Chapter 7

THE INFLUENCE OF LEGISLATIVE MANDATES ON
THE OVERSIGHT OF RISK REGULATION AGENCIES
W. Kip Viscusi

Editor’s Introduction

The new model we have proposed is partly descriptive, partly normative. If we no longer believe that risk analysis should be conducted in two stages, we may be implying the need for new institutions that act according to our new model. This section consists of three papers that, in widely differing ways, consider whether and what kinds of new institutions we might need. Viscusi’s paper, the first of the three, could have been placed in the first section, describing current conditions. I have placed it here because, in describing the process of White House oversight of regulation, Viscusi considers different oversight models. His description implicitly posits a multi-stage model which is designed to achieve acceptable policy decisions in the absence of complete scientific information.

The increased oversight of agency regulatory activities by the White House has been perhaps the most striking development in governmental risk control. Viscusi’s paper describes an instance of this oversight exercised during the Carter administration, and contrasts it with developments under Reagan, who strengthened the requirement that agencies provide cost-benefit information on proposed regulatory activities and placed most of the oversight power in the Office of Management and Budget. An important question raised by these actions, which have been justified in part as a means of obtaining more efficiency by allocating regulatory dollars to the worst risks, is whether centralized management and comparison of risks can indeed yield a higher level of safety for the electorate.
So far, most of OMB’s decisions seem to have resulted more from a mistrust of any regulation than from an effort to optimize the allocation of a “safety budget.” Centralized review does provide, however, a rare example of a new institution built in response to risk regulation; as Viscusi suggests, it is still in its shake-down period.

INTRODUCTION

Since November 1974, all proposed regulations imposing substantial costs have been subjected to systematic White House review. The chief elements of the review process during the Ford and Carter administrations included the preparation of an economic analysis of the regulation’s likely effects (e.g., costs and comparison with regulatory alternatives) and public comment on these proposals by the White House staff. This review function was the responsibility of the Council on Wage and Price Stability (CWPS), which often worked in collaboration with the staff of the Office of Management and Budget and the Council of Economic Advisors.

The regulatory review staff was transferred to the Office of Management and Budget after Reagan abolished the Council on Wage and Price Stability in 1981. Reagan coupled this shift in organizational structure with an expansion of the authority of the oversight group. Instead of making non-binding public filings on proposed regulations, the oversight unit was given authority to require prior OMB approval of all proposed regulations. This authority was tantamount to veto power over regulations, although agencies do have appeals rights within this process.

Notwithstanding changes in administrations and organizational structure, the staff and substantive focus of the regulatory review process have remained fairly constant. From 1975–80 there was an average of about 50 regulatory analyses submitted annually by the Council on Wage and Price Stability, which are summarized in Table 1. Of these, approximately one-third were risk-related.

What is particularly striking is the falloff in regulatory activity for all agencies other than the Environmental Protection Agency (EPA) after 1978. This drop is attributable in part to the uncertainty posed by various court challenges to the Occupational Safety and Health Administration’s (OSHA) legislative mandate, which would have broad ramifications across all risk regulations. The fundamental issue was whether agencies could focus exclusively on risk reduction and, most important, the extent to which cost-risk tradeoffs could enter into the policy design process. The risk regulation agencies maintained that their legislative mandates were absolute, requiring them to reduce risks irrespective of the cost. In these debates the regulatory agencies typically overstated the restrictiveness with which they actually regarded their legislative mandates. By claiming that their legislation imposed absolute requirements, agency officials were
Table 4

Council on Wage and Price Stability
Public Sector Releases Regarding Risk Regulations, 1975—1980

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primarily attempting to limit external interference with the tradeoffs that were in practice being made by the agency. For example, OSHA standards were based on an affordability criterion by which standards were not tightened to levels that were so stringent that the viability of the industry would be threatened. The participants in the White House oversight process maintained that while the legislation did not always require costs to be considered, the extent to which agencies may consider costs was not severely constrained.

The only agency that expanded its efforts in the presence of these uncertainties was the Environmental Protection Agency (EPA). EPA accounted for one-sixth of all CWPS reviews from 1975—80, but one-third of all reviews from 1979—80. The EPA risk regulation portion is even greater, as over three-fourths of all major risk regulations in the 1979—80 period were proposed by EPA.

The continued EPA activity was due in part to the more narrowly defined nature of EPA's risk reduction mandate. EPA was not given a vague mandate, but under the Clean Air Act was directed to provide an adequate margin of safety—a criterion EPA interpreted quite specifically. Moreover, EPA's legislation explicitly prohibited it from considering costs when setting ambient air quality standards.
EPA's actions during this period consequently may serve as a useful index of the kind of standards an agency will issue in situations in which its risk-based orientation is viewed as a legitimate basis for policy. In this paper I will analyze the design of the EPA lead standard to ascertain the role of these legislative requirements. The implications of this case will then be applied to assess likely trends at other agencies in view of the resolution of the controversial OSHA cases and the strengthened requirements of the regulatory oversight process.

In the following discussion, I will assume that the objective of regulatory policies should be to promote balanced policies that recognize the tradeoffs between risk and regulatory costs. More specifically, I will view the objective to be that of maximizing the net benefits (i.e., benefits less costs) to society.

The benefit-cost test is more stringent than a cost-effectiveness requirement whereby an agency would calculate the cost per unit risk averted and then promote a given level of risk reduction in the most efficient manner. In the Carter administration, the central oversight mechanism formally required that all new regulations be cost-effective, but this test was not enforced. The difference between cost-effectiveness analysis and benefit-cost analysis is that a benefit-cost test imposes a specific cost-effectiveness cutoff. For example, an agency may have structured its efforts so that it pursues the least costly means for preventing 10,000 cases of cancer, where the cost per case is $5 million. If society's willingness to pay for cancer reduction is only $1 million per case, this effort is not desirable on benefit-cost grounds. The agency should scale back its efforts, focusing on only the most effective cancer reduction policies that can achieve cancer reduction at a cost not in excess of $1 million.

Although basing policies on cost-effectiveness would be superior to present policy decisions, it is not ideal. In this paper I will use the benefit-cost framework primarily to provide an appropriate context for considering the issues that must be addressed in a sound regulatory analysis. Widespread implementation of the benefit-cost objective for risk regulation is by no means straightforward, particularly with regard to the estimation of health effects. Nevertheless, a benefit-cost approach is an instructive technique for tallying the pertinent effects of policies and for obtaining general guidance regarding the merits of a regulation. Specific problems confronted when policymakers apply this criterion will be addressed later in the paper.

LEAD AND THE BENEFITS OF REGULATION

Lead emissions are a paradigmatic example of an economic externality since the market decision regarding the level of lead emissions will not reflect the adverse effects of lead on society in the absence of some
emissions penalty or emissions standard (US EPA 1977). The chief source of lead emissions is antiknock additives in gasoline, which accounted for 12 times as many lead emissions as did all stationary sources in 1975. The role of auto emissions is expected to diminish due to the limits imposed on alkyl lead additives in gasoline. Nevertheless, the stationary sources that were the focus of the EPA lead standard will continue to contribute to only a small portion of an individual's lead exposure.

To address this problem, EPA established a lead standard of 1.5 micrograms per cubic meter of air (for simplicity, I will omit this metric in the discussion below, referring simply to an air lead level of 1.5). States were required to develop plans regulating stationary source emissions to meet this standard (43 Federal Register 46246 — 58, October 5, 1978).

Two features of this policy should be noted at the outset. First, the emissions standard was set uniformly for all states. If there is heterogeneity in either the incremental costs of compliance or the incremental benefits from lead exposure reduction, such a policy will not be optimal. The uniformity that should prevail is that the pollution standard for each state should equalize the incremental net benefits from further tightening of the standard. For example, other things being equal, a state with a large affected population should have a tighter standard, and states with an industry mix for which compliance is very costly should have a looser standard. The failure to reflect this heterogeneity stems from EPA's more general problem of focusing on risk reduction rather than a benefit-cost criterion, as will be discussed further below.

A second inadequacy of setting standards for stationary sources is that they constitute only a small portion of lead exposures. Although EPA correctly concluded that there was no major conflict among different lead regulation policies, such as the OSHA lead exposure standard and CPSC lead paint regulations, there was no attempt to analyze the most cost-effective policy mix. In the absence of such analysis, it is doubtful whether the independent selection of these policies will be the least expensive means for reducing air concentrations of lead. Since non-air sources of lead received even less consideration, the policymakers neglected a potentially effective means for affecting the fundamental matter of concern, which is the levels of lead concentration in human blood, not in the air.

Ideally, this problem of policy coordination should be an integral part of each agency's policy design efforts. There is little incentive to make such interagency comparisons since the legislative mandates do not prescribe that agencies pursue the most cost-effective mix. The White House regulatory oversight group could potentially fulfill such a role but, at least at the time of the EPA lead standard's promulgation, it did not have sufficient political influence to do so.

If it did have this authority, the White House oversight group could have examined the cost per unit health impact of different lead regulations—stationary sources, lead paint, and gasoline. It could then have ensured that
the agencies' policies were cost-effective, i.e., the total benefits are provided in the least costly manner. Regulations that impose higher costs per case would be loosened, while those imposing lower costs per case would be tightened to result in equalization of the cost per health impact across agencies. Upon setting the absolute level of this cost-effectiveness ratio (e.g., a cost per case prevented of $X), the cost-effectiveness test becomes a benefit-cost criterion.

If we abstract from these broader issues and focus on the benefits from regulating stationary sources of lead emissions, the critical inputs needed to assess the benefits are the following: (1) the sources of lead emissions and their impact on airborne concentrations of lead; (2) the relation between air exposure levels and lead levels in the blood; (3) the health implications of these blood concentrations; and (4) the dollar value of these health effects.

The final category of considerations was ignored altogether. Although precise dollar equivalents for many health effects may be difficult to obtain, the relative severity of the health effects should have been analyzed. Moreover, even if the dollar value for different health impacts is unclear, it is usually instructive to make cost-effectiveness comparisons, indicating whether the cost per case of anemia prevented is $10,000 or $10 million.

EPA did address the first three considerations needed to assess benefits, although the information provided did not serve as a fully adequate basis for decision. The first issue—the source of airborne lead exposures—was addressed on an aggregative basis. It was noted, for example, that the lead standard would have its greatest effect on the operation of the metal products industries, such as primary smelting, secondary smelting, battery manufacturing, pigment manufacturing, and nonferrous foundries. However, information about the level of lead emissions in other areas is required in order to assess the benefits from reductions in these lead emissions adequately. Any regional variation in the implications of lead emissions will make it desirable to have different lead standards rather than a uniform national standard.

The second consideration—the effect of air exposure levels on blood lead levels—was treated by assuming that each microgram (per cubic meter) of air lead exposure increases the blood level by two micrograms (per deciliter of blood) for the group most affected by lead, young children. Although the accuracy of this rule of thumb is questionable, its role is limited to estimating the incremental effects of lead exposures. The actual blood lead level also depends on the level due to non-air sources as well, which EPA analyzed in some detail.

The greatest deficiency in the analysis is in the third and most fundamental category of concerns, the health implications of blood levels. A meaningful analysis of these health effects would assess the number of people with different lead-related ailments in the absence of regulation and
the incremental effect on these health outcomes of different lead standards. In conjunction with information regarding the severity of the impacts and the costs of the different policies, the policy tradeoffs involved could be addressed directly.

EPA's neglect of these influences was not the result of an oversight or a failure to understand how to prepare a benefit-cost analysis. Rather, the difficulty was that EPA viewed its legislation as mandating a much narrower approach in which policies should not be based on their overall merits. The proper criterion was whether or not the standard provided an "adequate margin of safety." as directed by section 109 of the Clean Air Act. This mandate was interpreted to require that 99.5 percent of the most sensitive population be substantially below the threshold for adverse health effects. This criterion is based on a probability of safety that was selected arbitrarily by EPA, and it is independent of the number or severity of adverse health effects and totally independent of cost considerations. Quite simply, it has no economic justification whatsoever.

The shortcoming that I will focus on here is the use of health effect thresholds, since the threshold approach is quite common in risk analyses. Based on the limited medical evidence available, EPA concluded that the maximum safe blood lead level was 30 (micrograms per deciliter). At that level there is some evidence of impaired heme synthesis in cells, although the link to hemoglobin production or any other significant health impact is unclear. The lowest level at which there is a reasonably well-established link to a serious health effect is a blood level of 40, at which anemia is possible. More severe effects, such as brain damage, have been identified at blood levels from 80—100. EPA selected 30 as the critical threshold to provide a margin of safety. By the EPA's own analysis, there is no evidence of any adverse health effects between lead levels of 30 and 40. The arbitrary buffer level of 10 micrograms per deciliter yielded no expected risk reduction, but was a consequence of EPA's desire to provide a margin beyond a safe exposure level. Based on available evidence, it could be reasonably confident that this was a zero-risk level.

By setting standards at the highest level where studies have shown that there is no significant risk as opposed to the lowest level at which some risk has been identified, EPA goes beyond the approach of other risk regulation agencies that pursue reduction of identifiable risks. Although the neglect of cost-risk tradeoffs makes all of these risk-oriented approaches undesirable, EPA's policy is a more extreme variant of the absolutist approach to risk reduction.

Even if we abstract from the economic inefficiencies created by reducing lead exposure levels below the no-risk level, there is the additional problem that arises from making risk thresholds a central component in the analysis. The existence of a threshold only implies that there is some possible risk at that level. There is substantial debate within the medical profession as to whether threshold dose-response models are meaningful.
Other frameworks in which the risk is a continuous function of exposure, such as log-probit models or logistic models, often have superior statistical properties (Elandt-Johnson and Johnson 1980). Even when a threshold model is appropriate, the existence of a threshold only identifies the exposure level at which the risk is not zero. In the usual case, it is assumed that the risk is zero just below the threshold, is just above zero at the threshold, and increases linearly with exposure levels above the threshold. The probability of the adverse outcome typically does not jump from zero to one simply because the threshold has been reached. In the case of the EPA lead standard, the regulatory cost that can be justified will be quite different if the health risk at the threshold is .1 or .0001.

The net effect of the EPA approach is to ensure that only 0.5 percent of the most sensitive segment of the population would have blood lead levels well below a level associated with any adverse effects. Moreover, even the risk threshold level of 40 is relatively safe, since more serious effects such as anemia do not occur until lead levels ten micrograms higher.

This policy was formulated independent of the number of adverse health effects prevented, the severity of these effects, and the costs imposed on society. Such an approach can only be justified if one places an infinite value on even minor health effects, which is a rather tenuous basis for policy.

THE COSTS OF THE EPA LEAD STANDARD

The most beneficial consequence of the White House regulatory review process is that agencies now calculate the projected costs of significant new regulations. EPA calculated these costs to comply with the oversight guidelines, but it did not include cost considerations in the policy design since doing so would have violated the requirements of the Clean Air Act.

The proposed lead standard, which was based on monthly exposure levels of 1.5, entailed capital investment costs of $620 million and annualized costs of $137 million. The variation in the impact by industry is considerable, with two-thirds of the burden being on two industries—primary copper smelting and grey iron foundry casting—and almost all of the remainder borne by three industries—primary lead smelting, secondary lead smelting and the lead-acid battery industry.

The relative impact of these costs also varied substantially, as the lead standard would require capital investments almost five times greater than the current level of capital expenditures in the primary copper smelting industry and the grey iron foundry casting industries, and considerably smaller effects on other industries.

The differential burdens imposed on these industries suggest that there is also likely to be wide variation in the incremental costs of lead emission reduction across different industries. Since within any particular area the
benefits of lead exposure reduction depend on the level in the air, not on which source has been affected, the most cost-effective way to reduce lead exposures is to vary the emissions standard across industries to equalize the incremental costs of lead emissions reductions.

This type of calculation is not possible with the data available since the focus of EPA's cost estimates was on the overall cost for the economy rather than on the variation of these costs with different standards. As with the benefit information discussed earlier, EPA did not generate the type of information needed to make an informed policy choice since their own policy objectives emphasized risk reduction rather than benefit-cost tradeoffs, and the requirements imposed by the regulatory review process were not sufficient to redirect EPA's efforts as fully as needed.

It is generally agreed that the impact of the regulatory review process on risk regulations in the 1970s was, at best, relatively modest. To some extent, the failure to reform risk regulation was attributable to the absence of more effective political power for the regulatory review agency. But even if the influence of the regulatory oversight group had been strengthened, optimal decisions would not have resulted without a change in the substantive focus of the agency's regulatory analyses. As the EPA lead case indicates, the information needed to make these choices was never provided.

Ideally, one would like to have perfect information about the implications of policies so that the policy choice can be based on the relative merits of the available alternatives. Unfortunately, some key ingredients of the analysis, such as the nature of the dose-response relationships, are not well known. In these cases, policymakers should explore the implications of different assumptions about the nature of these relationships; the present approach to decisions can only be justified if one assumes that the risk jumps from zero to one once a critical threshold is reached.

Many presently omitted components of the analysis are excluded because of the EPA's narrowly construed policy objective rather than because of the absence of the necessary information. Regional variations in the benefits of a regulation hinge primarily on the size and composition of the exposed population. Similarly, the heterogeneity in the costs imposed by a regulation also depends on usually well known parameters, such as the region's industry mix and the difference in the costs of compliance by industry (Viscusi 1983).

Establishment of a sound basis for regulation will promote the better utilization of currently available information and will enable policymakers to make more precise judgments on the sensitivity of the optimal policy choice to the values of parameters that are not known. Moreover, since the information provided by agency staff and by contractors to the agency is usually linked to the agency's policy objectives, the provision of pertinent information should be enhanced by the use of better criteria for selecting policies. Whether or not such information will be provided depends both
on the judicial interpretation of a risk-based legislative mandate and the regulatory oversight requirements. These matters are the focus of the remainder of the paper.

THE OSHA COURT CASES

The types of inadequacies affecting the EPA lead policy were not restricted to policies under the Clean Air Act but exemplified the general kinds of distortions generated by a narrowly defined risk orientation. Other agencies also had relatively myopic concerns, but uncertainties raised by the OSHA court tests made these risk reduction mandates less pronounced and brought new rulemaking activity by risk regulation agencies almost to a standstill during the second half of the Carter Administration.

The judicial uncertainties were resolved by the 1980 benzene decision and the 1981 cotton dust decision by the U.S. Supreme Court. In the benzene case, the court overturned the OSHA standard on the grounds that OSHA had not shown that the hazard was a “significant risk.” What the court meant by significant risk is unclear. While the focus was apparently on the probability of the adverse outcome, presumably the severity of the outcome and the number of people affected also affect judgments regarding significance. If all of these factors are permitted to enter, then the significant risk concept becomes tantamount to a benefit calculation. The benefits of risk reduction are simply the product of the change in the risk probability, the number of people affected, and weights for the severity of the health effects, where these weights are based on the beneficiaries’ willingness to pay for the risk reduction.

Whereas the benzene case appeared to limit the discretion of risk regulation agencies, the cotton dust decision pointed in the opposite direction. OSHA was explicitly prohibited from using a benefit-cost criterion to set standards for “toxic substances and harmful physical agents,” such as cotton dust. Instead, reduction of significant risks was to be undertaken to the extent feasible, where feasibility was given the narrow interpretation of “capable of being done.”

Although intended to resolve the confusion regarding legislative mandates, the cotton dust case was not conclusive. The original cotton dust standard was set on the basis of a cost-effectiveness criterion, whereby the stringency of the standard was varied according to the stage of processing (Viscusi 1983, Chapter 7). OSHA in effect established an arbitrary cost-risk tradeoff not linked to a specific benefit level; it did not attempt to suppress cost considerations or to focus only on technical feasibility, which is the concept upheld by the court.

More fundamentally, there is no way to assess technical feasibility independent of cost considerations. At one extreme, feasibility might be viewed in terms of the technical possibility of compliance if one were
willing to commit sufficient funds, however great. Such an interpretation would lead to unduly burdensome regulations, and in practice cost considerations and cost-risk tradeoffs will enter, though perhaps not explicitly.

The net effect of these court cases is to uphold a risk-based orientation but to make regulators focus only on significant risks, an approach which presumably embodies many benefit considerations, and to emphasize technical feasibility, which intrinsically involves cost considerations. Moreover, cost-effectiveness tests, such as those used in setting the cotton dust standard, have not been ruled out.

In the case of independent agencies, the effect of these decisions has been to give independent agencies relatively free reign. The 1981 shift of the regulatory oversight functions to OMB sacrificed the authority of CWPS to intervene in rulemaking proceedings of independent agencies so that these agencies are constrained only by their legislative mandates, judicial review, and possible congressional action. If the agencies interpret these mandates narrowly, focusing on risk considerations alone, the result will be a continuation of the narrow risk-based policies of the past.

Unlike OSHA, which addresses significant risks, the Consumer Product Safety Commission (CSPC) focuses on “unreasonable risks.” The level of risk qualifying as unreasonable has never been defined. In practice, the CPSC has focused on total injuries rather than the risk level on a use-adjusted frequency basis (Viscusi, forthcoming). In most cases it is the total number of product accidents that has dictated policy interventions because of the agency’s focus on total injuries rather than market failures. This has led to the regulation of comparatively safe products posing annual death risks of 1 in 100,000 or less. The risk-based criterion provides little effective constraint on policies. Since CPSC has explicitly disavowed the use of a benefit-cost test, the potential for misguided policies is great.

The situation at the Nuclear Regulatory Commission (NRC) is similar since NRC has recently determined that its safety criterion is whether or not nuclear plants pose “significant additional risk.” More specifically, NRC has proposed that the risk of instant death or lethal cancer from nuclear accidents for all persons should not exceed 1/1000 of their overall risk from other causes.

Such arbitrary risk-based criteria certainly do not provide a sound basis for policy. What matters is whether the benefits of risk reduction (including the number of people affected) are commensurate with the costs. At the very minimum, the agency should adopt a cost-effectiveness approach whereby it calculates the cost per case of cancer prevented and then adopts the policies that will control these nuclear risks at the least expense. Tighter regulations or weaker regulations may emerge using a benefit-cost tradeoff, depending on the particular circumstances. What is clear is that arbitrary selected risk cutoff levels do not provide a sound basis for policy.
THE REGULATORY OVERSIGHT PROCESS

The implications of the OSHA decisions for executive branch agencies are less sharply defined. The Reagan Administration strengthened the oversight process, imposing a benefit-cost test except when doing so was ruled out by the agency’s legislative mandate. Since OSHA cannot base policies on such a test, for that agency the new rules have had limited applicability. Similarly, the Food and Drug Administration bases its drug regulations on the existence of a “substantial risk,” and the Delaney Amendment requires FDA to reduce food cancer risks to zero. The National Highway Traffic Safety Administration (NHTSA) has also resisted OMB, as it refuses to even do cost-effectiveness (i.e., cost per life saved) calculations for its regulations, much less to act on the implications of such analyses. EPA has remained in roughly the same position as was illustrated in the lead standard case.

While benefit-cost tests cannot be formally imposed, OMB has been successful in making agencies provide the kind of information needed to make such a determination. In most instances, benefits and costs are both calculated quite explicitly, although the agencies will not explicitly compare these magnitudes when a benefit-cost test is prohibited.

If agencies had the same discretion they possessed under the previous administrations, these additional informational inputs would be of little consequence. Agencies would continue to issue policies based on narrow risk-based concerns. In the past, the White House oversight group could potentially have halted these policies, but doing so required Presidential intervention. In the major CWPS cases in which the controversy was elevated to that level—the OSHA cotton dust standard and the EPA “superfund” policy—the decision was in favor of the regulatory agencies so that this appeals process made little difference during the Carter Administration.

The balance of power is quite different under the present oversight system. Before proposing a regulation, agencies need prior approval by OMB. In practice, OMB examines the regulatory analyses in detail and is able to impose very stringent criteria on new regulations. There is no practical barrier to applying a benefit-cost test. Agencies are required to provide the information needed for such a judgment, and OMB need not publicly state the reasons for its decisions to halt or approve regulatory initiatives.

Agencies could potentially appeal OMB vetos of regulatory proposals to the Vice-President’s regulatory task force. Since the executive director of this task force is also the head of the OMB oversight group, however, the staff support for the appeals process will be provided by the same OMB staff that rejected the original proposal, creating a strong presumption in favor of OMB and against the agency.

It is noteworthy that notwithstanding the restrictive legislative mandates
of the risk regulation agencies, the first case appealed to the Vice-President focused on benefit-cost issues. In 1982, OMB refused to allow OSHA to propose its hazard communications standard because the risk reduction assumptions were overly optimistic so that the costs were far in excess of the benefits. OSHA appealed OMB’s action, focusing on the merits of the OMB arguments rather than on the obligations created by the Occupational Safety and Health Act. Vice-President Bush likewise did not focus on the legal obligations, but requested that the agencies settle the substantive differences in the analyses before making his decision.

I was asked by OMB and the Department of Labor to prepare an unbiased assessment of this conflict. Although almost all of OMB’s substantive objections were correct, OSHA’s failure to value the health benefits properly led to a significant understatement of benefits. In particular, measures of individual willingness to pay for risk reduction exceeded OSHA’s earnings loss estimates by a factor of 10. Shortly after the White House received my analysis supporting the desirability of the regulation on benefit-cost grounds Vice-President Bush overruled OMB and permitted OSHA to propose the regulation. 4

What is most striking is not the policy outcome but the fact that benefit-cost concerns dominated the policy debate. In the Carter Administration, the White House oversight group occasionally raised such issues, but it seldom pursued them since the regulatory agency officials were not receptive to such an approach. Most suggested regulatory reforms were intended to eliminate gross inefficiencies rather than to obtain an ideal policy outcome.

If OMB continues to use a benefit-cost test, the policies that emerge will be much sounder than before. However, there is no assurance that this will be the case, and with no public accountability there is no means of ascertaining the basis of OMB’s actions.

The impetus for OMB decisions may stem in part from the internal structure of the oversight group. The policy analysis staff, which consists of the former CWPS regulatory group, focuses on benefit-cost issues, while the much larger paperwork staff is concerned with the regulatory burden per se. If the paperwork staff’s influence dominates, the results will be regulatory decisions based primarily on costs rather than benefit-cost tradeoffs. It is doubtful whether cost-based policy choices will be much better than the risk-based policies on the past.

The potential for abuse has become apparent in the Department of Transportation’s decision to halt NHTSA’s passive restraint standard for autos. Although the decision may have been correct, the justification for postponing the regulation was not compelling. The Department of Transportation based its decision on what it viewed to be ambiguities in the evidence regarding the effectiveness of passive restraints. Similar ambiguities in the benefit estimates pertain to virtually all risk regulation efforts. If regulations are rejected whenever benefits are controversial and cost estimates are precise, a strong bias against regulations, many of which may be good, will
emerge. The policy criterion should be the expected benefits less costs, based on the best evidence available, even if it is imprecise. Whereas policies previously were based on risk considerations alone, there is the danger that cost considerations have now become dominant. Neither partial approach is an effective means for promoting sound risk regulation policies.

Although it is too soon to tell whether such a policy shift has occurred, OMB has already exhibited a tendency to rely on the inherent ambiguity of the scientific evidence to serve as a justification for its policy decisions. In the case of the OSHA hazard communication standard, for example, the lack of any precise estimate of the share of cancer cases arising from occupational exposures was the major substantive concern expressed by OMB. For proposals under earlier administrations, such as the EPA lead standard, agencies used the ambiguity regarding the magnitude of the dose-response relationship to justify very stringent policies tied to the lowest exposure level at which some risk was possible. The purported justification for these actions was the legislative requirement to provide a “margin of safety” or some similar guarantee of safety. OMB can now rely on this same ambiguity to argue that agencies have failed to show that standards will result in a significant reduction in risk. OMB may adopt this approach publicly but in practice may base its policy decisions on benefit-cost judgments, cost considerations, or some other criterion. Although such tests cannot be formally used in the wake of the cotton dust case, there is no practical limit to OMB’s discretion.

The somewhat muddled scientific basis for risk regulations consequently creates substantial political maneuverability for making regulatory decisions on the basis of transient political judgments rather than the long-term interests of society. So long as the informational inputs to benefit-cost analyses remain imprecise, this discretion will remain. Although most recent attempts to reform the regulatory process have focused on the economic criteria for policy design and evaluation, equally important is the underlying scientific basis for these policies.

CONCLUSION

Meaningful regulatory reform requires three kinds of changes. First, the risk-based legislative mandates of the regulatory agencies should be replaced with an explicit benefit-cost test or, at the very minimum, elimination of legislative requirements that prohibit such tests. This change will enable policymakers to make the kinds of tradeoffs needed so that balanced policies will emerge in the agencies’ policy design process. Second, Congress should give OMB the authority to make public its regulatory positions by returning to the oversight group the public filing authority the CWPS group had under Ford and Carter. OMB also should be required to make public the reasons for its regulatory decisions and to document these decisions with the
same thoroughness that CWPS did in the past.

Despite OMB’s public commitment to benefit-cost analysis, this criterion for decision does not ensure optimal decisions. Particularly for risk regulation policies, there is often a wide divergence in estimates of the benefits of the regulation. Benefit-cost analyses can best serve to define the nature of the policy debate rather than resolve all policy controversies. Cost-effectiveness analysis can serve a similar role, although ultimately policymakers must select a cost per risk reduction cutoff, at which time this criterion becomes tantamount to a benefit-cost test. The extent to which the function of policy analysis will be constructive depends in part on the quality of the scientific evidence underlying the regulation. The present scientific ambiguities serve to limit the usefulness of economic analyses which can be more readily manipulated when the underlying technical information is imprecise. Even with imprecise evidence one can make sounder regulatory decisions than have been made in the past by using the limited evidence available to promote more balanced approaches to risk regulation.
NOTES

1. For further discussion of the valuation of health effects and related policy issues, see Viscusi (1983).
2. These estimates are based on EPA’s *Background Support Document for Economic Impact Assessment of the Lead Ambient Air Quality Standard* (January, 1979). These cost estimates were analyzed in some detail within the White House oversight unit in the insightful internal memorandum by Thomas Hopkins and Dianne Levine.
3. The 1980 benzene case is the U.S. Supreme Court Decision in the Case of AFL-CIO Industrial Union Dept. v. American Petroleum Institute, et. al., and the 1981 cotton dust case is the Decision in the Case of American Textile Manufacturers Institute et.al. v. Donovan, Secretary of Labor.