships between ORD and the regulatory offices.

Furthermore, the Deputy Administrator could develop and oversee an agency-wide inventory of scientific activities. Various efforts to do this inventory have all died after fits and starts because there is no central science policy authority to administer this work. The Deputy Administrator would have the appropriate authority to ensure that the best possible peer-review and research-plan-

ning practices are used for all of the agency's scientific endeavors.

While the first recommendation of the legislation and the academy report is intended to increase the political clout that science has at the agency, the second recommendation, to establish a set term for the AA of ORD, seeks to decrease political pressures on this office. The report notes, "Although the political aspect of the Assistant Administrator's job often receives considerable attention, the most important aspects of the job are not political." Since the Deputy Administrator could bear many of the political pressures inside the agency, the AA for ORD could refocus on his or her role as the agency's Chief Scientist and running a world-class scientific organization.

The tenure of an AA for ORD averages two to three years and is typically a lower priority appointment in new administrations. Under the current political appointment model, this position changes at least as often as the administration changes. The NAS noted that frequently changing goals, priorities, practices, structure, or funding are particularly disruptive to research organizations because of the long-term nature of research activities. Research endeavors cannot be easily stopped and then started again without significantly hurting productivity. A longer tenure for the AA would help insulate the office during changes in the administration, thereby providing more continuity for research conducted at the agency.

The NAS report captured the challenge that EPA's science mission faces in the future and the need to strengthen science at the agency by saying, "In the three decades since the U.S. Environmental Protection Agency was created, great progress has been achieved in cleaning the nation's worst and most obvious environmental pollution problems. Belching smokestacks and raw-sewage discharges are now scarce, and air pollution alerts and beach closings are more rare. EPA deserves a significant share of the credit for the accomplishments, but some of the most difficult and challenging tasks remain. Many past illusions about simple and easy solutions to environmental problems have been replaced by greater realization that environmental protection is a complicated and challenging mission." It is time that Congress and EPA rise up to meet this challenge by passing and implementing the provisions of H.R. 64.

Vernon Ehlers (R-Michigan) is Chairman of the House Science Subcommittee on Environment, Technology, and Standards.

cology of common chemicals, EPA must act in advance of definitive scientific evidence in order to fulfill its statutory mandate to protect human health. If scientific evidence is called upon to resolve policy disputes where definitive answers are unavailable, science will lose the unique value it has to policymakers, converting the interpretations of scientific findings into an exercise in advocacy rather than an ongoing quest for truth.

Since such a broad and authoritative range of policymakers, over the course of several decades, have recognized that scientific uncertainty is inevitable, why is it so difficult to resolve the equally inevitable question of how much uncertainty is too much? Recent developments suggest that regulated industries use routine scientific data gaps opportunistically, by insisting that until EPA has "better science," it should not act. The infamous case of how much arsenic should be allowed in drinking water illustrates this phenomenon perfectly. In 1996, a unanimous Congress told EPA to change the 50-year-old standard that scientists conceded was not adequate to protect public health. The agency's in-house scientists worked diligently over a period of several years, supplemented with expert panels convened by the National Academy of Sciences. EPA conducted an exhaustive rulemaking that gave affected constituencies ample time to submit information. Cumulatively, the research demonstrated that EPA should lower the standard dramatically to avoid unacceptable adverse health effects, although the scientists could not reach a consensus on the appropriate numerical level. As is usually the case, there was no science that indicated precisely when exposure levels stop being "safe."

Operating competently in the face of remaining uncertainties, EPA Administrator Carol Browner was close to making a new standard final late in the Clinton administration when congressional appropriators invoked the specter of incomplete — and therefore "bad" — science in order to delay promulgation of the rule into the new administration. Browner nonetheless published the standard as final right before George W. Bush took office as president. Then, as the appropriators and their allies, mining interests and drinking water system operators in the West, had hoped, Whitman moved to delay the rule's effective date, declaring that she wanted to review the adequacy of the underlying science. Subsequently confronted

with consistent support from NAS experts for an even tougher standard, Whitman ultimately was forced to reverse her decision and allow the promulgated standard to go into effect. The arsenic episode is a powerful example of how, even when the National Academy of Sciences concludes that there is sufficient basis to lower allowed exposures to a toxic chemical, enough is never enough for those whose true intent is to hold back government intervention to protect public health.

Scientists are comfortable with data gaps and uncertainties. They view them not as "problems" but as future research agendas. It is policymakers who are plagued by these realities because they must make decisions in the face of uncertainty or stop trying to protect public health until some indefinite, far-off day. As the arsenic example reveals, the call for "more science" heard in the halls of Congress and from regulated industries often serves as nothing more than a ruse for indefinite delay on a rule, sometimes for decades. Given the political muscle of those who have mounted this campaign, scientists watching these developments from the sidelines would do well to take note: the fruitless quests for more and more definitive evidence from environmental policymakers unwilling to suffer political consequences for restricting pollution will inevitably make scientists the whipping boys for the consequences of regulatory gridlock. Unless we recognize that "science" cannot determine all that EPA is required by law to do, the agency will never have the breathing room it needs to craft wise policy.

Congress and EPA administrators have long recognized that, as required by its core statutes, the agency must act in the face of uncertainty to achieve its mission

As important as the issue of what role science can and should play at EPA is the issue of the fundamental principles that should govern the agency's on-going scientific deliberations. In this long-overlooked area, we have found problems that would shock most traditional, academic scientists. The remainder of this article is devoted to demonstrating our case that too much of the science used by EPA is intrinsically unsound, straying far from the principles that have long served as the ground rules of the discipline. Too often, EPA deems scientific evidence supporting more rigorous standards to be marginal and more readily accepts research suggesting that standards can be loosened. We begin with a review of the principles that define *truly* sound science and then apply those standards to the recent vinyl chloride and dioxin reassessments.

Science enjoys a unique reputation as an objective and dispassionate human endeavor. Because we consider it to be inherently unbiased, science is accorded a privileged role in deliberations about the organization of human affairs. Unlike many other human endeavors, scientists preserve the integrity of the scientific process exclusively through self-regulation. Although there are isolated examples of outside, lay investigations challenging the credibility of scientific research, the repetition of experiments by fellow scientists and objective peer review are the routine methods for uncovering mistakes and assessing when progress in understanding a topic has been made.

For centuries, scientists have engaged in their search for the truth by circulating the results of original research among their colleagues, first for informal discussion and then for formal, outside peer review. Colleagues first repeat work accomplished by others and then extend the experiments into additional areas. By exposing all of the underlying elements of one's work to inspection by dispassionate peers, and revealing details sufficient to replicate results, researchers build on others' successes and avoid others' failures.

The transparency of results and the impartiality of conclusions derived from those results are the indispensable foundation of science. Peer review and replication are the only reliable methods to ensure that experiments are conducted in a scientifically appropriate manner and that the results and conclusions presented by the researchers are supportable by the data generated. The peer-

review process is often challenging and difficult. But without it, results and conclusions cannot be accepted as valid.

The public trust in science depends on its unique reputation for objectivity. Scientists are expected to have opinions, but are also expected to resist bias. They are expected to reach careful conclusions and limit their conclusions to those supported by data. Or, to put this central principle more crassly, a scientist's quest for the truth and expression of opinion at the end of the quest should not be for sale or subject to control by self-interested sponsors, supervisors, the government, or any other entity with control over the scientist's career. Once financial considerations and legal constraints interfere with a quest for scientific truth, the public trust is broken, and science loses its power and authority.

Unfortunately, funding for the replication of experimental results and peer review of scientific research is most abundant in the context of topics that have captured public attention or, to put it another way, where the results of the research are of widespread economic or social importance. Claims that a scientific team had created cold fusion were immediately dissected because of the potentially monumental implications of such a discovery on the world's need for safer and cheaper energy. Similarly, discovery of a wonder drug to treat such widespread ailments as diabetes or stroke would inspire careful and extensive inspection — by the discoverer's competitors, potential allies, the larger medical community, and the government.

If scientific evidence is called upon to resolve policy disputes where definitive answers are unavailable, science will lose the unique value it has to policymakers

In a modern world overwhelmed by information and disinformation, extensive peer review or replication of certain other types of scientific findings is difficult to instigate, especially in the private sector. So, for example, efforts by a chemical manufacturer to prove that a given substance is not as toxic as EPA had originally assumed are unlikely to be scrutinized, much less validated, by other private sector scientists. Competitors have a low interest in refuting such results because they typically manufacture the same chemical and like the way the results came out. Only producers of an arguably safer alternative have an economic incentive to second-guess, and they would likely place a higher priority on testing their own compounds.

For better or worse, these economic incentives mean that the government must play an active, rigorous role in reviewing and challenging scientific research developed by self-interested private parties. The National Academy of Sciences, the National Institutes of Health, and the Centers for Disease Control, to name just a few, have erected infrastructures of in-house scientists and external peer-review panels to undertake these functions. Unfortunately, these outside institutions have limited resources and too rarely are able to double check EPA's work.

Science at EPA supports decisionmaking through two main activities. In-house scientists assigned to the Office of Research and Development analyze the outside studies that are relevant to the issues at stake. They maintain the Integrated Risk Information System, or IRIS, an internationally influential compendium of "toxicological profiles" that describe the characteristics of specific chemicals and set quantitative levels for safe exposures to them. Our case studies involve reassessments of long-standing toxicological profiles. The second activity is peer review, performed by panels of outside experts convened by the EPA Science Advisory Board and several other, smaller boards, such as the Science Advisory Panel, which focuses on pesticides. The SAB receives inquiries from agency staff working on regulatory issues and responds with advice based on its assessments of relevant scientific research. Our dioxin case study concerns an SAB peer review.

Many of EPA's in-house scientists and SAB experts serve the agency and the public with distinction, laboring diligently to produce informative and dispassionate science to guide policymaking. Too often, however,

both enterprises flout the fundamental precepts of scientific research: first, the disclosure of methods, data, and calculations sufficient for appropriate experts to review the work or evaluate whether the conclusions reached were adequately supported by the study's findings and, second, conducting peer-review that is free of conflicts of interest.

Even a cursory look at the science EPA has practiced over the past decade shows that it has strayed far from the mandates of transparency and impartiality. Much of the science that EPA uses as a basis for decisions with far-reaching implications for public health is not peer-reviewed, and it is often based on confidential information or analysis. As a result, it would not be considered credible by disinterested researchers.

At the root of this crisis in credibility is the dominance of industry funding as the source of support for environmental health research. The vast majority of research on the toxicological properties of common chemicals occurs outside of the government (or sometimes in other agencies). EPA's toxicological profiles are based on this outside work. Corporate sponsorship does not, in and of itself, render such research invalid. But it does unquestionably put industry in the driver's seat for both the pace and focus of data development to support EPA rulemaking. More insidiously, it also puts industry in charge of deciding what information it would like to disclose and what analyses it would like to do, presenting ample opportunities for industry-funded researchers to keep underlying data and discrepancies confidential and to make strategic decisions as to whether to submit research studies for EPA's consideration.

Vinyl chloride is notorious for causing liver cancer among workers handling it. Studies have also linked vinyl chloride to a number of other cancers, including brain cancer

For several decades, the scientific community has achieved a rare consensus that three substances — lead, asbestos, and vinyl chloride — are not just extraordinarily toxic but produce well-characterized consequences of exposure, known colloquially as "fingerprint diseases." Vinyl chloride, a volatile industrial chemical used since the 1930s to make plastics, is notorious for causing a rare and serious tumor, angiosarcoma of the liver, primarily among workers manufacturing and handling the compound. Studies have also linked vinyl chloride to a number of other cancers, including brain cancer.

In 1975, following a series of animal and epidemiological studies demonstrating the chemical's hazards, the Occupational Safety and Health Administration used the evidence on liver cancer as the basis for tough regulations limiting workplace exposure. These regulations resulted in sharp reductions in the prevalence of the chemical in the workplace and, as a result, the environment.

So it was a surprise when, in May 2000, EPA completed a 20-fold downgrading of the toxicological profile for vinyl chloride. EPA's decision to review vinyl chloride's toxicity was especially startling because the OSHA regulations, among other factors, have had their desired effect. At the same time that worker exposures have plummeted in the last decade and public exposure to the chemical has been minimal, industry has been able to continue using it, producing such goods as upholstery and waterpipes from its polymerized form. Given the demonstrated benefits of the regulations to both workers and industry, and the greatly lowered risk to the public, vinyl chloride should be off the list of chemicals requiring toxicological review, leaving the agency free to pursue more prevalent, less understood chemicals.

The decision to revisit the well-trodden ground of vinyl chloride toxicity appears especially irrational because EPA has faced extensive criticism for failing to assess the toxicity of many other chemicals produced and used in large amounts annually. EPA has *no* toxicity information on 43 percent of the nearly 3,000 organic chemicals produced or imported in amounts above one million pounds annually, and a full set of basic toxicity information is available for only 7 percent. Toxicological studies of these chemicals should be its overriding priority.

Further, little new technical information on vinyl chloride's toxicity has become available since the agency's last review of the chemical, in 1994. Instead, EPA staff based the reassessment on animal studies completed in 1991 and earlier. Only one unpublished epidemiological study update was new, and it reached conclusions similar to previous analyses.

Although no changes in existing regulations were made when EPA made its decision, the revised characterization of the hazards posed by vinyl chloride exposure will prove very valuable to manufacturers of the chemical now engaged in toxic tort litigation with workers who contracted brain cancer following exposure on the job, as well as companies still facing liability at Superfund sites contaminated by the chemical. (Vinyl chloride has been found at one-third of the sites on the National Priorities List.) The decision will have these effects because EPA's toxicological profiles play the crucial role of informing regulatory and judicial decisions — not just domestically but internationally. Regretfully, given the potential implications of this change, the details of EPA's reevaluation of the science reveal biased technical judgment that resulted in poor selection of evidence practices and disproportionate reliance on information generated by self-interested parties.

OSHA regulation of vinyl chloride has worked. So it was a surprise when, in May 2000, EPA completed a 20-fold downgrading of the chemical's toxicological profile

EPA made two fundamentally flawed decisions in justifying the downgrade. First, the agency decided to confine its reassessment to statistically significant liver tumors, ignoring the various other cancers that frequently appear in both animal and epidemiological reports. Second, although the reassessment continued to rely on animal data, EPA decided to abandon certain default "safety factors" it has historically used when applying animal data to humans. Instead, the agency relied on a newly developed, "pharmacokinetic" model designed to predict an internal concentration of vinyl chloride in the human body.

Epidemiological studies of vinyl chloride workers have generally reported the occurrence of many cancers besides liver angiosarcomas, including cancer in the lung, lymphatic and blood tissue, and the brain, with the last of particular concern. Richard Monson first found an excess of brain cancers in his study of Swedish workers in 1974, as did Irving Tabershaw and William Gaffey in 1974 and Richard Waxweiler in 1976. In 1981, W. Clark Cooper enlarged the Tabershaw and Gaffey study and found statistically significant increases in brain and central nervous system malignancies. In a 1991 update of the Cooper study, Otto Wong confirmed statistically significant brain cancers. The evidence concerning brain cancers is sufficiently convincing that in 1989 the Vinyl Institute, an industry-funded advocacy group, acknowledged brain tumors as a valid concern in a letter to the California Air Resources Board: "For brain cancer, three out of five studies demonstrate statistically significant findings, although the results were somewhat variable. Positive findings occurred in studies with the greatest statistical power."

Written correspondence included in the EPA docket on vinyl chloride reveals that the Chemical Manufacturers Association, the trade association that recently was renamed the American Chemistry Council, became quite upset with Wong for publishing his positive results on brain tumors without first submitting the study to its scientists for review. Wong did the work under a research contract with CMA that apparently included a "prior review" clause giving it the right to comment before publication.

In what was likely a response to the trouble that the Wong update caused industrial users of vinyl chloride, CMA commissioned yet another study of the same worker cohort, updating some data post-Wong but also re-analyzing some of Wong's data in a way that raised questions about his conclusions. This study was never published in a peer-reviewed journal, but it was submitted to EPA

and became a primary basis for its 2000 reassessment.

In justifying its decision to focus exclusively on liver cancer in recalculating the vinyl chloride potency factor, EPA cites this unpublished work, as well as two peer-reviewed research review articles. The unpublished CMA study was not, by itself, a sufficient basis for EPA to eliminate brain cancers from its list of concerns. To the contrary, this study also reported statistically significant incidences of brain cancers.

As for the two articles reviewing available research (as opposed to reporting the results of original research), the first was written by Sir Richard Doll in 1988, two years before the publication of the Wong study. Without the benefit of the Wong or subsequent epidemiological updates of vinyl chloride workers, Doll had raised questions about the strength of the data supporting brain tumors, but had concluded with the relatively mild statement: "There is too little evidence either to confirm or refute the suggestion that vinyl chloride might cause melanoma or cancers of the thyroid, brain, and lymphatic and hematopoietic systems." This equivocal conclusion from an outdated paper hardly provided a reliable basis for ignoring the numerous studies in EPA's decisionmaking docket that found statistically significant incidences of brain tumors. Indeed, Doll has cautioned against using epidemiological results to dismiss chemical hazards in this and other publications.

The other cited research review article was authored by Jan Storm and Karl Rozman in 1997, but it does not address the issue of brain or other tumors caused by vinyl chloride exposure. Rather, the paper compares various risk assessment extrapolation models used and proposed by EPA. Given the weakness of Doll's conclusion, and the inappropriateness of the Storm and Rozman citation, EPA is left without evidence to support its decision to limit its reassessment of vinyl chloride's carcinogenicity only to tumors of the liver.

In justifying its downgrade of vinyl chloride, EPA cites an unpublished, review and two reviews of technical literature, one outdated, the other irrelevant

EPA's second technical misstep was the decision to abandon the conventional approach used to apply animal data to likely human health effects. When scientists conduct animal studies, they expose the animals to increasing doses of a chemical, and then perform an autopsy on the animal to see how many tumors were generated at each dose. Because chemicals may take a different course within the bodies of rats, mice, and other creatures than they do in the human body, and may be metabolized at different rates, animal studies using traditional dose measurements can either overstate or understate the consequences of comparable human exposures. Up until recently, the best way to eliminate such uncertainties would be — hypothetically, that is — to intentionally expose people to different amounts of a chemical and then track the "fate and transport" of the chemicals within their bodies by drawing samples, taking biopsies of organs, etc. Such studies should be unthinkable for obvious reasons.

Pharmacokinetic models are an emerging, as yet experimental, alternative method designed to bridge this gap. Such models estimate internal concentrations within the human body by using a computer program to predict how fast the chemical is absorbed in the bloodstream, whether it reaches the brain, etc. The models then derive an "effective" dose for a given organ over the time that the human body metabolizes the chemical. If doses of vinyl chloride at X levels caused Y incidences of tumors in rats, but pharmacokinetic models show that humans metabolize the chemical more effectively than rats, and therefore experience lower internal concentrations, the model provides support for downgrading estimates of the chemical's carcinogenic effects on people.

The catch here is that pharmacokinetic models are at the cutting edge of the already highly uncertain science of environmental modeling as a whole. It is certainly true that reputable scientists are working to refine

such models in order to better predict effects of exposure. It is also likely that, once they are developed, such models should allow us to better understand the correlation between internal concentrations of toxic compounds and adverse health effects. But at this point in the evolution of scientific understanding, these models cannot be validated with respect to exposures at environmentally realistic concentrations. This uncertainty means that pharmacokinetic modeling unquestionably does not put EPA in a position to remove default safety factors.

Mindful of these concerns, when EPA staff considered the application of pharmacokinetic models in a proposed reassessment of the toxicological profile of trichloroethylene, they made a concerted effort to compare several versions of the models, as well as to quantify the level of uncertainties in each model's estimates of liver, lung, and kidney tumors in response to the modeled doses. This analysis quantified uncertainties so huge (as high as 20,000-fold) that EPA staff insisted on continuing to apply default safety factors, thereby sharply curtailing their reliance on any of the models. This carefully qualified application of an emerging scientific methodology stands in stark contrast to the wholesale reliance on pharmacokinetic modeling results in the context of the vinyl chloride reassessment. Such extraordinarily high rates of uncertainty raises obvious concerns about modeling accuracy, as well as concerns about "model shopping" by researchers trying to find a model that gives a desired outcome rather than one that predicts outcomes accurately.

The agency removed default safety factors in applying animal data by relying on an unproven computer program designed to model how a chemical behaves in the human body

The general problems of pharmacokinetic models are severely compounded in the case of vinyl chloride by EPA's decision to confine its consideration of modeling to a single version developed by Harvey J. Clewell. The Clewell model was not validated for exposures that occur routinely in the environment. It thus could not and was not validated for its intended purpose — to accurately predict effects in humans. The inadequate verification of the Clewell model makes it a very poor policy choice as a basis for the reevaluation of vinyl chloride toxicity. Furthermore, the Clewell model was confined to liver tumors, ignoring all the other tumors of concern. Using such a limited model to justify dropping safety factors for cancers other than liver cancer added insult to injury.

The fatal blow to the technical credibility of EPA's vinyl chloride decision is that industry scientists drafted the final decision-making document. The revised toxicological profile, known formally as the 2001 Vinyl Chloride Toxicological Review, is known in the world of science as a "technical review paper," consisting of a literature collection, analysis, and interpretation. Vinyl chloride is but the first of four chemicals where industry is drafting the review. (The others are styrene, ethylene oxide, and toxaphene.)

In the scientific community, it is widely understood that technical reviews, like similar efforts in other disciplines, are heavily influenced by an author's subjective judgment regarding such issues as which studies to include, which studies to declare flawed or irrelevant, and which methodologies to favor. The danger of tainting a technical review with the unrestrained bias of its author provoked the prestigious *New England Journal of Medicine* to prohibit "editorialists and authors of review articles" from having "*any* financial connection with a company that benefits" from the subject of the article. The *Journal's* decision was announced in a lengthy editorial published in 1996 expressing mortification about its earlier publication of such a paper authored by two industry experts with obvious, but undisclosed, conflicts of interest.

In theory, EPA's Science Advisory Board is where the buck stops on bad scientific practice within the agency, serving as a safety net to protect against the types of abuses that run rampant when the generation of scientific evidence and the

selection of salient research are both determined by industry. In reality, the SAB suffers from many of the same weaknesses that were manifest at the staff level in the vinyl chloride reassessment. Too often, the SAB operates in a context where self-interested research dominates the agenda of the outside experts recruited for peer review. The seriousness of these problems is exacerbated when studies important to EPA, such as those specifically delineating the potency of a certain carcinogen, have not been published in a peer-reviewed journal and therefore were never subject to an objective evaluation by a disinterested party.

Last June, a General Accounting Office report evaluating the SAB review process found that "to be effective, peer-review panels must be . . . free of any significant conflict of interest and uncompromised by bias." In the report, "EPA's Science Advisory Panels: Improved Policies and Procedures Needed to Ensure Independence and Balance," GAO auditors examined the procedures employed by SAB staff to ensure panel effectiveness. GAO found that, despite the requirements of the Federal Advisory Committee Act, agency staff often failed to obtain conflict of interest disclosures from candidates and that EPA did not have either the information or processes in place that would preclude the appointment of panelists with direct conflicts of interest. The result of these omissions is the appointment of too many panels disproportionately influenced by industry experts motivated to clear chemicals of prior findings of toxicity. Many SAB panels escape this fate, but enough suffer from these ethical lapses to undermine the credibility of the entire EPA peer-review process.

After a decade of research pursuing claims that dioxin is not as toxic as initially thought, agency staff concluded that the chemical is in fact more toxic than original estimates

One example of these problems is EPA's star-crossed effort to strengthen public health standards for arsenic in drinking water, mentioned earlier. An SAB review panel took on no less an entity than the NAS arsenic panel. NAS experts typically spend two or more years reviewing available science on an issue, and this particular panel had clearly mastered the data before it recommended tightening the standard. In contrast, SAB panels too often make recommendations within a period of a few months and with many fewer world-renowned experts. Only after an additional NAS panel took the SAB panelists to task for flaws in its analysis did the SAB panel back off its contention that EPA's in-house scientists had erred. Although this episode had a happy ending, the SAB arsenic toxicity panel was part of the problem, not the solution, of this contentious public health debate.

But perhaps the best case study of the weaknesses that increasingly overwhelm the SAB is its participation in the reassessment of dioxin, which is released by incineration of chlorinated materials and also by paper bleaching. Starting in 1990, EPA staff spent a decade pursuing claims that dioxin was not as toxic as initially thought, producing a final report consisting of several thousand pages that concluded the opposite: that dioxin is even more toxic than the agency's original estimates. But an SAB panel appointed to peer review a draft of the study concluded in 2001 that in-house scientists had exaggerated the risks posed by exposure to the chemical. These assertions not only challenged the competence of the EPA staff who wrote the report, they erected a barrier to its release. During the public outcry that followed, it emerged that a large number of panel members had worked for — or received funding from — industries with a clear financial stake in the outcome of the deliberations.

For example, John Graham, a political scientist appointed to the panel, served as director of the Harvard Center of Risk Analysis, which receives extensive funding from companies facing liability for dioxin contamination of the environment. (Graham now serves as head of the White House's Office of Information and Regulatory Affairs, which evaluates the

costs and benefits of rules before they are published as final. The Natural Resources Defense Council opposed his nomination.) Appointment of a second panelist, Dennis Paustenbach, was questioned for similar reasons. Research by the Center for Health and Environmental Justice found that fully a third of the panel members received organizational support from 91 dioxin-producing companies. As a result, members of Congress accused EPA of setting up a panel dominated by industry bias. Witnesses at the public hearing on the results of the SAB peer review repeated these charges, questioning the credibility and the integrity of the panel.

Yet the clear appearance — and likely existence — of impropriety is only a threshold conclusion that should prompt further investigation. Regardless of the panelists' links to self-interested industries, the crucial point is the soundness of the SAB's assertion that EPA staff did not consider alternative scientific theories about dioxin's toxicity and, as a result, overstated the degree of scientific certainty regarding the overall toxicity of the compound. Stung by these attacks, William Farland, the acting deputy assistant administration in charge of the reassessment, took the unusual step of entering the fray. In defending the agency's work, Farland provided the SAB's Executive Committee, which must ratify all SAB panel reports, with nine pages of blistering comments on the panel's draft. He said that the review contained "numerous errors or distortions of fact" and that its major conclusions "defied logic." He added that the panel's report was internally inconsistent with the discussion of the science held in open session at prior review meetings; was inconsistent with advice provided by SAB panels on earlier versions of the reassessment; and was inconsistent with EPA's general risk assessment procedures.

Farland was particularly critical of the SAB's review of the dioxin risk assessment methodology, asserting that the panel had a poor understanding of both EPA guidance on risk assessment and the research available on dioxin. For example, the panel had questioned whether a "linear dose response curve" for cancer was warranted because there is some evidence that dioxin is a promoter of the disease, rather than an initiator. A linear dose response curve is a line that runs all the way down to a dose of zero. It is used when evidence is inconclusive as to whether there is a threshold dose below which exposure does not cause cancer. In the interest of safety, where data are inconclusive, a linear curve assumes that any dose — no matter how small — will lead to an adverse health effect.

The SAB attacked the staff report. It said that dioxin does not initiate cancer but promotes existing cancers. And it said that low doses of dioxin might actually be beneficial

The SAB panel argued that exposure to dioxin exacerbates the growth of cancerous cells that have already begun to grow in the body as a result of another cause, but does not itself initiate the cancer. In other words, there is a threshold, the panel said, below which dioxin exposure is unimportant because some other factor is causing the disease. The panel further complained that use of a nonlinear model would have resulted in a significant downgrade of the chemical's overall toxicological profile because it would have shown that small doses of the chemical are not harmful. "Belief is one thing," Farland responded, "data is another." EPA policy commands the use of a linear model when use of alternative models cannot be justified from the available data, as was the case here. There were neither data nor policy justifications to diverge from a linear default model for dioxin's cancer effects.

Similarly, Farland was incredulous that the SAB panel gave credence to the possibility that very low doses of dioxin were actually beneficial, resulting in decreases in cancer rates. The panel had urged EPA to give this counter-intuitive possibility additional scrutiny. However, EPA's extensive data showed that dioxin could cause adverse health effects at the relatively low levels that already occur in the general population. Farland pointed out that animal data are unequivocal on this point and that human data, though limited, are also compelling.

Ultimately, the controversy triggered by the panel's report on dioxin compelled the SAB Executive Committee to substantially rewrite the summary and conclusions of the report, producing a credible outcome — but illustrating the perils of lax ethical rules in lower-profile proceedings. Recognizing that this incident and the GAO report threatened the credibility of the SAB itself, the Executive Committee agreed to set up a subcommittee that will recommend reform of SAB policies and procedures on bias and conflict of interest.

As it crafts these policy and procedural guidelines for release later this year, the SAB will undoubtedly consider the approach taken by 12 medical journals that have faced equally serious challenges to their reputations as sources of credible life science in the context of pharmacology, a discipline that is the genesis of environmental toxicology. The crisis in the medical community started simmering in 1988 when the Boots Company, a British pharmaceutical manufacturer, hired Betty Dong, a researcher at the University of California in San Francisco, to do a research study designed to demonstrate the superiority of the company's bestselling thyroid medication, Synthroid, in comparison to generic versions. With Synthroid sales in the $600 million range in the United States alone, Boots had a large stake in demonstrating that generic versions are not "bioequivalent," and therefore should not be substituted for its name brand. To Boots's horror, the study found that the generics were in fact bioequivalent. The company then spent four years working to discredit the research, raising a litany of technical objections to its protocols and their implementation. Despite this campaign, extensive investigation upheld the soundness of the study.

The agency must reserve for its staff the sensitive task of writing toxicological profiles and should never again delegate such work to self-interested industry scientists

In 1994, in the midst of this maneuvering, Dong submitted an article based on the study to the *New England Journal of Medicine*. The article, accepted for publication following peer review by five outside experts, explained that the finding of bioequivalence meant U.S. health care costs could be cut by $356 million annually if patients substituted generic medications. The company immediately threatened to sue Dong, citing a provision in her research contract that required her to obtain the company's written consent before publishing. The University of California began to waver in its support, and Dong pulled the piece, triggering an intense investigation by the publication.

The *Journal* finally published the article in 1997, along with an article reporting that in a survey of 2,100 life science researchers, nearly 20 percent reported having delayed the publication of research results for more than six months. Of the 410 researchers willing to report such delays, 28 percent said the reason was "to slow dissemination of undesired results." A subsequent Carnegie Mellon University canvass of contracts at university-sponsored research centers found that 35 percent of signed agreements allowed sponsors the right to delete information from publication; 53 percent allowed publication to be delayed; and 30 percent allowed both. To medical journal editors, these troubling findings were the unavoidable byproduct of sharp increases in industry funding and increased blending of business interests and science at both the individual researcher and university levels.

What are the implications of this all-pervasive industry funding of university research? In a recent article published in *Risk Policy Report*, David Clarke, a longtime observer of the controversies involved in toxic regulation who now participates in the sound science debate on behalf of the American Chemistry Council, argued that the simple fact that a study is funded by industry does not mean that it is wrong, or even biased. Regardless of whether you accept this counter-intuitive argument that money does

not buy influence, it is certainly true that industry-sponsored research will remain the primary source of information on toxics for the foreseeable future and that effective reform must be premised on that fact.

Empirical studies have documented the correlation between funding and results. For instance, one analysis found that 98 percent of industry-funded research reported positively on the efficacy of specific drugs, versus 79 percent of independent research. Because we cannot eliminate our dependence on such research, but suspect that funding may affect the outcome, all the other checks and balances — from disclosure of funding sources to peer review — become all the more important.

Last September, in reaction to stories and statistics like these, the editors of the world's leading medical journals announced that they would no longer "review or publish articles based on studies that are conducted under conditions that allow the sponsor to have sole control of the data or to withhold publication." The editors promised to release detailed guidelines on this prohibition, and on their intention to require authors to disclose conflicts of interest related to a study, in early 2002. "I am not against pharmaceutical companies," Catherine DeAngelis, editor of the *Journal of the American Medical Association*, told the *Washington Post*. "What I object to is the use of my journal as an advertisement mechanism rather than a vehicle for the distribution of sound medical science."

The journals' new policy is expected to have a profound effect on the way medical research is funded and conducted. The journals are crucial to the dissemination of pharmaceutical research among the practicing physicians who serve as purchasing agents for all prescription drug sales. Television and print advertising are poor seconds to the influence they wield. Although these same reforms are necessary in the arena of environmental research, they may prove much harder to accomplish, especially given the fundamentally different economic incentives at work in investigations of the toxicological properties of common chemicals. In too many cases, chemical manufacturers have powerful incentives *not* to know whether their products are toxic; ignorance may help them sidestep liability and increased regulation. Unlike medicine, where publicizing efficacy is the quid pro quo for selling drugs, documenting the possible consequences of chemical exposure can only have a negative impact on sales. In fact, the only kind of scientific inquiry with potentially substantial financial benefits is research that exonerates chemicals — such as the two examples featured in our case studies.

EPA should establish a peer review process that eliminates panelists with actual or potential conflicts of interest and balances competing scientific views

As Wong's experience with the American Chemistry Council shows, the corporate funders of investigations into chemical toxicity, like the pharmaceutical companies, impose restrictive arrangements on their grantees. Given the dearth of government funding for such basic research, and the fact that it is unlikely to bring prestige to any truly independent research institution, these restrictions are likely to persist in the absence of strong action by EPA and other regulatory agencies.

Six categories of reform are needed to restore the credibility of science at EPA. First, the agency must focus on encouraging research that will close the gap in our understanding of the toxicity of common chemicals, rather than spending scarce resources on efforts to exonerate chemicals with a proven track record. Second, EPA must refuse to consider, in any context, the results of research that does not satisfy the central tenets of sound science: full disclosure of underlying data and no sponsor interference with the design of the study or release of results. As with the medical journals, EPA should disclose the sponsor of the research for all the key articles it relies upon for its decisionmak-

ing. Third, EPA must establish a peer review process that eliminates panelists with actual or potential conflicts of interest. Given the problems reported by the medical journals, it cannot rely exclusively on peer review by others, even peer-reviewed articles that have been published. Fourth, since many scientists are biased in the sense that they have strong opinions, peer-review panels must be balanced with regards to scientific view. To achieve the crucial objective of preventing the domination of peer review by one or another self-interested constituency, EPA must conduct expanded recruitment of experts who have no conflicts and represent a full range of scientific view. Fifth, EPA must reserve for its staff the sensitive task of writing toxicological profiles and should never again delegate such work to self-interested industry scientists. Last, increased government funding for basic research would go a long way toward making the first five reforms possible.

To implement the first reform, EPA scientists should make it their overriding priority to compile a research agenda based on such factors as the prevalence of a chemical in commerce and in the environment; the seriousness of its suspected adverse health or environmental effects; and the state of our ignorance of the chemical's toxicological properties. Once a list of priorities is developed, and the expense of further research can be estimated more accurately, the agency will be in the position to convince the executive branch and affected industries that further research is urgent.

Ending any consideration of studies that breach core principles of research ethics is the easiest reform to implement, and is most akin to the joint policy statement announced by the world's leading medical journals. Indeed, it is hard to imagine anyone arguing the converse of this proposition: namely, that EPA staff should rely on research findings to revise regulatory requirements even when they have never seen the underlying data that supports those conclusions. This principle is particularly important in the context of studies funded by entities with a financial stake in the regulatory decisions that the studies ostensibly inform, although it should by rights apply across the board to any piece of scientific evidence offered for EPA's consideration. It is worth noting that the government gives agencies specific powers in this regard for studies that they fund. Office of Management and Budget Circular A-110 specifies that an agency is entitled to unrestricted access to grantees' records related to the award, including research data. To accomplish this reform, EPA should require that authors of studies submitted for its consideration sign comprehensive statements regarding their funding sources and the limits imposed by their research contracts. EPA should publicize the sources of funding for each major study it relies upon for its decisions.

As for the troubled peer-review process, EPA should not recruit candidates with actual or potential conflicts of interest to serve on SAB advisory committees (including subcommittees) or any other panel of scientific experts convened to provide EPA with advice. Conflicts of interest should encompass any financial interest that would impair the individual's objectivity, including such characteristics as stock ownership or employment by an organization with a direct financial interest in the outcome of the review, such as the award of research grants. If the prohibition on nominees with conflicts of interest makes it impossible to convene a panel consisting of members with sufficient expertise to give EPA the advice it is seeking, the administrator should waive such conflicts in written, individualized determinations subject to public review. EPA may include candidates with actual or potential bias regarding the issues to be addressed by the panel, provided that the panel's overall membership is balanced. In this context, bias should encompass any predisposition resulting from professional affiliation, previous work, social relationship, or conflict of interest that could influence the

Suspending decisions until scientists tell us exactly what will happen makes no more sense than forcing people to self-insure or refusing to engage in long-term military planning

candidate's views of the information or policy alternatives at stake in the panel's deliberations.

At the moment, candidates for EPA peer-review panels and other scientific advisory functions are selected from an existing list kept by the SAB staff. The agency clearly needs to develop a larger pool of scientific experts qualified to serve on SAB committees and panels. Within legal constraints, the administrator should explore ways to compensate scientific experts at the prevailing market rate for their services, both to expand the pool of candidates and to eliminate the advantage of industry-funded scientists who are able to earn a living doing such work.

The precautionary principle lies at the heart of the controversy over the role of science in the regulatory state. The principle means taking action to prevent harm to human health or the environment, even if the relationship between the cause and the effect is not fully established scientifically. As applied, it can mean taking preventive measures to reduce pollution; shifting the burden of proving the safety of polluting activities to those who wish to engage in them; or searching for safer alternatives to releasing the pollutant into the environment. Or, as Governor Whitman put it so well: "The absence of certainty is not an excuse to do nothing."

Some commentators have argued that application of the precautionary principle is essentially a policy choice, implicitly suggesting that scientists leave the room when such decisions are made. At the opposite end of the spectrum, conservative commentators argue that when science becomes uncertain, the only alternative is to work harder to make it better, forestalling regulatory action until a reasonable level of certainty can be achieved.

While both arguments are extreme, the second is transcendent at the moment and is likely to prove far more harmful to the credibility of science over the long run. By cloaking a decision not to act as a purely scientific judgment, scientists are saddled with the burden of being wrong, of failing to take protective action in the face of what emerges as a real threat. When the sources of financial support for additional research are obviously self-interested, the public will be left with the clear impression that science was sold to the highest bidder.

We cope with uncertainty in all aspects of modern human endeavor. The whole concept of insurance is based on the proposition that we can try to predict the future on the basis of facts about the past, but in the end are willing to pay a fee to ameliorate the consequences if we end up among the injured. If we were certain what the future would bring, insurance would be unnecessary because we could either save funds to address the risk, or make plans to avoid the risk.

> ***Only by acknowledging that it is the exceptional case where we will have definitive data can we hope to restore science to its rightful place in environmental decisionmaking***

Similarly, as the United States becomes the world's dominant peacekeeper, we are constantly faced with the imperative of predicting the worst case scenarios that could occur in such situations and doing everything possible to ensure both the success and the safety of our military forces. No public official would consciously decide to absorb more casualties in order to lower the costs of equipping our troops to cope with such scenarios, although those precautionary measures often are triggered by no more than an educated guess by experts.

Like insurance underwriting or defense, environmental regulation needs to encompass the best information available at the time a decision must be made. Suspending decisions until scientists tell us exactly what will happen makes no more sense than forcing people to self-insure or refusing to engage in long-term military planning. Only by acknowledging that it is the exceptional case where we will have definitive data can we hope to restore science to its rightful place in environmental decisionmaking. •