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Assessing the Benefits and Costs of Regulatory Reforms: What Questions Need to be Asked

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Executive Summary

In 1984, Portney argued that "[w]e should scrutinize proposed reforms of the rulemaking process every bit as carefully as the regulations that process produces." In the twenty-three years since then, the regulatory process on the federal level has been continuously reformed by statute, by executive order, and by directives from the OMB (including the recent guidelines for risk assessments). Despite the extensive debate on the need for these reforms, there has been very little analysis of the reforms themselves. This paper updates Portney's work on analyzing cost-benefit analysis and expands it to evaluate reforms of the regulatory process. I use as my primary example the recent peer-review guidelines issued by OMB. I argue that we may have reached a point of diminishing returns in regulatory reforms and that the peer-review guidelines likely have costs that exceed their benefits and that further regulatory reforms merit closer examination. In assessing the costs of regulatory reforms, the key question is the cost of delays to the regulatory process. I look at the cost of delays extensively and identify several factors that need to be answered to assess these costs. Specifically, in order to assess the cost of regulatory delay imposed by regulatory reforms, we must know: (1) the number of regulations affected, (2) the average cost of a delay in the type of regulation that will be affected, and (3) the average length of the delay.

Assessing the Benefits and Costs of Regulatory Reforms: What Questions Need to be Asked

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1. Introduction

In a 1984 article, Paul Portney argued, "[w]e should scrutinize proposed reforms of the rulemaking process every bit as carefully as the regulations that process produces." (Portney 1984). In the twenty-three years that followed, the federal regulatory process has been reformed repeatedly -- by statute, executive order, and directives from the Office of Management and Budget (OMB). Reform has proceeded apace on the state level. Portney's recommendation, however, has largely been ignored: few studies have attempted to evaluate the impact of these reforms.

Certainly, the need for proposed reforms is often debated, but there has been little economic analysis of the efficacy of the reforms themselves. This analysis has taken place neither ex ante, as the reforms are being debated, nor ex post, after we have had the opportunity to measure their impacts. The result is that the regulatory process has become increasingly complicated -- one Department of Transportation map of the process stretched out for 30 feet[1] -- without anyone understanding whether the added complexity is leading to better regulations.

Both academic and political supporters of regulatory reforms (see e.g. Hahn 2004, Viscusi and Gayer 2002), cite regulations that are excessively costly or burdensome as evidence of the need for regulatory reform. They do little, however, to examine the costs associated with the reforms, and provide little evidence that the reforms will lead to better regulations.

[1] As shown by Neil Eisner of the Department of Transportation at the March 26, 2005, American University conference on "The State of Rulemaking in the Federal Government." See for a transcript of the proceedings. http://www.american.edu/rulemaking/news/pastconference05.htm (last viewed November 13, 2006).

Critics of regulatory reforms express concern about how any reform of the process is intended solely to make regulating more difficult (McGarity 1992).[2] They often describe such reforms as "paralysis by analysis." While paralyzing the regulatory process may or may not be the intention of those who advocate the reforms, critics rarely address whether the reforms confer any benefits upon the regulations they impact (other than to occasionally assert that they don't). As a result we are left wondering how much if any delay in the regulatory process is unacceptable.

A further problem with the debate over particular regulatory reforms is that marginal impacts are rarely considered. This is particularly relevant when considering the benefits of regulatory reforms. When assessing whether a new procedure in the regulatory process will improve agency decisionmaking, existing procedures need to be considered. An effort to improve the scientific basis of agency decisions must convincingly demonstrate that it will improve the scientific evidence more than current agency scientific processes and judicial review.

This article attempts to update Portney's work on analyzing cost-benefit analysis. My goal is to highlight the questions that we need to answer when analyzing regulatory reforms. I apply these questions to the recent peer review guidelines issued by OMB. In doing so, I hope to demonstrate that economic analysis of regulatory reforms can yield useful conclusions about the desirability (or lack thereof) of such reforms.

The paper is structured as follows.: Section II reviews Portney's 1984 article and the limited work analyzing regulatory reform since 1984. Section III, focusing on the peer-review guidelines, discusses the costs of regulatory reforms. Section IV provides an analogous discussion of the benefits of regulatory reforms. Finally, Section V draws conclusions from these analyses and points out directions for further research

[2] One can envision regulatory reforms that speed up regulation. Because the vast majority of requirements make writing a regulation more difficult for an agency, I ignore this possibility in my analysis.

2. Efforts to Evaluate Regulatory Reforms

Portney's article examined the costs and benefits of requiring agencies to analyze the costs and benefits of major rules.[3] Portney's analysis of costs was restricted to direct costs, which included the costs of agency contracts with consultants to conduct the analyses, the costs of agency salaries for those who would have to monitor the contracts, and the salaries of the Office of Information and Regulatory Affairs (OIRA) personnel who would review the analyses. These direct costs, according to Portney's research, amounted to $17-$25 million annually in 1984 dollars.[4]

Portney's study did not consider the indirect costs of a cost-benefit analysis requirement, as he believed that quantifying those costs would be impossible:

> "What can be said about the indirect costs associated with regulatory analysis? Only that they can take several different forms. Unfortunately it is not possible to be more quantitative than that."

Indirect costs, as Portney conceived of them, include the costs of delays in the issuance of regulations; the costs of uncertainty; and other, even less tangible costs.[5] As the regulatory process has become more procedurally complex, these indirect costs -- particularly the cost of delay -- have received increased attention from critics of regulatory reforms (McGarity 1992). Any contemporary analysis of regulatory reforms needs to address these costs in order to be credible.[6]

As for the benefits of the cost-benefit-analysis requirement, Portney argues that they are even more difficult to quantify than indirect costs. He concludes, nonetheless, that benefits likely outweigh costs. As an example of the difficulty in calculating

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[3] Executive Order 12291, issued by President Reagan and in effect at the time of Portney's article, required that agencies analyze the costs and benefits of all rules with an impact of more than $100 million in any given year. Such rules were defined as "major" rules.

[4] Adjusted for inflation this would be between $31 and $46 million in 2005 dollars.

[5] These less tangible costs include the potential devaluation of objects that occurs if they are assigned monetary values (Kelman 1980) and the cynicism that may result from cost-benefit analysis done to justify decisions already made.

[6] Dreisen (1997) and Asimow (1994) itemize these costs but do not attempt to quantify them.

benefits, he cites the case of a particular EPA rule[7] in which a change to the initially proposed standard saved $1-3.8 billion, but in which it is impossible to tell whether the procedural requirement of cost-benefit-analysis motivated the change. Despite this uncertainty, however, numerical conclusions are possible. If the cost of cost-benefit analysis is $25 million (the upper bound of Portney's range and if rules cost $2.5 billion annually (also from Portney's data), then even a 0.1% savings resulting from cost-benefit analysis will outweigh the direct costs of the cost-benefit analysis requirement.

As noted above, the work done on evaluating the costs and benefits of regulatory procedures has been quite limited since Portney's article.[8] What work has been done, has focused, like Portney's, on one specific procedural control[9] – the cost-benefit analysis requirement -- rather than on the many other reforms to the regulatory process.[10] And this work has looked primarily at the effectiveness of cost-benefit analysis rather than specifically at its costs or benefits. Effectiveness is an important component of the benefits of such a requirement, because if the requirement is not effective, then it will not produce any benefits. However, it is only a piece of the larger question.

This literature on the effectiveness of cost-benefit analysis has produced mixed results. The most prominent researcher in this field has been Robert Hahn. He has been a prominent critic of the analyses conducted by federal agencies to comply with the cost-benefit-analysis requirement. One of his studies argued that the reason for poor analyses was agencies' failure actually to follow the analysis requirement contained in the executive orders requiring cost-benefit analysis. He notes that "[t]he RIA's [regulatory impact analyses] typically do not provide enough information to enable regulatory agencies to make decisions that will maximize the efficiency or effectiveness of a rule" (Hahn et. al. 2000). Elsewhere, Hahn argues that as many as 50% of cost benefit

[7] The 1978 National Ambient Air Quality Standard for Ozone.
[8] In response to a comment from this author, the Office of Management and Budget did attempt to describe the costs and benefits of their requirement that agencies subject the science supporting significant regulations to peer review.
[9] I use the phrases regulatory reforms, regulatory procedures, and procedural controls interchangeably since regulatory reforms typically add procedures to the regulatory process.
[10] GAO (2005) has issued a series of reports on regulatory reforms at the federal level. While none of these are economic analyses, they provide useful perspectives on reforms such as the Unfunded Mandates Reform Act and the Paperwork Reduction Act.

analyses do not meet the requirements for such analyses laid out in the Office of Management and Budget (OMB) guidance that specifies their content.

Other literature has examined the results of specific cost-benefit analyses years after they were conducted in order to assess how well they predicted the costs and benefits of various regulations. OMB (2005) summarized some of this literature in its 2005 report to Congress on the costs and benefits of regulations. It reported that of 47 analyses studied, 11 were found to have been roughly accurate, 22 to have overestimated the benefit-cost ratio, and 14 to have underestimated it.

Cost-benefit analysis is far from the only regulatory reform to have been introduced over the past several decades. Legislation has required agencies to analyze the paperwork burdens of their regulations,[11] the impact of their regulations on small businesses[12] and state and local governments,[13] and to ensure the quality of information supporting their regulations.[14] What follows is an attempt to think about analyzing procedural reforms to the regulatory process in a more comprehensive manner than the political debates that surround these reforms exhibit. I highlight questions that need to be answered in order to conduct even a rudimentary cost-benefit analysis of regulatory reforms.

I then use the peer-review guidelines to illustrate how the answers to these questions can be combined to cast doubt on the wisdom of adding additional procedures to the rulemaking process. The peer review guidelines required that all significant technical information supporting a regulatory action be peer reviewed. The guidelines outlined the peer review requirements, specifying who could serve as a peer reviewer and identifying the categories of technical information to which the requirements applied. The guidelines were extremely controversial (Weiss 2004) with extreme claims being made as to the delay they would add to the regulatory process. While I will focus on the peer review guidelines in the discussion that follows, the questions that arise from thinking about regulatory peer review are applicable to many regulatory reforms.

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[11] As amended in Public Law 104-13.
[12] Public Laws 96-354 and 104-21.
[13] Public Law 104-4.
[14] Public Law 106-554, § 515.

3. The Costs of Procedural Controls

The most important factor in the analysis of the costs and benefits of a procedural control is the number of regulations that the procedural control will affect. The Regulatory Flexibility Act, for example, applies to a wide variety of regulations, while Executive Order 12866 (requiring a regulatory-impact analysis and OIRA review of regulations) applies to a smaller number of "significant" regulations.[15]

Question 1:

How many regulations will be affected by the regulatory reform**?**

The peer-review guidelines divide analyses that support regulations into "influential" and "highly influential" scientific assessments, with "highly influential" assessments subjected to stricter peer-review requirements. Highly influential scientific assessments are those that have an impact of more than $500 million in any given year or, more importantly, those that are "novel, controversial or precedent setting." This latter category gives the OMB considerable leeway to argue that a wide variety of scientific analyses are subject to the "highly influential" designation.

I assume that all regulations currently designated as "economically significant"[16] from agencies that typically rely upon scientific studies as the basis for their regulations will be deemed "highly influential" (under the "novel, controversial or precedent setting" clause). Agencies that rely on scientific studies include the Environmental Protection Agency (EPA), the Food and Drug Administration, the Departments of Agriculture, Energy, and Transportation, and the Occupational Safety and Health Administration

[15] The definition of "significant" can be found in Executive Order 12866.

[16] A rule that is "economically significant" is defined by Executive Order 12866 to

> "have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities."

These are a subset of "significant" regulations.

(OSHA).[17] It is very rare that these agencies promulgate an important regulation that does not rely upon scientific evidence for its justification.

According to the annual reports to Congress filed by OMB (OMB 1997-2005), there have been approximately thirteen economically significant regulations per year from these agencies over the last twelve years.[18] I will also assume that the benefits and costs of peer review will be far greater for these regulations than for all other regulations combined.[19] Therefore assessment of the costs and benefits of the peer review guidelines is based on the assumption that thirteen regulations a year will be affected. This is likely a low estimate.[20]

The second factor to be considered in a cost-benefit analysis of regulatory reforms is the one most effectively answered by Portney: we must estimate the direct costs of actually implementing the regulatory reform.

Question 2

What are the direct costs per regulation for implementing the regulatory reform?

To approximate the direct costs of the peer review guidelines, we can use estimates from OMB (OMB 2004). OMB notes that three different types of peer review are possible under the guidelines and gives cost estimates for each. It estimates that it

[17] This omits major regulations from the Departments of Labor (except for OSHA), Commerce, Housing and Urban Development, and the Interior. Endangered Species regulations promulgated by Interior and Commerce will likely have scientific analyses supporting them, but the majority of the regulations from these departments are not scientific in nature. I also omit regulations typically characterized by OMB as "transfer rules." These rules govern programs where the government gives money to certain constituencies either through grants (such as NIH rules on human subject research) or benefit programs (such as rules governing the Medicare program). While these rules may have a scientific basis, there has been no mention of them in any of the discussions on regulatory peer review to my knowledge.

[18] I focus on regulatory decisions by agencies because many other types of decisions, particularly adjudicatory decisions are explicitly exempt from the OMB guidelines.

[19] Therefore we can approximate the total benefits and costs of the peer review guidelines by examining their impacts on this subset or regulations.

[20] It would not be surprising to see some regulations which are not "economically significant" under E.O. 12866 covered by the guidelines. Until we see how the guidelines are applied in practice, it is impossible to know the full impact of this assumption.

would cost $5000 for an agency to obtain several individual reviews, $50,000 to obtain a panel review, and $1 million to obtain an in-depth review by a committee of the National Academy of Sciences.

Each regulation subject to the peer review guidelines may have more than one document that it will have to have peer reviewed. To make a conservative assumption[21], I will assume that on average, each regulation has only one such document. I will further assume that none of the rules (being "highly influential") will go through the simplest form of review, but rather that they will be split between the other two types. The total annual direct cost is, therefore, simply the answer to Question 1 (the number of regulations affected annually) multiplied by the answer to Question 2 (the average cost per regulation). This leads to a total annual direct cost of $6.4 million (six peer reviews at $1 million each plus seven peer reviews at $50,000 each).

The direct costs are likely to be small compared to the potential indirect costs. The largest category of indirect costs is that arising from the delay caused by procedural controls in regulations that have net benefits. For example, if a regulation with $1 billion in annual net benefits were delayed by six months, the social cost of delay would be $500 million. Portney's analysis of the cost-benefit-analysis requirement ignores this cost. But in the years since 1984, the problem of delay in the regulatory process has gotten increased attention (McGarity 1992). Indeed, the "ossification" of the regulatory process is one of the chief criticisms leveled against any new procedural control proposed by Congress or the President. There are now, many more steps to the regulatory process than when Portney analyzed cost-benefit analysis in 1984. It is imperative to consider the costs of delay when analyzing regulatory reforms.[22]

There are three elements to figuring out the cost of delay. The first is the number of rules that will be affected which we have already addressed in Question 1. The second is the extent of the delay. The third is the average net benefit per year of a regulation that is delayed by the procedural requirement (the benefits of rules are instrumental in

[21] I am using conservative assumptions in order to minimize the calculated cost of peer review and therefore make the best possible case for this regulatory reform.

[22] For a regulatory reform that occurs after a rule is promulgated, delay may not be an issue. For example a sunset provision or a requirement that rules be reviewed every 10 years would not delay the promulgation of a regulation.

calculating the costs of regulatory reforms . . . including benefit-cost analysis. The author sincerely apologizes for the inevitable confusion this causes the reader) The total cost of delay is the product of these three values.

Questions 3 and 4

How long will the regulatory reform delay a rule's promulgation on average?

What is the cost per year of delaying the average rule affected by the reform?

In the case of regulatory peer review, I will continue to assume that thirteen rules per year are affected. How much delay will the OMB guidelines create in the production of regulations? A reasonable minimum seems to be three months: it seems impossible that an agency could send a document to a peer reviewer, that the peer reviewer could review it, and that the agency could respond to the comments in less than that time. Any shorter peer-review period would be likely to produce none of the benefits that OMB claims these guidelines will have. A more realistic estimate is likely to be six months: the delay that many peer-reviewed journals warn submitting authors to expect. For an upper bound estimate, I use twice this six month value or a year of delay: if an agency has to go through multiple rounds of peer review or has to include an additional public comment period prior to peer review of studies, it is easily imaginable that delays of at least a year could be added to the regulatory process.

Some have argued that peer review will actually speed up the regulatory process by making judicial challenges less likely (OMB 2004). While this may happen for the occasional regulation, it is hard to envision that on average rules will be promulgated quickly because of an additional step in the regulatory process. Perhaps, more likely, is that peer review will operate in parallel to other parts of the regulatory process. However since many crucial regulatory decisions rest upon the scientific findings, it is likely that peer review of scientific studies will lead to at least some delay in the process.

The extent of the delay is likely to be proportional to the nature of the requirement. An NAS panel may take more than a year to operate. The same is true of

any situation where multiple peer reviews are required. Until regulatory peer review is in place for a while, we will not know which forms it will take and therefore how long it will delay the promulgation of regulations.

What is the net benefit of the average rule that will be delayed by the peer review requirement? This may be the hardest question to answer. As mentioned above, I am assuming that all rules delayed by having to go through peer review are "economically significant" regulations. In its 2005 report to Congress, OMB calculated that the annual benefits of economically significant regulations issued between October 1994 and September 2004 ranged from $69 billion to $276 billion, and that annual costs ranged from $35 billion to $39 billion. These totals encompass analyses of 88 rules[23] issued during this period.[24]

In attempting to calculate a net benefit per economically significant rule, there are several additional assumptions that must be made. As OMB notes in its report to Congress, the above figures do not include regulations where there was no reliable information allowing the quantification of benefits or costs. This likely biases the estimates of net benefits per rule upward and necessitates a decision about whether to use the midpoint of the ranges or the ends. OMB also notes that a large portion of the net benefits ($44 billion) come from two recent EPA rules. Because these EPA rules may for some reason be atypical, we must decide whether to include them in the net-benefit numbers. Finally, the numerous criticisms of agency cost-benefit analyses also cast doubt upon the value of these numbers.

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[23] The OMB report considers eighty-eight rules over a ten-year period, rather than the 130 rules that my assumption (of thirteen affected rules per year) would imply. The reason for the discrepancy is that that the OMB report only considers those regulations for which there were both monetized costs and benefits. In calculating the total benefits and costs, this would only be a problem if those rules for which costs and benefits were not calculated have markedly different benefits or costs than those for which costs and benefits were calculated. I address this below. See also Footnote 8 of the 2005 OMB report.

[24] There should be a note of caution in using these numbers. OMB's values are based on agencies' assessments of the costs and benefits of their regulations. As discussed above, Hahn et. al. (2000) and others have criticized agencies' analyses. However, as the OMB 2005 report showed, there is no clear direction in the bias produced by these analyses. Because of this fact, and because there are no other credible estimates for the net benefits of federal regulations, I base my analysis of the peer review guidelines on the OMB reports.

I therefore use three estimates of the total net benefits of regulations between 1994 and 2004.

1. The first estimate uses the low end of the range of benefits ($69 billion) and the high end of the range of the costs ($39 billion) of all 88 rules. This yields an estimate of $30 billion in net benefits.

2. The second estimate uses the midrange of both the benefits ($172 billion) and the costs ($37 billion) of the 88 rules. This yields a figure for total net benefits of $135 billion.

3. The third estimate is simply the second estimate minus the net benefits of the two EPA rules ($44 billion). This equals $91 billion.

We must then divide these figures by the number of rules (88 in this case) to give a result for annual net benefits per rule. Doing so gives a value of $340 million per rule for estimate 1, $1.534 billion per rule for estimate 2, and $1.034 billion per rule for estimate 3.[25]

The table below takes the three values for net benefits per rule and the three estimates for the amount of time peer review will delay the rule to arrive at nine possible values for the annual costs of delay due to the peer review guidelines. The table assumes, as I have throughout, that there will be 13 rules per year subject to the OMB guidelines. The figure marked with an asterisk (the smallest number in the table) will be used as a most probable cost figure in order to make a conservative assumption about the costs of delay (and to make the case for peer review as strong as possible).

[25] These calculations are made using data on **all** rules in the OMB reports, but the peer-review guidelines are intended to apply to only those rules with a scientific basis. This is not a problem unless one assumes that those rules that do not involve scientific issues have greater or smaller net benefits than those that do involve scientific issues. I could find no basis to make such an assumption.

Possible periods of delay

		Delay of 3 months	**Delay of 6 months**	**Delay of 1 year**
Net Benefits/rule	**$340 million**	$1.105 billion*	$2.21 billion	$4.42 billion
	$1.534 billion	$4.985 billion	$9.971 billion	$19.94 billion
	$1.034 billion	$3.36 billion	$6.72 billion	$13.44 billion

As can be seen, I have assumed as the most likely value for indirect costs a figure of $1.105 billion per year.

This calculation obviously leaves out a great deal of information about the costs of the delay due to the OMB guidelines. Are the omitted factors likely to lead to a higher or lower cost estimate? There are reasons to assume bias in either direction.

There is one obvious reason that my estimate may be low. The figure of $1.1billion assumes that there will only be thirteen rules per year subject to the peer-review requirements. As mentioned above, the peer-review guidelines, however, give OIRA considerable discretion to subject significantly more rules to peer review requirements than those that are "economically significant." Indeed, even many economically significant rules (including those rules which transfer more than $100 million, such as the rules governing the Medicare program) are not counted in the totals above. While rules besides those making up the $1.1 billion annual cost are likely to have smaller net benefits than the rules that were used to generate the estimate,[26] collectively they will likely also include a significant amount of net benefits.

There are also several reasons to believe that the $1.1 billion estimate might be high. First, OIRA has the discretion to exempt rules related to national security and homeland security from the peer-review guidelines. A few of the thirteen rules per year

[26] Rules that are not economically significant by definition have both costs and benefits that are less than $100 million/year meaning their net benefits must be smaller than $100 million/year.

in the above analysis may prove to be exempt from the peer review requirement.[27] Second, OMB's numbers were based on rules promulgated in the past decade. Presumably these rules were "low hanging fruits"; among the reasons that agencies pursued them were their significant net benefits. Future rules will likely have smaller benefits, such that the cost of delaying them will also be smaller. Third, OMB notes that its tally of net benefits only includes rules for which good data on benefits and costs were available. It is reasonable to suppose that the rules in the OMB totals are the rules promulgated in the last decade with the greatest net benefits because agencies will have the greatest incentive to conduct analyses on these rules. If so, then my estimate of the cost of delaying an economically significant rule is biased upward, since the average economically significant rule is likely to have fewer net benefits than those in the OMB reports.

One other factor should be noted. Some agencies claim they are already undertaking peer review. If this is correct, then my estimate of the cost of the peer review guidelines is too high (because they will not cause any additional delay). However, if the peer review is already occurring, then the benefits of these guidelines would also have to be reduced accordingly.

There are, therefore, reasons to think that both that the $1.1 billion estimate is inaccurately low and that it is inaccurately high. This certainly points out the need for better data on the costs and benefits of all federal regulations. However even if we reduce the lowest estimate of the costs of delay by a factor of ten (which I cannot find a justification for doing), it is clear that the indirect costs of the delay caused by the peer-review requirements far outweigh the requirements' direct costs, and that the total costs are much higher than is generally acknowledged.

4. The Benefits of Procedural Controls

Just as assessing the benefits of a regulation is harder than assessing the costs, the benefits of procedural controls are much harder to measure than their costs. The stated

[27] Using existing rules to predict the extent of homeland security rules (and hence the number of exemptions) is unlikely to be effective given the growing number of rules designed to prevent terrorist attacks.

purpose[28] of most procedural controls is to improve the regulations subject to its requirements. Therefore, to assess the benefits of a procedural control, one has to determine the extent to which regulations will be improved. Since much of the operation of procedural controls occur hidden from public view (as agencies make choices regarding regulatory provisions), ascribing benefits to a particular procedural control is difficult.

Instead of calculating a dollar value for the benefits of regulatory reforms, we can take the approach Portney (1984) took in his analysis of cost benefit analysis requirements. Portney sought to determine how likely it was that the benefits provided by the procedural control would outweigh the costs. Since Portney was looking only at direct costs, he was able to assert with confidence that the benefits of the cost-benefit-analysis requirement were very likely to outweigh its costs.

Question 5

How likely are the benefits of the regulatory reform to be greater than the costs?

The regulatory process has changed considerably over the past several decades. In addition to requirements for cost-benefit analysis and notice-and-comment, agencies now have to concern themselves with the Unfunded Mandates Reform Act; the revised Paperwork Reduction Act; the Information Quality Act; executive orders on federalism and impacts on families; and the peer-review bulletin. The benefit of any particular procedural control needs to be assessed with this backdrop in mind. The relevant question is whether the marginal benefit of the procedural control in question is greater than the costs of the control, given that the rules may also be subjected to these numerous other controls.

With these factors in mind, let's turn our attention to the benefits of regulatory peer review and whether they are likely to outweigh that requirement's costs – estimated

[28] Some believe that their real purpose is to delay the regulatory process.

above at $1.1 billion.[29] The primary benefit of the peer review guidelines is presumably either to stop or to improve significantly the promulgation of rules that are not justified by their science.[30] The quality of the science supporting regulatory efforts has long been a contentious issue (Jasanoff 1990) and therefore it is difficulty to assess the magnitude of the need for improvement. How many rules that are scientifically unjustified[31] will be prevented or improved by these guidelines? More relevantly, will a minimum of $1.1 billion worth of bad rules be prevented or improved annually in order to justify the costs of these guidelines?[32]

In order to realize $1.1 billion of net benefits when only 13 rules are being subject to regulatory peer review, there would need to be an average of $85 million in net benefits per rule realized. There are many reasons to be skeptical that the guidelines will have this impact. Foremost among these reasons is that OMB did not cite any examples of rules that would have benefited from peer review in the preamble to their proposed guidelines.[33] This does not mean that such examples do not exist but it certainly casts doubts on their existence.

There are three other reasons to be skeptical that the peer-review guidelines will have annual benefits approaching $1.1 billion.

First as mentioned above, regulatory peer review comes on top of a host of other requirements designed to ensure that rules are economically and scientifically sound. Regulatory procedures that are currently in place are not all designed to ensure the scientific soundness of regulations. Some such as notice and comment are designed to allow public participation and improve the information agencies have at their disposal when making regulatory decisions (Kerwin 2003).

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[29] I'm ignoring the $6.4 million in direct costs here because they are tiny compared with the indirect costs.

[30] While OMB does not come out and say it, the cover memo accompanying the final guidelines said that the goal was to "Improve the quality of scientific information upon which policy decisions are based."

[31] Rules that are scientifically justified may also be improved by peer review but presumably the largest gains will come from improving those rules with the poorest scientific justifications.

[32] There may also be a benefit to delaying regulations with net costs. However this is handled in this analysis by using average numbers for *all* regulations when calculating net benefits. The regulations with net costs are therefore counted in the calculation for the overall cost of delay.

[33] After leaving OMB, former Administrator John Graham cited the regulation of perchlorate by EPA as an example of a regulatory effort that would have benefited from peer review. (SRA 2006)

However numerous procedures, including judicial review, information quality complaints, and to an extent, cost-benefit analysis, bear directly on the scientific underpinnings of regulations. These requirements are designed to avert the same problems that peer review is allegedly designed to prevent. Will the marginal value of the regulatory peer review (above that of existing requirements to safeguard the scientific basis of regulations) be to ensure that only scientifically sound regulations are promulgated?

Question 5a

Will this regulatory reform change regulations that other procedural controls have failed to change?

Second, it is quite possible that peer review will not force an agency to change the rule in a way that will increase its net benefits. Peer reviewers may not criticize the scientific or economic studies supporting the rule, either because they didn't find particular problems, or because the scientific studies are not the sources of the proposed rule's costs. It may very well be policy decisions driven by legal requirements[34] or political imperatives rather than scientific reasons that increase the costs of a rule (Marchant and Coglianese 2004). It is unlikely in the case of political imperatives and impossible in the case of legal requirements that agencies will be able to defer to peer reviewers' conclusions that a rule is scientifically unjustified although peer review may lead to marginal improvements within the bounds of what a statute requires.

Peer review does have considerable success in the academic context of improving published research. Often however, this is due to repeated rounds of peer review. An article is often "revised and resubmitted" numerous times (as this author can attest) before it is accepted for publication. If this is to be the case in the regulatory setting, the

[34] An example of rules driven by statutory requirements is the FDA rules under the Bioterrorism Preparedness and Control Act of 2002 that stipulated increased FDA monitoring of the nation's food supply.

estimates given above for the extent of delay may significantly underestimate the costs of peer review.

Question 5b

Will the regulatory reform prove to be effective?

Finally, there is some possibility that procedural controls will not only lead to delays in the promulgation of rules with net benefits, but will also stop their promulgation altogether. This concern may be particularly relevant for regulatory peer review. Scientists often disagree. Additionally, their disagreements may be motivated by politics: as several scholars have noted, there is a recent tendency for those interests opposed to a regulatory effort to produce scientific studies disagreeing with the scientific community's consensus that there is a need for the regulation (Michaels 2005). Such disagreement may lead to a poor outcome (from a welfare-economics perspective): the prevention of promulgation of a rule with net benefits.[35]

Question 5c

Will the regulatory reform lead to false negatives (prevent beneficial rules from being promulgated?)

In general, controls (with the exception of cost-benefit analysis) are not designed to stop rules based on a net-benefit criteria, and even if they were, there is no good reason to assume that they will work perfectly. The end result is that procedural controls will

[35] If these "good" rules are legally required or have widespread political support, of course, then peer review will be less likely to have this effect.

prevent the promulgation of some rules with net societal benefits. The benefits of a procedural control must be reduced accordingly to reflect this social loss. If a regulatory reform could be targeted to impact just those rules that exhibit the problem the reform is designed to solve then the likelihood that a reform would have net benefits would increase dramatically.

Some procedural controls provide hard-to-quantify benefits that may justify their adoption despite failing such a test. For example, the notice-and-comment process required by the Administrative Procedure Act imbues the regulatory process with a sense of participation and accountability that it may otherwise lack (Kerwin 2003). One may view peer review as strengthening the role of experts in the regulatory process and building long-term agency capacity to improve their analysis of the area they regulate.

One can also see that the delay imposed by regulatory reforms may have a hidden benefit. Economists discuss option value, the value of postponing a decision until better information becomes available. It is possible that during the three months that peer review is occurring, a scientist will issue a new study that improves the decision on whether to regulate.

Another possibility is that regulatory peer review will serve as an important signal or fire alarm (McCubbins and Schwartz 1984) to political overseers regarding a rule's potential impact. The regulatory landscape is, however, littered with such fire alarms, and it is unlikely that one more will make much of a difference in enhancing regulatory oversight.

Question 5d

Will the regulatory reform lead to intangible benefits, option value, or improved political oversight of agencies?

5. <u>Conclusion</u>

Proponents of regulatory reform regularly bemoan the lack of rationality in the regulatory process (Sunstein 2002; Hahn 2004). One of the motivations for this article

has been the absence of scholarship subjecting the cures for these supposed problems to the scrutiny that regulations have been subject to. Even a rudimentary attempt, like the one made here, to assess the benefits and costs of regulatory reforms can identify serious questions about the merits of proposed regulatory reforms.

Many proposed regulatory reforms are intended to address the identical problem -- regulations that are in some objective sense, a “bad idea”-- but each reform adds additional delay to the regulatory process. Therefore, the marginal costs of a regulatory reform are always likely to be significant, since the potential costs of delay are so large. In order for the marginal benefit of a regulatory reform to outweigh (or at least justify) these costs, it would have to prove much more effective at improving regulatory decisionmaking than the reforms that have come before it. Furthermore, if a new/existing reform met this test, then it would of necessity raise questions about the existing controls.

Advocates of regulatory reform cannot have it both ways. They cannot both push for new reforms -- hailing them as "silver bullets" to produce improved regulations -- while simultaneously maintaining that existing controls on the process should continue to exist. The cost of piling procedure upon procedure onto the regulatory process is too large to allow this. Regulatory reforms are hammers, there is no way to apply them just to the “bad” regulations. While the estimate of $1.1 billion as the indirect cost of regulatory peer review may be high (despite the fact that several conservative assumptions were built into the estimate), clearly the cost of delaying beneficial regulations is substantial.

This analysis also hints at the types of regulatory procedures that may pass a cost-benefit test. Since delaying beneficial regulations is the source of most of the costs of regulatory reforms, reforms that do not delay regulations may provide benefits without resulting in high costs. Requirements that rules be reviewed every five or ten years to reassess their impacts do not delay the promulgation of rules and may have considerable benefits. Perhaps also, rules could be given a probationary period during which time they are put in place but additional analyses (cost-benefit, peer review) are done. The benefits of these well-intentioned reforms may then be achieved without the costs of delaying “good” rules.

Regulatory reforms must be analyzed more thoroughly than they have been. Most importantly, they must be analyzed in the context of the existing regulatory process. Having regulations with a sound economic and scientific basis and involving affected communities in their promulgation are noble goals. Achieving these goals needs to be accomplished in a more finely tuned manner where the regulatory procedures are lined up with these (and other) goals and assessed against them. Once we figure out which procedures best achieve these goals, then we will no longer need to continue to add procedures stretching out the regulatory process unnecessarily.

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