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REGULATORY ECONOMICS IN THE COURTS: AN ANALYSIS OF JUDGE SCALIA'S NHTSA BUMPER DECISION

W. KIP VISCUSI*

I

INTRODUCTION

The automobile bumper standard issued by the National Highway Traffic Safety Administration (NHTSA) in 1982 was the product of a decade of policy debate.[1] This debate continued in the courts until ultimately the NHTSA bumper standard was upheld in 1985. Judge Antonin Scalia authored the majority opinion in the case upholding the standard, and his opinion is the subject of this paper.

The NHTSA bumper standard is by no means a landmark regulation with sweeping economic consequences. The debate over the standard centers on the degree of protectiveness to be required of front and rear automobile bumpers. In particular, the issue is whether either or both bumpers should be required to withstand a 2.5 mph crash or a 5.0 mph crash. The impact of speed on bumper effectiveness, however, is a concern primarily with respect to minor accidents. Bumper effectiveness is less of a concern in severe crashes, where occupant safety is at stake. As a result, economic rather than safety concerns dominate the debate over the bumper standard. The fundamental question is whether stronger bumpers will save consumers money.

The primary advantage of a 5.0 mph bumper is its ability to withstand more severe impacts than a 2.5 mph bumper. Higher impact tolerance results in lower repair costs and fewer automobile insurance claims for minor accidents. This latter feature has made the insurance industry an avid supporter of the stronger bumper, as minor accidents involve a high proportion of administrative costs relative to the size of claims. To the extent that state insurance regulations are based on the ratio of dollar losses to total

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1. For a history of the standard, see Center for Auto Safety v. Peck, 751 F.2d 1336, 1338-42 (D.C. Cir. 1985) (Scalia, J.). My own views on the NHTSA bumper standard are summarized in Viscusi, *Health and Safety*, REG., Jan.-Feb. 1982, at 34, 35.

premiums, reduction of minor accidents through the use of impact-tolerant bumpers will boost overall profits in the insurance industry.

From the consumer's standpoint, however, the stronger bumper is not necessarily superior to the 2.5 mph bumper. Indeed, stronger bumpers are not intrinsically superior, or they would be required to withstand 55 mph crashes. Some limit on bumper effectiveness is desirable, and the reason becomes apparent upon consideration of the advantages of the 2.5 mph bumper as compared with the 5.0 mph bumper. First, a 2.5 mph bumper is cheaper to install and, if damaged, cheaper to replace. Second, more durable bumpers weigh more (primary weight), and their use requires that additional supporting weight (secondary weight) be added to the design of the car. The addition of secondary weight requires that more metal be used in auto design, hence reducing fuel efficiency. The principal supporter of the weaker standard has been Houdaille Industries, a manufacturer of 2.5 mph bumpers.

Although the stronger bumper has traditionally been supported by those who view themselves as consumer protection advocates, whether the 5.0 mph bumper is in fact more desirable for consumers is not readily apparent. An analysis of the benefits and costs of the alternatives is needed to resolve the issue. NHTSA was required by Congress to perform such an analysis,[2] and much of the Scalia decision is concerned with the benefit-cost issue.

In assessing the Scalia decision, this article focuses on the following three issues: First, what role does economics play in the framing of the legal issues? For example, does the decision pose the regulatory choice in economic efficiency terms? Second, what is the character of the legal arguments used? Is sound economic reasoning employed? Third, does economics make a difference in the outcome of the case?

Economic analysis plays a fundamental role in the NHTSA bumper decision. Judge Scalia, exercising judicial discretion,[3] poses the regulatory choice in benefit-cost terms. The structure of the decision is almost entirely that of a benefit-cost analysis, and the economic reasoning throughout is sound. Although economics clearly plays an instrumental role, the decision in effect upholds an existing economic analysis by a regulatory agency instead of introducing an entirely new analysis.

It should be emphasized that the dominance of economics in this decision is the exception rather than the rule. Even within the range of issues that Judge Scalia has considered, this decision represents what may be regarded as the most extreme example of the use of economics in his judicial decisionmaking. As Judge Scalia has observed: "It is utterly unrealistic to expect federal judges to engage in this sort of exercise on a regular basis."[4]

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2. *See* 15 U.S.C. § 1912(b)(1) (1982).

3. *See* Center for Auto Safety v. Peck, 751 F.2d 1336, 1338-42 (D.C. Cir. 1985) (Wright, J., dissenting).

4. Letter from Judge Antonin Scalia, U.S. Court of Appeals, D.C. Circuit, to Professor W. Kip Viscusi, University of Chicago (May 16, 1986). This letter was in general supportive of my analysis, although Judge Scalia did wish to emphasize that this was an atypical decision.

Perhaps economics has played such a small overall role in Judge Scalia's caseload because his cases deal primarily with matters of administrative law, where the main issue is whether a regulatory agency has undertaken proper procedures, as opposed to whether the agency's actions maximize some objective defined in economic terms. Nevertheless, the NHTSA bumper decision is a classic example of the use of regulatory economics in the courts; as such, the decision merits critical examination.

II

FRAMING THE REGULATORY ISSUE

The NHTSA bumper regulation is subject to two distinct sets of legislative requirements. First, the Motor Vehicle Information and Cost Savings Act (Cost Savings Act) stipulates that the bumper standard must meet a benefit-cost test.[5] Second, this Act also requires that the standard not conflict with any safety standard under the National Traffic and Motor Vehicle Safety Act of 1966 (Safety Act).[6] The Safety Act prohibits the promulgation of any regulation that will lead to "unreasonable" risks of an accident.[7] Under both of these acts, the court must uphold the regulatory decisions of NHTSA unless they are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."[8]

The Scalia decision places greatest emphasis on the benefit-cost considerations. In framing the issues in the introductory section of his opinion, Scalia gives a lengthy discussion of the history of NHTSA's benefit-cost studies and the nature of the tests that were performed. Scalia views the likelihood of "arbitrary or capricious" behavior to be particularly unlikely with respect to such benefit-cost analyses. Scalia urges that the court should not substitute its judgment for that of the agency, especially "when the agency is called upon to weight the costs and benefits of alternative policies since '[s]uch benefit-cost analyses epitomize the types of decisions that are most appropriately entrusted to the expertise of an agency . . . .' Our role is to determine 'whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment.' "[9] In response to the petitioners' assertion that the agency decision should be subject to "more heightened and exacting scrutiny" because the regulation reverses an earlier policy, Scalia notes that the Supreme Court has made clear that differential standards do not apply to rescissions of a rule.[10]

Scalia thus selects the benefit-cost test as the dominant criterion for assessing the agency's regulation and views such a test as the type of matter for which agency decisions are less likely to be "arbitrary or capricious." The

5. 15 U.S.C. § 1912(b)(1) (1982).
6. *Id.* § 1912(b)(2).
7. *Id.* § 1391(1).
8. 5 U.S.C. § 706(2)(A) (1982).
9. Center for Auto Safety v. Peck, 751 F.2d 1336, 1342 (D.C. Cir. 1985) (Scalia, J.).
10. *Id.* at 1342-43.

dominance of the benefit-cost test, however, hinges on the presumed insignificant relationship of the bumper standard to safety. As will be discussed below, neither NHTSA nor Judge Scalia view safety as a significant concern raised by the choice between the 2.5 mph and the 5.0 mph bumpers.

Judge Wright displays a quite different emphasis in his dissenting opinion. He claims that the new regulation is "first of all, a change in a safety standard."[11] He later concludes that "any alteration of the bumper standard to achieve cost reductions as mandated by the Cost Savings Act can take place only after a determination that such alteration meets all of the criteria for an alteration of the bumper standard as a motor vehicle safety standard under the Safety Act. Any review under the Cost Savings Act, therefore, must give precedence to the Safety Act review."[12] Although Wright does not assert that the bumper standard has significant safety implications, he does conclude that there is "manifest ambiguity . . . on the question *whether the agency ever considered safety concerns under the Safety Act at all.*"[13] In Wright's view, the issuance of the regulation was therefore an arbitrary and capricious regulatory decision. (The degree to which safety concerns were considered by the NHTSA will be the focus of section III.)

In addition to disagreeing with Scalia's emphasis on benefit-cost analysis rather than on safety, Judge Wright also challenges Scalia's claim that reliance on a benefit-cost approach influences the court's role in reviewing the regulation.

> The mere fact that an agency is operating in a field of its expertise does not excuse us from our customary review responsibilities. And, where the agency's reasoning, although complex, is rational, clear, and complete, we must affirm. Contrarily, where the agency's reasoning is irrational, unclear, or not supported by the data it purports to interpret, we must disapprove the agency's action.[14]

Although reliance on a benefit-cost test certainly does not eliminate the court's review function, Scalia never claims that this is the case. Indeed, his majority opinion provides a comprehensive review of the components of NHTSA's benefit-cost analysis. If Scalia had accepted the agency's views at face value, his review of the NHTSA analysis—a review which is sometimes critical—would have been unnecessary.

What is missing from the Scalia decision is a detailed analysis of the role a benefit-cost test plays in decisionmaking. In effect, benefit-cost analysis is an accounting system whereby an agency tallies the various categories of beneficial and adverse effects of a policy and attempts to assign a dollar value to these effects. Because this procedure is essentially a structure for recognizing and comparing diverse policy impacts, it tends to promote more "rational" and less "capricious" decisions.

Such analyses, however, are subject to two possible deficiencies. First, the categories of benefits and costs may be incomplete. Second, categories of

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11. Center for Auto Safety v. Peck, 751 F.2d at 1372 (Wright, J., dissenting).
12. *Id.*
13. *Id.* at 1375.
14. *Id.* at 1373.

benefits and costs may be reassessed. In the benefit-cost analysis of the bumper standard, there is no indication that any benefit or cost component has been omitted other than safety considerations. Although Judge Wright views such considerations as potentially consequential, Judge Scalia and NHTSA view safety considerations as insignificant. Furthermore, the economic reasoning required in valuing the benefits and costs of the bumper standard is fairly elementary. Assessment of the costs and benefits hinges on technical parameters—the effectiveness of bumpers in reducing damage, the amount of secondary weight generated by a heavier bumper, and similar factors. With respect to these matters, Judge Scalia defers largely to the agency's technical expertise. Hence, the potential deficiencies inherent in benefit-cost analyses do not appear to be operative in the bumper standard analysis.

Although there is no reason to believe that the most recent NHTSA analysis was flawed in any way, it is critical to note that the performance of a benefit-cost test does no more than provide a coherent structure for the agency's analysis. Whether the components of that structure are sensible is quite a different issue.

The greatest experience with benefit-cost analysis has occurred in the water-resources field, where the U.S. Bureau of Reclamation and the Army Corps of Engineers have been required for several decades to show that their projects pass a benefit-cost test.[15] The history of these projects has been one of highly distorted benefit assessments and substantial underestimation of project costs. Notwithstanding the application of a benefit-cost test, these agencies' policies have become almost synonymous with political pork-barrel programs.

The integrity of the NHTSA in this regard appears to be at a much higher level. There are no glaring deficiencies in the analytical approach taken in the 1982 study, nor is there evidence that the agency manipulated its assumptions over time to achieve an intended result. There is certainly no basis for Judge Wright's rather sweeping claim that "NHTSA proceeded to perform a benefit-cost analysis that appears, given the contortions that the agency went through to reach its final conclusion, to have been solely a formalistic exercise aimed at justifying a preordained result."[16]

Indeed, it is rather remarkable, given the several presidential administrations between 1971 and 1982 and the changes in NHTSA's overall policy recommendation, that Wright does not cite a single inconsistency in the analyses prepared by NHTSA over that time.[17] In particular, in 1971 NHTSA required a 5.0 mph front bumper and 2.5 mph rear bumper. In 1976 NHTSA issued its first post-Cost Savings Act bumper standard after making

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15. For a critique of the cost-benefit procedures of the Bureau of Reclamation, see R. BERKMAN & W. VISCUSI, DAMMING THE WEST 7-9, 13-14, 34, 109, 191, 204 (1973).

16. Center for Auto Safety v. Peck, 751 F.2d at 1371 (Wright, J., dissenting).

17. The history discussed below is traced in Center for Auto Safety v. Peck, 751 F.2d at 1338-42 (Scalia, J.).

three different proposals over the 1973-1976 period. In its first benefit-cost analysis of the bumper standard undertaken in 1977, NHTSA found that the 2.5 mph standard was superior to the previously adopted 5.0 mph standard. In early 1979, in response to a Senate request, NHTSA published a benefit-cost analysis which supported the 2.5 mph standard. This analysis was revised later in 1979 to show that the 5.0 mph standard was preferable. In April 1981, NHTSA speculated that a 5.0 mph rear bumper was not cost effective, but that a 5.0 mph front bumper might be cost effective. In May 1982, the agency concluded that a new 2.5 mph standard for front and rear bumpers was desirable in each case. Surely, if a benefit-cost test can be manipulated to achieve "a preordained result," then NHTSA economists were somewhat remiss in not being sufficiently imaginative in doing so. As a result, Joan Claybrook, while serving as Administrator of the NHTSA, was forced to make a rather dubious appeal to congressional intent to have bumper protection at the 5.0 mph level rather than at the economically desirable 2.5 mph level.[18]

Despite these various shifts in the agency's view, there is no evidence cited in the decision or in the dissenting opinion suggesting that the assumptions used were manipulated to produce a politically desired result. New information regarding the underlying assumptions was provided on a continuing basis by the affected parties.[19] In some cases the evidence pertained to accident data that became available only after the 5.0 mph bumpers were mandated. In addition, circumstances changed after the earlier analyses had been performed. For example, gasoline prices rose significantly.

Nevertheless, it is misleading to suggest that the NHTSA officials adhered to the highest standards of economic analysis. During the Carter Administration, the Director of NHTSA espoused the 5.0 mph standard, irrespective of whether the 2.5 mph standard was more cost-beneficial. Political factors may also have been at work, as the bumper regulation was included in the Reagan Administration's 1981 program of relief for the auto industry.[20] A similar regulatory reform option was also considered, but not adopted, under the Carter Administration. The influence of political factors does not in and of itself imply that the analyses were distorted or that the decisions were incorrect. A crisis in the automobile industry, for example, may have called political attention to the need for changes in policy.

It is not entirely coincidental, however, that NHTSA's position reversed with the change in political administrations. Because of the slim margin of superiority of the 5.0 mph standard in the 1979 NHTSA analysis, even modest changes in the assumptions underlying the analysis could alter the result.

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18. *See id.* at 1340.

19. A particularly active participant was Houdaille Industries, a West Virginia bumper manufacturer. Studies of various aspects of the standard were prepared for the Houdaille lawyers by Harvard economist David A. Wise. Professor Wise described these analyses to an attorney at Covington & Burling. Letters from Professor David A. Wise to Richard Copaken (Jan. 7, 1980; Jan. 23, 1980; Jan. 24, 1980; and Jan. 25, 1980).

20. For a discussion of the Reagan Administration's efforts, see Center for Auto Safety v. Peck, 751 F.2d at 1368-69 (Scalia, J.).

One such change was the rapid rise in gasoline prices during the 1979-1980 period. This and other factors omitted from the NHTSA analysis were called to the attention of NHTSA in 1979 by the White House Council on Wage and Price Stability (CWPS) and led to a reanalysis of the standard.[21] Although NHTSA placed greater emphasis on the set of assumptions that favored the 5.0 mph standard, the most plausible set of assumptions suggested to the CWPS economists that "the net social benefits associated with the 2.5 mph standard are greater than for the 5.0 mph standard."[22]

In an attempt to urge the NHTSA staff to revise their analysis in the light of this evidence regarding the implausibility of NHTSA's assumptions, the CWPS economists met with NHTSA officials in February 1980. This CWPS group was headed by the author, who at the time was the Deputy Director of CWPS. Although the NHTSA economists did not dispute the claim that the assumptions in the 1979 analysis regarding petroleum prices and secondary weight should be revised in favor of the 2.5 mph standard, they were unwilling to redo their analysis. The NHTSA economists suggested that making every change that might be warranted could lead to an unpredictable result. Their reluctance undoubtedly stemmed from the NHTSA Administrator's enthusiasm for the 5.0 mph standard, which became apparent when she exhibited a rather heated reaction to the CWPS accusation that the 1979 NHTSA analysis was "biased."[23]

At the end of the Carter Administration, most of the CWPS economists who had been involved in the NHTSA bumper standard were transferred to the Office of Management and Budget. There, they assisted in the preparation of the Reagan Administration's list of regulatory reform targets, a list which included the bumper standard. In addition, NHTSA officials updated the controversial assumptions underlying the 1979 analysis and, as will be discussed below, this led to the superiority of the 2.5 mph standard in the 1982 NHTSA analysis.

To say that one can rely on the judgment of NHTSA economists to produce a sound and completely unbiased analysis is politically naive. Nevertheless, it is difficult to argue that NHTSA's behavior has been "arbitrary and capricious." Except for the petroleum price assumption, all of NHTSA's technical assumptions have been in the general range of

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21. Letter from Michael M. Finkelstein, Associate Administrator Rulemaking, NHTSA, to Thomas Hopkins, Council on Wage and Price Stability (Jan. 14, 1980) (letter on file with author). In his letter, Finkelstein reviews the history of the interactions between the two agencies.

22. Letter from R. Robert Russell, Council on Wage and Price Stability, to Senator Robert Byrd (Feb. 26, 1980). This letter was a brief summary of the Council's economic views and was not a strongly worded advocacy piece against the bumper standard. It should be noted that Senator Byrd's home state—West Virginia—is the site of Houdaille Industries, a principal opponent of the 5.0 mph standard.

23. These concerns were expressed in a phone call by Joan Claybrook to Alfred E. Kahn, Advisor to the President on Inflation (Mar. 1980). In that call, Claybrook objected to the integrity of her staff being questioned. These concerns were also addressed in two letters. Letter from W. Kip Viscusi, CWPS, to Joan Claybrook, NHTSA (Mar. 5, 1980); letter from Alfred E. Kahn, White House, to Joan Claybrook, NHTSA (Mar. 27, 1980).

plausibility. Some assumptions have been modified to favor the 2.5 mph standard, but these modifications have not been so unfounded as to warrant a conclusion that there has been a major manipulation of the numbers. Given the uncertainties involved in such an analysis, some element of judgment is inevitable. This judgment may undoubtedly be affected in part by the politically desired result.

The NHTSA's failure to update the petroleum price assumptions until the 1982 analysis presents a greater departure from reasonableness. At the time of the 1979 NHTSA analysis, however, the likelihood of a major gasoline price increase was not as apparent as it became in subsequent months. In addition, once an agency has completed its analysis and made a policy decision, there is always some reluctance to redo that analysis. This reluctance is especially great when the analysis supports the political predisposition of the agency administrator.

These concerns do not imply that benefit-cost analysis is a useless sham that can be manipulated at will. Rather, the benefit-cost test should be regarded as a tool of advocacy not entirely different from noneconomic arguments that can be mustered in support of a policy. Judge Scalia is correct in arguing that an agency's benefit-cost judgments provide a sounder basis for policy to the extent that benefit-cost analyses provide a comprehensive approach to problems and, if properly utilized, lead to policies that are less likely to be reversed by the courts. Although benefit-cost analyses are not mechanisms that automatically calculate ideal policy without error, such studies should be viewed as more reliable and convincing advocacy tools than less structured political arguments for a policy.

III

SAFETY ACT CONSIDERATIONS

Irrespective of costs and benefits, it is clear that considerations under the Safety Act must be met before a bumper standard can be issued. Nevertheless, these safety considerations are not absolute. Auto safety standards merely require elimination of those risks that are "unreasonable."[24] The closest parallel in terms of legislative language is the Consumer Product Safety Act, which requires the Consumer Product Safety Commission to remove all "unreasonable risks" from consumer products and to do so in a manner that is "in the public interest."[25] There is also a parallel with the mandate of the Occupational Safety and Health Administration (OSHA).[26] As interpreted by the U.S. Supreme Court in the benzene case, OSHA's mandate is not absolute.[27] Rather, as the Supreme Court has observed, OSHA has "an obligation to find that a significant risk is present before it can characterize a

24. 15 U.S.C. § 1391(1) (1982).
25. 15 U.S.C. § 2058(d)(1) (1982).
26. 29 U.S.C. § 651(b) (1982).
27. AFL-CIO v. American Petroleum Inst., 448 U.S. 607, 614 (1980).

place of employment as 'unsafe.' "[28] NHTSA consequently need not be concerned with the Safety Act provisions if the bumper standard does not bear a significant relationship to safety.

Bumpers may potentially affect safety in several ways. The height at which bumpers are placed and the material from which bumpers are made are two variables through which bumpers may affect safety. Nonuniform bumper heights, for example, may lead to greater tail-light damage, thereby increasing the risk of accident. At the time of the Scalia decision, however, the uniformity of bumper heights was already well established. Similarly, bumper material and its effect on pedestrian safety was not a concern. The Scalia decision consequently focuses more narrowly on two other mechanisms by which bumpers affect safety—the protection of vehicle safety equipment and crash energy management.[29]

With respect to the protection of vehicle safety equipment, the Scalia decision reviews the NHTSA studies on safety in some detail. NHTSA's overall conclusion based on its studies was that "reduction of the 5/5 bumper standard would not have any significant effect on safety."[30] This conclusion was supported by NHTSA's review of the *Tri-level Study of the Causes of Traffic Accidents*,[31] which concluded that under two percent of all accidents were either probably or certainly caused by malfunctioning safety equipment in the range of bumper system protection.[32] Moreover, NHTSA concluded that most of this malfunctioning was due to normal wear and tear. Upon reviewing the NHTSA's safety studies, the Scalia decision proceeds to note that it is the incremental safety differential between the 5.0 mph bumper and the 2.5 mph bumper that is the fundamental matter of interest, and that this incremental differential is likely to be even narrower than perhaps expected.[33] The differential must, for example, be substantially discounted to reflect only that percentage of accidents involving failed safety systems which result in deaths or injuries. Although this line of reasoning does not involve economics per se, it does involve marginal analysis, which is at the heart of what most economic analysis has to teach.

The NHTSA conclusion that the 5.0 mph bumper bears no significant relationship to the protection of vehicle safety equipment was challenged by State Farm Insurance, which cited accident data that indicated that damage to safety items from model year 1974 cars (for which 5.0 mph bumpers were required) was less than for 1973 cars (for which 2.5 mph bumpers were required).[34] Scalia's majority opinion notes, however, that because the 1973

28. *Id.* at 655. Note: there is no such OSHA provision. The court also observed: "But 'safe' is not the equivalent of 'risk-free.' . . . [A] workplace can hardly be considered 'unsafe' unless it threatens the workers with a significant risk of harm." *Id.* at 642.

29. Center for Auto Safety v. Peck, 751 F.2d 1336, 1344-50 (D.C. Cir. 1985) (Scalia, J.).

30. 47 Fed. Reg. 56,643 (1982).

31. INSTITUTE FOR RESEARCH IN PUBLIC SAFETY, INDIANA UNIVERSITY, TRI-LEVEL STUDY OF THE CAUSES OF TRAFFIC ACCIDENTS (1979).

32. Center for Auto Safety v. Peck, 751 F.2d at 1344 (Scalia, J.).

33. *Id.*

34. *Id.* at 1346-47.

model year did not include a pendulum test for standardizing bumper heights, the relationship is perhaps spurious.[35] Moreover, Scalia's reworking of the State Farm data for 1978, a year in which there was a standardized height but a 2.5 mph bumper, shows no significant improvement in effectiveness for the 5.0 mph bumper as compared with the 2.5 mph bumper.[36] This statistical exercise serves to bolster the general conclusion that the bumper choice bears no significant relationship to auto safety.

The second safety concern focused on in the Scalia decision is crash energy management. With respect to crash energy management, the issue is whether a 5.0 mph bumper helps to dissipate the impact of the energy caused by a crash. Upon extrapolating the results of 30 mph barrier tests, NHTSA concluded that there was little difference between the two bumpers' ability to dissipate crash energy.[37] Moreover, Volkswagen suggested that a less durable bumper might be more protective to the extent that firms have more freedom to optimize the design of the entire crash management system.[38] Judge Wright's rebuttal to these concerns consists of his claim that NHTSA did not consider these safety matters with sufficient thoroughness. He argues, for example, that the agency "produced no support for its statement that it had considered crashes at lower speeds in its final rulemaking."[39] Judge Wright, however, cannot point to any evidence indicating that, from an engineering standpoint, the risk of injury to automobile occupants will be affected by the 5.0 mph bumper at crashes of any speed.

The task of the NHTSA was to prove that no significant difference exists between the two bumpers' crash energy management capabilities. The extent to which an agency should search to prove that no such difference exists is not easy to ascertain. Unless the agency's efforts are exhaustive, it will always be open to the criticism that a difference exists, but that the agency has not given the issue sufficient attention to find it. However, because fully comprehensive testing of all such relationships in which there are no readily observable differences is financially prohibitive, the agency must use some judgment in deciding how much to test. Unless testing will produce information that is particularly inexpensive or that promises to alter beliefs substantially, becoming fully informed will not be desirable.

The NHTSA faced a statistical decision problem in which acquiring additional information was possible, but costly. The question thus becomes whether NHTSA had any incentive to terminate this quest for information prematurely. Given the Reagan Administration's program of relief for the auto industry, it is possible that the NHTSA was reluctant to gather information that would lead to a departure from the benefit-cost test. However, in earlier administrations, particularly in those that supported a 5.0

35. *Id.* at 1346.
36. *Id.* at 1347 n.7.
37. *Id.* at 1349.
38. *Id.*
39. Center for Auto Safety v. Peck, 751 F.2d at 1382 (Wright, J., dissenting).

mph standard, there was no effort to show that the 5.0 mph standard offered significant safety benefits. The bumper standard has never been viewed as having significant safety implications, and there is no reason to question NHTSA's professional judgment on this issue.

IV

THE BENEFIT-COST ANALYSIS

The components of the agency's benefit-cost analysis, which is performed in order to meet the provisions of the Cost Savings Act, are less controversial than the safety issues. The decision divides these concerns into bumper system costs and bumper system benefits, using the 5.0 mph bumper as the reference point for both costs and benefits. Thus, the greater weight of the 5.0 mph bumper as compared with the 2.5 mph bumper represents a 5.0 mph bumper system cost rather than a benefit of the lighter 2.5 mph bumper.

The principal bumper system costs are (1) the extra expense of the heavier bumper plus the secondary weight it generates, and (2) the lower fuel efficiency owing to the increase in primary and secondary weight. The critical assumptions are largely technical in nature. NHTSA assumed that the 5.0 mph bumper generated an additional 15-33 pounds of primary weight,[40] where each pound of primary weight required the addition of 0.7-1.0 pounds of secondary weight.[41] This secondary weight assumption represents an increase to a more plausible figure from NHTSA's earlier 0.5 pound assumption.[42] Using updated gas price forecasts and, unlike the 1979 analysis, using OMB's required discount rate of ten percent, NHTSA calculated the discounted cost savings associated with the lighter bumper.[43]

The only legitimate controversy with respect to the cost calculations is that the secondary weight reductions which would result from adopting a lighter bumper would not be immediate, but would occur with a time lag because of the nature of the design changes required. The Scalia decision, however, views NHTSA's failure to account for this time lag in its cost calculation as acceptable, since the relative costs and benefits of the two standards would be unaffected if *both* the introduction of the 2.5 mph bumper and the weight reduction were delayed by the same amount of time.[44] Because secondary weight includes the supporting structures for a heavier bumper, Scalia views the design change as an integral process whereby the bumper and supporting structures would be altered simultaneously. If, however, a time lag occurs in the reduction of secondary weight after the introduction of the 2.5 mph bumper, as Judge Wright suggests, then NHTSA's failure to discount would be incorrect.[45] In both the majority and dissenting opinions, the economic

40. Center for Auto Safety v. Peck, 751 F.2d at 1353 (Scalia, J.).
41. *Id.* at 1354.
42. *See supra* note 21 (the analysis appended to the letter of Michael Finkelstein).
43. Center for Auto Safety v. Peck, 751 F.2d at 1351-53 (Scalia, J.).
44. *Id.* at 1354.
45. Center for Auto Safety v. Peck, 751 F.2d at 1385 (Wright, J., dissenting).

methodology for discounting is applied correctly. The discrepancy between the majority and dissenting opinions results from differing interpretations of the underlying timing of the automotive design process.

The principal benefit of the 5.0 mph bumper is its greater effectiveness in limiting damage in low-speed accidents. The pivotal assumption in NHTSA's analysis was NHTSA's estimate of relative effectiveness for the bumpers. The 2.5 mph bumper was assumed to be sixty-three to sixty-seven percent as effective as the 5.0 mph bumper.[46] These estimates, which were developed by NHTSA from crash data, were challenged by insurance company petitioners as being "guesswork."[47] Judge Scalia notes, however, that NHTSA viewed these assumptions as reflecting the best engineering judgment of experts at the agency: "We have no reason to disbelieve that statement, and engineering judgment is assuredly the sort of expertise that NHTSA preeminently possesses."[48]

It is with respect to this effectiveness assumption that Scalia makes particularly effective use of the consistency of the agency's analysis over time. Not only were the NHTSA's effectiveness assumptions unchanged, but

> NHTSA specifically asked the petitioners (and other rulemaking participants) in 1979: "Do the existing analyses represent the most appropriate methods of approaching a study of bumper standards at different impact speeds and levels of damage resistance? If not, what method should be used?" . . . . Though State Farm and IIHS, among others, responded with substantial comments . . . there was not even a suggestion that the effectiveness curves represented a fundamentally invalid methodology.[49]

Indeed, this line of argument could be used more generally to defend the integrity of the NHTSA analysis. The manner in which NHTSA presented its conclusions of the benefit-cost analysis is another object of controversy. Because of the uncertainty regarding different assumptions, NHTSA presented ranges of benefit and cost values rather than a single value. In interpreting these ranges, the petitioners suggested that NHTSA should simply average the results.[50] Judge Scalia makes the quite correct and analytically sophisticated response that "averaging values from all four sets of extreme assumptions would be statistically valid only if each of the four combinations had an equal probability of occurrence. The agency explicitly found, however, that it was 'virtually impossible' for the fourth combination . . . to appear in the real world."[51] In this, as in the other sections of the decision, Judge Scalia employs highly sophisticated economic reasoning.

46. Center for Auto Safety v. Peck, 751 F.2d at 1358 (Scalia, J.).
47. *Id.* at 1360.
48. *Id.*
49. *Id.* at 1361.
50. *Id.* at 1365.
51. *Id.*

V

WHAT ROLE FOR THE MARKET

Perhaps the greatest element missing from both the rulemaking procedure and the court's decision is a discussion of the role of market forces in promoting the efficient provision of bumpers. What market failure prevents consumers from receiving the correct bumper strength? It is conceivable, for example, that because cars are bundled commodities with multiple attributes, there is no assurance of an ideal market outcome. However, no such claims have been made. In the absence of any such inadequacy in the market, the failure of the market to provide 5.0 mph bumpers rather than 2.5 mph bumpers is, in and of itself, evidence that the benefits of a 5.0 mph bumper are lower than its costs.

The point here is not that the judiciary should routinely question the desirability of regulations and overturn regulations for which no existing market failure has been demonstrated. Rather, because the fundamental issue is whether the stronger bumper passes a benefit-cost test, examining the presence of a market failure is another way to address the benefit-cost issue. If there exists no inadequacy in the stringency of bumpers that would be observed in an unregulated market, then the costs of a more stringent bumper exceed the benefits.

Although Scalia never displays the kind of unbridled enthusiasm for market forces that one might expect from a former University of Chicago professor, he does exhibit an understanding of these forces when discussing one petitioner's motion on a limited remand.

> Finally, and most important of all, NHTSA's benefit-cost analysis simply assumed that all automobile manufacturers would adopt a 2.5 mph bumper system, whereas it seems probable that some manufacturers will continue to produce and will advertise more protective bumpers. The benefit-cost results of the circumstances are most unlikely to be random, since the more protective bumpers will appeal precisely to those consumers whose vehicles are more expensive to repair and whose time is economically more valuable, thus eliminating cases which skewed the agency's figures *against* the 2.5 mph standard . . . . [I]t seems that the proper referent for the agency's analysis should have been not a nation with 2.5 mph bumper cars, but a nation with the mix of bumpers that a 2.5 mph bumper would produce. The agency's failure even to attempt such a calculation was perhaps its most obvious inadequacy—and it was an inadequacy that went entirely to the petitioners' advantage.[52]

Although the discussion of the role of consumer heterogeneity and the market-matching process of product attributes is quite sound, the overall conclusion that the neglect of these market features bolsters the petitioners' arguments misses the more fundamental implications of market processes. The 5.0 mph bumper will be demanded by some consumers because the benefits of a 5.0 mph bumper exceed their costs for those with expensive cars or other characteristics that boost the value of sturdier bumpers. Similarly, the 2.5 mph bumper will be demanded by those for whom a 5.0 mph bumper imposes more costs than benefits. Scalia correctly observes that NHTSA's

52. *Id.* at 1370 (emphasis in original).

abstraction from the resulting heterogeneity biases the analysis against the 2.5 mph standard, which the petitioners oppose. Although oversights in analyses by government agencies should not be encouraged, in this instance the net effect of adjusting for the oversight will surely be to the petitioners' disadvantage. The omission of the consumer heterogeneity issue is typical of the kinds of simplifications generally made in regulatory analyses.

VI

CONCLUSION

Economics plays a substantial role in the NHTSA bumper regulation decision, not because the court frames the legal argument in economic terms, but because the Cost Savings Act is quite specific in its benefit-cost orientation. The role of economic analysis could perhaps be decreased. Judge Wright, for example, argues that the provisions of the Safety Act are more binding than those of the Cost Savings Act. However, no strong basis exists for subordinating the benefit-cost concerns.

As a result, the court in this case operates in a reactive mode, using the NHTSA analysis as its underlying framework. Judge Scalia provides a cogent critique of the NHTSA analysis, makes modifications in the analysis where needed, and in some instances provides a quite sophisticated economic analysis of the issues involved.

In this instance there can be little doubt that application of economic analysis has led to a sounder policy outcome. The issue of whether sturdier bumpers benefit consumers on balance is addressed quite directly by a benefit-cost test. The principal feature omitted from this efficiency calculation is distributional concerns which, to the extent that they are consequential, support the 2.5 mph bumpers. Why, for example, should low-income consumers who have inexpensive cars and low values for their time loss due to accidents (in terms of foregone wages) be required to purchase an expensive bumper system? Not only do these gains cost more than their accident-reduction benefits for the average consumer, but for the low-income consumer the gap will be even starker.

A related issue is whether the application of economic analysis has improved the quality of the legal decision. In this instance, it is difficult to envision how some reliance on economic analysis could have been avoided. The legislative provisions and the agency's analysis were in economic terms. Some economic reasoning was inevitable if the court was to address these issues sensibly.

A more general issue is whether the use of economic analysis will increase or decrease the role of the judiciary. Judges clearly cannot impose benefit-cost tests on policies when there exists no basis for doing so. Rather, their task is to assess whether the agency's actions were outside a range of reasonable behavior. As Judge Scalia observes:

> We do not reverse simply because there are uncertainties, analytic imperfections, or even mistakes in the pieces of the picture petitioners have chosen to bring to our attention . . . but only when there is such an absence of overall rational support as to warrant the description "arbitrary and capricious." That description is plainly not appropriate here . . . . [NHTSA's] conclusions are within the range of those a reasonable person could derive from the evidence presented. No more is necessary to survive our review.[53]

On balance, Scalia views the application of benefit-cost analysis as reducing the likelihood that an agency's views will be overturned by the court.[54] As noted above, this conclusion is likely to hold to the extent that benefit-cost analysis provides an internally consistent and comprehensive accounting system for considering a policy's diverse effects. Requiring that a policy meet a benefit-cost test, however, provides a well defined reference point against which rationality is to be judged. This latter feature may increase the likelihood that a policy will be overturned.

Consider, for example, the situation that would have prevailed if the Cost Savings Act had imposed no benefit-cost test. The NHTSA administrator could have required a 5.0 mph standard, citing evidence that these bumpers are more protective, are not prohibitively expensive, and are consistent with NHTSA's responsibilities to protect automobile consumers. Alternatively, NHTSA could have required only a 2.5 mph bumper, citing the higher costs of more protective bumpers and the absence of any safety benefits. In each case, a plausible basis would have existed for a particular course of action that would satisfy a loosely defined rationality criterion.

With a required benefit-cost test, however, a given set of agency actions are more likely to be found arbitrary and capricious. If an important benefit or cost component is ignored by the agency, then the regulatory decision can be overturned. The safety benefits of a sturdier bumper would have been one such component if there were any evidence that the safety effects were consequential. Similarly, gross misassessment of a benefit or cost component would cast doubt on the agency's action.

As a result, there is no reason to believe that the increased application of economic reasoning will necessarily reduce the burden on the courts. The use of the benefit-cost approach will tend to rationalize the policymaking process, but the requirement of a benefit-cost test imposes a more stringent standard of rationality. While increased use of economics will not necessarily reduce the burden on the courts, it should enhance the quality of judicial decisionmaking.

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53. *Id.*
54. *Id.* at 1342.