

COST-BENEFIT ANALYSIS AND ARBITRARINESS REVIEW

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ABSTRACT

When an agency fails to engage in quantitative cost-benefit analysis, has it acted arbitrarily and hence in violation of the Administrative Procedure Act? At first glance, the question answers itself: Congress sometimes requires that form of analysis, but if it has not done so, then agencies have discretion to proceed as they see fit. But as recent environmental and other decisions suggest, the underlying issues are far more complicated than they seem. The central reason is that for all its limitations, cost-benefit analysis remains the best available method for testing whether regulations increase social welfare. Whenever a statute authorizes an agency to consider costs and benefits, its failure to quantify them, and to weigh them against each other, requires a non-arbitrary justification. Potential justifications include the technical difficulty of quantifying costs and benefits; the relevance of values such as equity, dignity, and fair distribution; and the existence of welfare effects that are not captured by monetized costs and benefits. For the Environmental Protection Agency ("EPA") and other regulatory agencies, these justifications will often be sufficient. But in some cases, they are not, and agencies, including EPA, should be found to have acted arbitrarily in failing to quantify costs and benefits and to show that the benefits justify the costs.

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INTRODUCTION

In recent years, both the Supreme Court and lower courts have issued important decisions on the question whether agencies are required to engage in some form of cost-benefit analysis.¹ Some of those decisions raise difficult questions of statutory interpretation, asking whether Congress has explicitly tied the agency's hands. For example, do the words "appropriate and necessary" contemplate consideration of costs?² Does the word "feasible" permit or require agencies to balance costs and benefits?³ Other decisions involve arbitrariness review under the Administrative Procedure Act ("APA").⁴ The question might be whether an agency's interpretation of the governing statute is unreasonable under *Chevron* Step Two;⁵ it might involve arbitrariness as such.⁶ The most

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1. See, e.g., *Michigan v. EPA*, 135 S. Ct. 2699, 2706–07 (2015); Nat'l Ass'n of Home Builders v. EPA, 682 F.3d 1032, 1040–41 (D.C. Cir. 2012); *Bus. Roundtable v. Sec. Exch. Comm'n*, 647 F.3d 1144, 1149–51 (D.C. Cir. 2011); *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1194–98 (9th Cir. 2008); *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201, 1218–19 (5th Cir. 1991); *Secs. Indus. & Fin. Mkts. Ass'n v. U.S. Commodity Futures Trading Comm'n*, 67 F. Supp. 3d 373, 430–33 (D.D.C. 2014). Thirty-eight recent cases are examined in Caroline Cecot & W. Kip Viscusi, *Judicial Review of Agency Benefit-Cost Analysis*, 22 GEO. MASON L. REV. 575 (2015).
 2. *Michigan*, 135 S. Ct. at 2706–07.
 3. *Am. Textile Mfrs. Inst., Inc. v. Donovan*, 452 U.S. 490, 508–09 (1981). There the Court wrote:

Thus, [29 U.S.C. § 655(b)(5)] directs the Secretary to issue the standard that 'most adequately assures . . . that no employee will suffer material impairment of health,' limited only by the extent to which this is 'capable of being done.' In effect, then, as the Court of Appeals held, Congress itself defined the basic relationship between costs and benefits by placing the 'benefit' of worker health above all other considerations save those making attainment of this 'benefit' unachievable. Any standard based on a balancing of costs and benefits by the Secretary that strikes a different balance than that struck by Congress would be inconsistent with the command set forth in § 655(b)(5). Thus, cost-benefit analysis by the [Occupational Safety & Health Administration] is not required by the statute, because feasibility analysis is.

Id. at 509.

4. Pub. L. No. 79-404, 60 Stat. 237 (1946) (codified as amended in scattered sections of 5 U.S.C.). See, e.g., *Bus. Roundtable*, 647 F.3d 1144.
5. See *Chevron U.S.A. Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837, 843 (1984).

general question is this: If agencies have discretion to consider costs and benefits in making regulatory choices, is it arbitrary, and therefore unlawful, for them to refuse to do so? If so, what, exactly, does this obligation entail? Does it require use of numbers?

With the continuing emergence of the cost-benefit state,⁷ and what seems to be the general trend of recent decisions,⁸ these questions will inevitably arise with increasing frequency in the future. In principle, a duty to engage in cost-benefit balancing, taken as an inference from the prohibition on arbitrariness, could be invoked as an objection to a dazzling assortment of regulations from diverse agencies, perhaps above all EPA, but including the Department of Labor (“DOL”), the Department of Transportation (“DOT”), the Department of Treasury, the Department of Agriculture, the Securities and Exchange Commission (“SEC”), the Federal Communications Commission (“FCC”), and the Federal Trade Commission (“FTC”). Whenever an agency fails to calculate costs and benefits and to show that the latter justify the former, a litigant might contend that it has acted arbitrarily. Indeed, that objection is becoming increasingly common, especially but not only in the environmental area.⁹

In many cases, agencies do offer a public accounting of both benefits and costs, as required by Executive Order 13563,¹⁰ but in many cases, they do not such thing.¹¹ Whether or not some kind of public accounting is available, there is often room to contend that the agency has not provided sufficient quantification,¹² or that it has failed to show that the benefits justify the costs.¹³ For example, EPA might not offer actual numbers for all of the variables at stake,

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6. Because they do not raise different issues, I shall treat the two the same, referring in general to arbitrariness review.
 7. See generally Richard Revesz, *Cost-Benefit Analysis and the Structure of the Administrative State: The Case of Financial Services Regulation*, 34 YALE J. ON REG. (forthcoming 2017), <https://perma.cc/9VE5-ASFP>; CASS R. SUNSTEIN, *THE COST-BENEFIT STATE* (2002).
 8. See cases cited, *supra* note 1. An exceptionally valuable discussion, cataloguing agency failure to quantify many costs and benefits, is Jonathan S. Masur & Eric A. Posner, *Unquantified Benefits and the Problem of Regulation Under Uncertainty*, 102 CORNELL L. REV. 87 (2016). Masur and Posner offer many useful suggestions that might ultimately play a role in arbitrariness review of failures of quantification.
 9. See, e.g., *id.* For an illuminating, skeptical discussion in the context of financial regulation, see John C. Coates IV, *Cost-Benefit Analysis of Financial Regulation: Case Studies and Implications*, 124 YALE L.J. 882 (2015). For a more enthusiastic treatment, see Cecot & Viscusi, *supra* note 1.
 10. Exec. Order No. 13,563, 76 Fed. Reg. 3821 (Jan. 18, 2011).
 11. See Masur & Posner, *supra* note 8. One reason is that independent agencies are not subject to the standard requirements imposed by executive order on executive agencies, and often they do not produce cost-benefit analyses. See Revesz, *supra* note 7, manuscript at 14–25; OFFICE OF MGMT. & BUDGET, 2014 REPORT TO CONGRESS ON THE BENEFITS AND COSTS OF FEDERAL REGULATIONS AND UNFUNDED MANDATES ON STATE, LOCAL, AND TRIBAL ENTITIES 34–37, 105–07 (2014), <https://perma.cc/NS6A-C9JP>.
 12. *Id.* at 80–98.

or it might elect to proceed even though the monetized costs appear higher than the monetized benefits.

We could imagine a continuum of conclusions about how courts should respond to apparently inadequate cost-benefit analyses, reflecting judgments about two factors: (1) the appropriate intensity of judicial review and (2) the reasonableness, in principle, of agency decisions to depart from strict forms of cost-benefit analysis. It is important to separate those factors. If judicial review should be deferential,¹⁴ perhaps in light of judicial ignorance of highly technical issues and potential bias on the merits, judges ought not to require quantitative cost-benefit analysis but should uphold a wide range of approaches—not because all of them are genuinely sensible, but because the judicial role is properly modest and humble. This is, of course, an institutional reason to allow agencies room to select their own approach—and to specify it as they wish.

If, by contrast, departures from cost-benefit analysis are fully reasonable in principle, because important factors cannot be monetized or because that form of analysis does not deserve pride of place,¹⁵ then courts should uphold such departures, even if judicial review is appropriately aggressive. If there is no particular reason to favor cost-benefit analysis, or if quantitative analysis runs into reasonable normative and empirical objections, then there is no reason to give it pride of place under arbitrariness review. This is a substantive reason to allow departures from cost-benefit balancing.

If the institutional and substantive points are distinguished, they result in a matrix, capturing four imaginable positions:¹⁶

		Institutional Reasons	
		Favoring Passive Judicial Role	Favoring Active Judicial Role
Substantive Reasons	Skeptical About Cost-Benefit Analysis	A No particular duty of justification	B Doubting use of cost-benefit analysis
	Enthusiastic About Cost-Benefit Analysis	C Cost-benefit minimalism	D Cost-benefit maximalism

13. See *Bus. Roundtable v. Sec. Exch. Comm'n*, 647 F.3d 1144, 1151 (D.C. Cir. 2011); see also Revesz, *supra* note 7, manuscript at 6.

14. See Jacob Gersen & Adrian Vermeule, *Thin Rationality Review*, 114 MICH. L. REV. 1355 (2016) (arguing that deferential review is the practice and that this is desirable).

15. See generally FRANK ACKERMAN & LISA HEINZERLING, *PRICELESS* (2004); see also generally DOUGLAS KYSAR, *REGULATING FROM NOWHERE* (2010).

16. I am grateful to Daphna Renan for this suggestion.

For either institutional or substantive reasons, courts might adopt a minimalist position, which is that agencies are merely required to offer plausible reasons for whatever approach they select.¹⁷ So long as they have done so, they are under no obligation to quantify costs or benefits or to compare them to each other. The minimalist position is that in essentially all cases, an agency might rationally decide that quantification is not helpful, possible, or worthwhile, or it might adopt a rule of decision that does not involve cost-benefit balancing at all.¹⁸ Nonetheless, agencies do have to justify themselves, and if they decline to consider costs and benefits, and to compare them, they must offer an explanation (Cell C).

At the opposite pole is the maximalist position (Cell D), which holds that agencies act arbitrarily if they do not (1) quantify both costs and benefits and (2) show that the benefits justify the costs, unless (3) the statute requires otherwise or (4) they can make a convincing demonstration that in the particular circumstances, quantification is not desirable or possible. The maximalist view identifies quantitative cost-benefit analysis with non-arbitrariness, at least in the sense that an agency that rejects that form of analysis bears a heavy burden of justification. On the maximalist view, cost-benefit analysis is a necessary part of rational decision-making, at least as a presumption, and at least where it is feasible in light of available information. This view would of course have significant implications for many areas of regulatory law, including environmental protection.

Both the minimalist view (reflected in Cell C) and the maximalist view (reflected in Cell D) leave many open questions, but they suggest sharply opposed tendencies. By requiring at least some consideration of cost, the Supreme Court has made some movement beyond the minimalist position,¹⁹ but it has hardly embraced cost-benefit maximalism, and in dicta, it pointedly raised the possibility that it would reject it.²⁰ By contrast, the United States Court of Ap-

17. This position is one reading of *Fed. Comm'n Comm'n v. Fox Television*, 556 U.S. 502 (2009). For reasons to support minimalism, see Coates, *supra* note 9.

18. See, e.g., *Int'l Union, United Auto Workers v. Occupational Safety & Health Admin.*, 37 F.3d 665, 669–70 (D.C. Cir. 1994) (upholding agency rejection of cost-benefit balancing in favor of feasibility analysis).

19. See *Michigan v. EPA*, 135 S. Ct. 2699, 2707–08 (2015) (“Section 7412(n)(1)(A) directs EPA to determine whether ‘regulation is appropriate and necessary.’ Agencies have long treated cost as a centrally relevant factor when deciding whether to regulate. Consideration of cost reflects the understanding that reasonable regulation ordinarily requires paying attention to the advantages *and* the disadvantages of agency decisions. It also reflects the reality that ‘too much wasteful expenditure devoted to one problem may well mean considerably fewer resources available to deal effectively with other (perhaps more serious) problems.’ Against the backdrop of this established administrative practice, it is unreasonable to read an instruction to an administrative agency to determine whether ‘regulation is appropriate and necessary’ as an invitation to ignore cost.” (citations omitted)).

20. See *id.* at 2711.

peals for the District of Columbia Circuit appears to have held that, at least if an agency is required to consider costs, it is under an obligation to quantify both costs and benefits, and to make some kind of comparison between the two.²¹ In its controversial decision in the *Business Roundtable* case, the court came close to embracing the maximalist view.²²

My goal here is to explore the relationship between cost-benefit analysis and arbitrariness review. I will make numerous references to environmental law, the area where the issue arises most frequently, but it can be found in many other domains as well. As we shall see, the simplest and most modest conclusion, consistent with the minimalist position, is that whenever the governing statute authorizes an agency to quantify costs and benefits and to weigh them against each other, its failure to do so requires a non-arbitrary justification. But a range of justifications may be available, including (1) the infeasibility of quantifying costs and benefits, given limitations in available information; (2) the relevance of values such as equity, dignity, and fair distribution; and (3) the existence of welfare effects that are not captured by monetized costs and benefits. Importantly, however, these justifications are not available or adequate in all circumstances, which means that even under cost-benefit minimalism, an agency's failure to engage in a degree of quantification, and to show that the benefits justify the costs, will sometimes leave it vulnerable under arbitrariness review—at least when the governing statute authorizes those steps.

For institutional reasons, courts should be cautious in this domain, especially in assessing particular agency judgments about both costs and benefits; those issues often raise highly technical issues for which judges lack specialized competence. In some domains of regulatory law (such as telecommunications), quantitative cost-benefit analysis may be unusual, unsuitable, or unfamiliar, and it would be quite aggressive for courts to require it. In this light, there is no plausible defense of the maximalist position, broadly identifying arbitrariness with a failure to quantify.

At the same time, any decision not to quantify costs and benefits, or to show that the latter justify the former, does require some kind of explanation (at least if the governing statute does not rule cost-benefit analysis out of bounds). The central reason is that agencies should be increasing social welfare, and an assessment of costs and benefits provides important information about

21. *Bus. Roundtable v. Sec. Exch. Comm'n*, 647 F.3d 1144, 1150 (D.C. Cir. 2011).

22. For a flavor of the opinion:

Here the Commission inconsistently and opportunistically framed the costs and benefits of the rule; failed adequately to quantify the certain costs or to explain why those costs could not be quantified; neglected to support its predictive judgments; contradicted itself; and failed to respond to substantial problems raised by commenters. For these and other reasons, its decision to apply the rule to investment companies was also arbitrary.

Id. at 1148–49.

whether regulations would achieve that goal. Of course, the judicial role is very far from primary. But where a reasonable objection is made to a regulation, suggesting that it would do more harm than good, courts legitimately demand some kind of justification. In some cases, that justification requires numbers.

I. FOUNDATIONS

I begin with some background, exploring the basic motivation for the view that an agency's failure to undertake cost-benefit analysis might render it vulnerable under arbitrariness review, and two of the leading decisions on the point.

A. Social Welfare and Arbitrariness

Is it even plausible to suggest that an agency's failure to engage in cost-benefit analysis might be arbitrary within the meaning of the APA? On what assumptions? In the environmental context? In 1946, when the APA was enacted, no one would have thought that arbitrariness review would require quantitative cost-benefit analysis, and the same is true of the 1950s, the 1960s, the 1970s, the 1980s, and probably the 1990s. At what point, then, did it become plausible even to argue that agencies must engage in some kind of cost-benefit balancing to avoid a charge of arbitrariness? Doesn't the very novelty of that argument count strongly against it?

No one argues that it is arbitrary as a matter of law for agencies, including EPA, to decide to consider costs, or for them to turn statistical lives into monetary equivalents.²³ No one argues that it is arbitrary for an agency to reject "feasibility analysis," which would require regulation to the point where it is not economically or technologically feasible.²⁴ What makes cost-benefit analysis special, a kind of default position, such that any deviation potentially subjects agencies to a charge of arbitrariness?

Four points seem plain. First, an agency cannot simply refuse to take account of the "substitute risks" introduced by risk regulation.²⁵ Suppose, for example, that regulation of one pollutant would result in the introduction of another pollutant, which is even more dangerous. At least if the underlying statute does not require it to focus on only one pollutant, it would be arbitrary for an agency to refuse to consider that substitute risk.²⁶ Second, an agency may

23. On that practice, see W. KIP VISCUSI, *RATIONAL RISK POLICY* 84–105 (1998); W. KIP VISCUSI, *FATAL TRADEOFFS* 20–23 (1992).

24. For a critical assessment, see Jonathan S. Masur & Eric A. Posner, *Against Feasibility Analysis*, 77 U. CHI. L. REV. 657, 699 (2010).

25. *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201, 1216–17 (5th Cir. 1991).

26. See *Am. Trucking Ass'ns Inc. v. EPA*, 175 F.3d 1027, 1051–53 (D.C. Cir. 1999); *Competitive Enter. Inst. v. Nat'l Highway Traffic Safety Admin.*, 956 F.2d 321, 326–27 (D.C. Cir.

not impose costs for no benefits. If a rule would do no good at all, it is arbitrary.²⁷ Third, a wholesale refusal to consider costs would count as arbitrary.²⁸ Costs are harms, and an agency is obliged to take harms into account. Fourth, an agency may not impose very high costs for very small gains. Suppose that a regulation would cost \$1 billion and deliver \$1000 in monetized benefits. Unless the statute requires it to do so, the agency's decision to proceed would seem to be the very definition of arbitrary; at a minimum, it would have to explain itself.²⁹

It is true that even these points, or some versions of them, were not the law in 1950, a few years after the APA was enacted, and they would be highly unlikely to appear in any administrative law treatise in 1960, 1970, or 1980. But those facts do not suggest that understandings of this kind are illegitimate. What is "arbitrary" depends on what is understood and known. It may not have been arbitrary to refuse to assign a value to statistical life in 1960, or to use a value that would seem hopelessly ill-informed by 2017; but in 2017, the refusal to assign such a value, or the use of a hopelessly ill-informed value, could indeed be arbitrary. In light of the emerging understandings of the nature and importance of considering substitute risks, and of undertaking at least some form of balancing, agency inattention to relevant factors can count as arbitrary even if it would not have so counted decades earlier. Hence there is nothing intrinsically odd in suggesting that a failure to engage in cost-benefit balancing is arbitrary now even if it would not have been arbitrary in the 1950s, 1960s, 1970s, or 1980s.

These points are straightforward, but they do not support the maximalist position, which imposes a presumptive duty both to quantify benefits and costs and to demonstrate that the benefits justify the costs. Indeed, that position might seem quite puzzling. The APA was enacted in 1946, and cost-benefit analysis became entrenched within the executive branch of the federal government only since the 1980s and perhaps as late as 1993 or even 2011, when Democratic presidents embraced it.³⁰ In any case, Congress knows how to require cost-benefit balancing, and it sometimes does exactly that³¹—and some-

1992); *see also* *Am. Water Works Ass'n. v. EPA*, 40 F.3d 1266, 1270–71 (D.C. Cir. 1994). To be sure, some risks, said to follow from risk regulation, have a sufficiently complex causal connection to that regulation that agencies are not required to consider them. For example, air pollution regulation might increase unemployment, and unemployment increases risks (for those who are unemployed), but no case holds that it is arbitrary for agencies to decline to consider those risks.

27. *Chem. Mfrs. Ass'n. v. EPA*, 217 F.3d 861, 862 (D.C. Cir. 2000).

28. *See generally* *Michigan v. EPA*, 135 S. Ct. 2699 (2015).

29. *Corrosion Proof Fittings*, 947 F.2d at 1214–15.

30. *See* RICHARD L. REVEZS & MICHAEL A. LIVERMORE, *RETAKING RATIONALITY* 10 (2008).

31. *See* Cass R. Sunstein, *The Arithmetic of Arsenic*, 90 GEO. L.J. 2255, 2256 (2002).

times it does not. In the long arcs of both administrative and environmental law, cost-benefit analysis is a relatively recent practice; it remains controversial.³² If the Constitution does not enact Mr. Herbert Spencer's Social Statics,³³ does the APA enact Office of Management and Budget ("OMB") Circular A-4?³⁴

No one suggests that apparent best practices, within the executive branch, must be followed by all administrative agencies, subject to a risk of judicial invalidation on arbitrariness grounds. The more modest claim is that agencies should attempt to produce more good than harm, and if the agency has not quantified the consequences, or if the quantified benefits are lower than the quantified costs, it is reasonable to question whether it is doing that.³⁵ The issue, then, involves the human consequences of regulatory choices, and it is legitimate not only for agencies, but also for courts, to ask whether those consequences are unquestionably bad, or have been shown to be plausibly good.

Suppose that an agency proceeds with an air quality regulation without specifying the health benefits or the relevant costs. If the regulation is challenged on the ground that the benefits might be minimal and the costs quite high, there is a strong objection on arbitrariness grounds, for a simple reason: the agency has not adequately explained itself. And if a rule would impose \$900 million in costs and deliver \$10 million in benefits, there would appear to be a serious problem. Why, exactly, would the agency proceed in the face of such numbers?

The motivation for this question is the view that *quantitative cost-benefit analysis is the best available method for assessing the effects of regulation on social welfare*.³⁶ The main virtue of that form of analysis is that it focuses attention directly on the human consequences of regulatory initiatives. To be sure, it is highly imperfect. The idea of social welfare is sharply contested, and it should not be identified with the outcome of quantitative cost-benefit analysis.³⁷ Specification of costs and benefits can be exceedingly challenging, not least in the environmental setting, and in some contexts, it is not possible. A regulation might have net costs in purely *monetary* terms, but it might produce net benefits

32. For a defense, see REVESZ & LIVERMORE, *supra* note 30; for criticism, see ACKERMAN & HEINZERLING, *supra* note 15.

33. *Lochner v. New York*, 198 U.S. 45, 75 (1905) (Holmes, J., dissenting).

34. OFFICE OF MGMT. & BUDGET, Circular A-4 (Sept. 17, 2003), <https://perma.cc/M9H7-GUT4> (offering guidance for cost-benefit analysis).

35. See *Int'l Union, United Auto Workers v. Occupational Safety & Health Admin.*, 938 F.2d 1310, 1321 (D.C. Cir. 1991) ("Thus, cost-benefit analysis entails only a systematic weighing of pros and cons, or what Benjamin Franklin referred to as a 'moral or prudential algebra.'").

36. See MATTHEW D. ADLER & ERIC A. POSNER, *NEW FOUNDATIONS OF COST-BENEFIT ANALYSIS* 62–63 (2006); CASS R. SUNSTEIN, *VALUING LIFE* 128–30 (2014).

37. See MATTHEW D. ADLER, *WELL-BEING AND FAIR DISTRIBUTION: BEYOND COST-BENEFIT ANALYSIS* 88–114 (2012); CASS R. SUNSTEIN, *Cost-Benefit Analysis, Who's Your Daddy?*, 7 J. COST-BENEFIT ANALYSIS 107, 117–18 (2016).

in *welfare* terms.³⁸ The master concept should be welfare, not net monetary benefits, and the latter may not capture the former. In the fullness of time, we might be able to do far better in ascertaining actual welfare effects, or perhaps in using better proxies than we now have. Nonetheless, assessment of benefits and costs remains, at the present time, the most administrable way of capturing the welfare effects of regulations. An agency that declines to make such an assessment, or to show that the benefits justify the costs, should face a burden of justification.

To these points, it might be added that cost-benefit analysis can operate as a valuable check on the effects of particular incidents or anecdotes, the operations of misleading intuitions or behavioral biases within the national government, and the role of powerful private groups, trying to move federal policy in their favor. By broadening the viewscreen, cost-benefit analysis helps to overcome some of the unfortunate effects of selective attention, and by promoting a focus on actual consequences, it can quiet the noise generated by influential interest groups.³⁹ If the goal is to improve the human consequences of regulation, it is exceedingly important to overcome that selective attention and to quiet that noise. Cost-benefit analysis can be seen as the appropriate prescription for some of the characteristic maladies of the modern administrative state, stemming from interest-group power, selective and narrow viewscreens, behavioral biases, and (most generally and importantly) inadequate attention to likely consequences. And indeed, presidents from Ronald Reagan to Barack Obama have essentially accepted that proposition.⁴⁰

If the substantive argument on behalf of cost-benefit analysis is unconvincing, it would make no sense to require agencies to meet that burden. Those who reject the substantive argument, or deem it parochial or partisan, will have no enthusiasm for the view that a failure to produce such an analysis has to meet a burden of justification. In its most plausible form, the argument is that regulators cannot measure welfare directly, and an analysis of costs and benefits provides important clues about the welfare effects of regulatory interventions. And in fact, judicial decisions seem to be converging on that basic judgment.

38. See John Bronsteen et al., *Well-Being Analysis vs. Cost-Benefit Analysis*, 62 DUKE L.J. 1603, 1627–29 (2013).

39. For arguments in this general direction, see HOWARD MARGOLIS, *DEALING WITH RISK* 191–205 (1996); CASS R. SUNSTEIN, *VALUING LIFE* 36–42 (2014); W. KIP VISCUSI, *RATIONAL RISK POLICY* 126–28 (1998); Timur Kuran & Cass R. Sunstein, *Availability Cascades and Risk Regulation*, 51 STAN. L. REV. 683, 746–68 (1999); Cass R. Sunstein, *Cognition and Cost-Benefit Analysis*, 29 J. LEGAL STUD. 1059, 1061–73 (2000).

40. See Exec. Order 12,291, 3 C.F.R. § 127 (1981), *reprinted as amended in* 5 U.S.C. § 601 (2012); see also Exec. Order 13,563, 3 C.F.R. § 215 (2012), *reprinted in* 5 U.S.C. § 601 (2012).

B. Institutional Roles

1. *Who knows?* Any account of arbitrariness review must, of course, be attuned to the weaknesses and strengths of the federal judiciary. Consider the difficult question whether regulatory impact analyses, produced by federal agencies under Executive Order 13563,⁴¹ should be subjected to judicial review (as they currently are not).⁴² If courts were unerring and if agencies made numerous mistakes, the argument for such review would be very strong, because it would correct those mistakes. But if courts are unable to understand the highly technical issues involved, and if agencies are already performing well, judicial review would be a blunder.

The problem would be compounded if, in practice, judicial policy preferences turned out to play a significant role in judicial decisions about whether agencies had made unreasonable calculations.⁴³ And of course it is inevitable that judicial review will increase delay and contribute to the “ossification” of the rulemaking process, potentially postponing life-saving initiatives.⁴⁴ In short, a judgment about the value of judicial scrutiny depends on an inquiry into the costs of decisions and the costs of errors. Such scrutiny will necessarily increase decision costs. Whether it will increase error costs depends on assessments of the likelihood of agency error and the likelihood of judicial correction.

Many of these questions raise empirical issues; they cannot be resolved in the abstract.⁴⁵ Because cost-benefit analysis often requires assessment of technical questions for which courts lack much competence, it does make sense to say that the judicial role should be deferential. Suppose, for example, that the question is the appropriate discount rate for benefits that will be enjoyed in the distant future,⁴⁶ or the appropriate monetary valuation of a statistical life, or the risks posed by particulate matter.⁴⁷ These are not questions for which judges are

41. 3 C.F.R. § 215 (2012), *reprinted in* 5 U.S.C. § 601 (2012).

42. *See id.*

43. For evidence to this effect, see Thomas J. Miles & Cass R. Sunstein, *The Real World of Arbitrariness Review*, 75 U. CHI. L. REV. 761 (2008).

44. For an influential early discussion, see Richard J. Pierce, Jr., *Seven Ways to Deossify Agency Rulemaking*, 47 ADMIN. L. REV. 59 (1995).

45. *See* Miles & Sunstein, *supra* note 43, at 808–09.

46. *See* Richard L. Revesz, *Environmental Regulation, Cost-Benefit Analysis, and the Discounting of Human Lives*, 99 COLUM. L. REV. 941, 974 (1999); David A. Weisbach & Dexter Samida, *Paretian Intergenerational Discounting* (Univ. of Chi. Law Sch. John M. Olin Law & Econ., Working Paper No. 255, 2005), <https://perma.cc/FJ5P-ZHQE>.

47. *See* OFFICE OF POL’Y, EPA, VALUING MORTALITY RISK REDUCTIONS FOR POLICY: A META-ANALYTIC APPROACH (2016), <https://perma.cc/MF2J-2M97>; Francesca Dominici et al., *Particulate Matter Matters*, 344 SCI. 257 (2014). A particularly challenging issue, poorly suited to judicial oversight, involves the social cost of carbon. *See* Michael Greenstone et al., *Developing a Social Cost of Carbon for U.S. Regulatory Analysis: A Methodology and Interpretation*, 7 REV. ENVTL. ECON. & POL’Y 23, 40–42 (2013).

well-trained. And if we emphasize that resolution of some apparently technical questions requires judgments of policy and principle, then the argument for intense judicial scrutiny becomes weaker still.

Distrust of agency decisions can of course produce countervailing considerations. If agencies are systematically biased, or if serious errors of analysis are likely, then arbitrariness review might be heightened. But even if we think that such errors are relatively rare—perhaps because of usually reliable processes within the executive branch⁴⁸—it might nonetheless make sense to say that courts should require some kind of justification for a blanket refusal to assess costs and benefits at all, or for a failure to make a minimally plausible demonstration that the benefits justify the costs. Endorsement of a position of this kind need not suggest enthusiasm for anything like careful judicial scrutiny of the particular judgments that go into cost-benefit analysis. In fact, it is compatible with the view that there should be no scrutiny of such judgments at all. To be sure, it would be possible to argue in favor of some such scrutiny while insisting that it should be highly deferential.

2. *Heavy artillery.* In recent years, there has been an unmistakable tendency, on the part of some lower courts, toward aggressive judicial review of agency action, sometimes motivated by what appears to be a general skepticism about the place of regulatory agencies in the constitutional structure.⁴⁹ Indeed, that form of skepticism seems to be increasing, at least in some quarters. Judicial insistence on some form of cost-benefit analysis could reflect such skepticism, or it could have nothing to do with it. Often, of course, an investigation of costs and benefits shows that agency action is firmly justified or even that it should be more stringent.

Those who think that agencies, in their modern form, are constitutionally troublesome might have some enthusiasm for cost-benefit balancing, perhaps as a second-best surrogate for constitutional invalidation, perhaps as a means of producing some kind of analytical discipline in lieu of what they see as constitutional safeguards. Skepticism about agencies might naturally lead to an embrace of cost-benefit analysis. But it should be clear that there is no logical or empirical connection between constitutional skepticism about agencies and enthusiastic support for cost-benefit balancing. We might welcome such agencies in their current form, find no constitutional problem with them, and believe that they are indispensable to solving collective action problems and achieving a range of other social goals—while also insisting that cost-benefit analysis is generally the right rule of decision.

48. See Cass R. Sunstein, *The Office of Information and Regulatory Affairs: Myths and Realities*, 126 HARV. L. REV. 1838, 1845–48 (2013).

49. See Cass R. Sunstein & Adrian Vermeule, *Libertarian Administrative Law*, 82 U. CHI. L. REV. 393 (2015), for a detailed discussion.

Indeed, we might welcome administrative agencies precisely on the ground that they are necessary to promote social welfare, and if so, cost-benefit balancing is a way to help them to promote their mission. If courts are to understand the prohibition on arbitrariness to call for such balancing (so long as statutes authorize it), it need not be because of global doubts about the modern administrative state, but because of a concern for social welfare and for fortifying, within the appropriate limits of the judicial role, the authority of analytical discipline in the administrative process—not least to counteract the potential role of unreliable intuitions or powerful private groups in that process.

C. Back to the Matrix

Recall the matrix, putting the substantial and institutional considerations together, resulting in the four imaginable positions:

		Institutional Reasons	
		Favoring Passive Judicial Role	Favoring Active Judicial Role
Substantive Reasons	Skeptical About Cost-Benefit Analysis	A No particular duty of justification	B Doubting use of cost-benefit analysis
	Enthusiastic About Cost-Benefit Analysis	C Cost-benefit minimalism	D Cost-benefit maximalism

My primary focus here is on cells (C) and (D), with a preference for (C), but it should be clear that cells (A) and (B) are easily imaginable. For those who distrust judges and who think that cost-benefit analysis is unhelpful or infeasible, or that it points agencies in the wrong direction, cell (A) will seem the most attractive. If cost-benefit analysis is positively harmful, those who favor a strong judicial role might endorse cell (B). From 1946 until 1983 at the earliest,⁵⁰ judicial decisions in cells (C) and (D) could not be found, and it might well be fair to say that courts implicitly endorsed cell (A), even though judicial review was quite aggressive in other contexts.⁵¹ Revealingly, it is difficult to find *any* decisions, past or present, that fall in cell (B), but for those who have a sharply

50. See *Motor Vehicles Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 39 (1983), which could be seen as calling for some form of cost-benefit balancing as a check on arbitrariness.

51. See *Citizens to Pres. Overton Park v. Volpe*, 401 U.S. 402, 415–16 (1971).

negative view about cost-benefit analysis,⁵² and who endorse strong judicial checks on agency action, that cell would have considerable appeal.

The fact that cell (B) seems broadly unattractive, and that cells (C) and (D) appear to be the serious current contenders, attests to the rise of the cost-benefit state—and to the widespread triumph of at least some forms of quantitative analysis, as reflected in their endorsement within both Republican and Democratic administrations.⁵³ But it is important to acknowledge that over the last decades, there have been forks in the road, and that radically different paths might have been taken.

D. *Leading Decisions*

The number of decisions that scrutinize agency failure to engage in cost-benefit analysis, or to give adequate consideration to it, is large and growing.⁵⁴ For the future, two such decisions are especially important. The first, from the Supreme Court itself, strongly suggests that a failure to consider costs at all is *per se* arbitrary. The second, from the D.C. Circuit, suggests, far more controversially, that it might be arbitrary for an agency to fail to quantify costs and benefits (if it is feasible to do so) or to demonstrate that the benefits justify the costs.

1. *Mercury*. In an important decision involving mercury regulation, all nine members of the Supreme Court seemed to converge on a simple principle: *Under the APA, it is arbitrary for an agency to refuse to consider costs.*⁵⁵ By itself, that principle seems quite modest. But it is far less so than it might appear. At a minimum, it implicitly requires agencies to weigh costs against benefits, at least in some sense; it is not possible to “consider” costs without engaging in such weighing. And with that implicit requirement, the Court may also have required agencies to make some effort to quantify costs, at least if it is feasible to do so. Is it possible to “consider” costs without knowing what they are? To be sure, the Court did not embrace the maximalist position, but its holding can easily be read to make trouble for any agency that fails to show that the benefits of a regulation justify the costs.

The case itself involved not the APA, but a provision of the Clean Air Act that requires EPA to list hazardous pollutants, for later regulation, if it is “appropriate and necessary” to do so.⁵⁶ EPA contended that it had the authority to base its listing decision only on considerations of public health (and hence to decline to consider costs). In its view, the words “appropriate and necessary” were ambiguous, and a cost-blind interpretation was legitimate. By a five-to-

52. See ACKERMAN & HEINZERLING, *supra* note 15, at 35–40; KYSAR, *supra* note 15, at 16–17.

53. See CASS R. SUNSTEIN, VALUING LIFE 4 (2014).

54. See, e.g., cases cited *supra* note 1.

55. *Michigan v. EPA*, 135 S. Ct. 2699, 2711–12 (2015).

56. *Id.* at 2704.

four vote, the Court disagreed. It held that “EPA strayed far beyond” the bounds of reasonableness in interpreting the statutory language “to mean that it could ignore cost when deciding whether to regulate power plants.”⁵⁷ In a passage of special relevance to the topic here, the Court added, “One would not say that it is even rational, never mind ‘appropriate,’ to impose billions of dollars in economic costs in return for a few dollars in health or environmental benefits. . . . Consideration of cost reflects the understanding that reasonable regulation ordinarily requires paying attention to the advantages *and* the disadvantages of agency decisions.”⁵⁸

These words seem quite general and not limited to a particular provision of the Clean Air Act. In light of the context, it would not be impossible to understand them as restricted to that statute. But that would be a mistake. While rejecting the majority’s particular conclusion, Justice Kagan’s dissent, joined by three other members of the Court, was more explicit on the general point, contending, “Cost is almost always a relevant—and usually, a highly important—factor in regulation. *Unless Congress provides otherwise, an agency acts unreasonably in establishing ‘a standard-setting process that ignore[s] economic considerations.’*”⁵⁹ It added that “an agency must take costs into account in some manner before imposing significant regulatory burdens.”⁶⁰ The dissenters clearly adopted a background principle that would require agencies to consider costs unless Congress prohibited them from doing so. There is every reason to think that the majority—which did, after all, invalidate EPA’s regulation—would embrace that principle as well.

At the same time, the Court declined to endorse cost-benefit maximalism, and in dicta, it pointedly suggested that it might well reject it.⁶¹ In the key passage, the Court said:

We need not and do not hold that the law unambiguously required the Agency, when making this preliminary estimate, to conduct a formal cost-benefit analysis in which each advantage and disadvantage is assigned a monetary value. It will be up to the Agency to decide (as always, within the limits of reasonable interpretation) how to account for cost.⁶²

This passage brackets the question whether the Clean Air act required a “formal cost-benefit analysis,” but it is highly ambiguous. Surely it would not be

57. *Id.* at 2707.

58. *Id.*

59. *Id.* at 2716–17 (Kagan, J., dissenting) (emphasis added). The dissent rejected the majority’s conclusion in large part because EPA had considered costs at a later stage in its processes, when it was deciding on the appropriate level of stringency. *Id.* at 2719–21.

60. *Id.* at 2717.

61. *Id.* at 2710–11 (majority opinion).

62. *Id.* at 2711.

sufficient for an agency simply to announce that it has simply “considered” costs and decided to proceed. It would have to explain that decision in some way. The Court seemed to be suggesting that such an explanation could be given even if the agency does not produce “a formal cost-benefit analysis.”⁶³

Even with this qualification, *Michigan v. EPA* has the great virtue of identifying the fatal weakness in a tempting objection to any effort to question an agency’s failure to engage with costs and benefits. The objection would be that courts lack the authority to impose procedural requirements beyond those in the APA,⁶⁴ and cost-benefit analysis is a procedural requirement, not found in the APA, which thus cannot be imposed by courts. The Court has made it clear that, while agencies are free to impose new procedural requirements, judges cannot do so. Cost-benefit analysis might well be taken to be procedural in nature: It requires agencies to compile and publicize relevant information, which seems to be an emphatically procedural burden—and it requires resources. Perhaps agencies should be entitled to direct their resources as they see fit, and not to expend them on cost-benefit analysis.

As *Michigan v. EPA* suggests, the problem with the objection is that under the APA, an arbitrary decision is unlawful. If an agency ignores costs, or imposes a risk that is greater than the risk that it is reducing, it would seem to be acting arbitrarily. The fact that courts cannot add procedural requirements is irrelevant. At the same time, it must be acknowledged that *Michigan v. EPA* was a narrow ruling, and it hardly embraced cost-benefit maximalism.

2. *Proxy access*. By contrast, the United States Court of Appeals for the District of Columbia Circuit appears to have held that if an agency is statutorily authorized to consider costs and benefits, it is under an obligation (1) to quantify both of them and (2) to make some kind of comparison, at least if these

63. For illustrations, see *infra* Part IV.

64. See *Vt. Yankee Nuclear Power Corp. v. Nat. Res. Def. Council, Inc.*, 435 U.S. 518, 523 (1978).

steps are feasible.⁶⁵ In its controversial decision in the *Business Roundtable* case, the court emphasized the importance of quantification.⁶⁶

The decision involved the complex question of “proxy access” in corporate-shareholder voting: Must proxy materials sent to shareholder-voters by publicly traded firms include nominees of the shareholders, or may they be confined to the slate of nominees designated by the incumbent directors? In a 2009 rulemaking, the SEC decided to require shareholder proxy access. It accompanied its decision with a lengthy cost-benefit analysis that considered (as required by statute) its effects on “efficiency, competition, and capital formation.”⁶⁷ Some elements of its analysis were not quantified.

65. *Bus. Roundtable v. Sec. Exch. Comm’n*, 647 F.3d 1144, 1148–49 (D.C. Cir. 2011). Some of the discussion here draws on Sunstein & Vermeule, *supra* note 49. An instructive, brief treatment of the issue of feasibility can be found in *Fed. Comm’n Comm’n v. Fox Television Stations, Inc.*, 556 U.S. 502 (2009):

There are some propositions for which scant empirical evidence can be marshaled, and the harmful effect of broadcast profanity on children is one of them. One cannot demand a multiyear controlled study, in which some children are intentionally exposed to indecent broadcasts (and insulated from all other indecency), and others are shielded from all indecency. It is one thing to set aside agency action under the Administrative Procedure Act because of failure to adduce empirical data that can readily be obtained. It is something else to insist upon obtaining the unobtainable. Here it suffices to know that children mimic the behavior they observe—or at least the behavior that is presented to them as normal and appropriate. Programming replete with one-word indecent expletives will tend to produce children who use (at least) one-word indecent expletives. Congress has made the determination that indecent material is harmful to children, and has left enforcement of the ban to the Commission. If enforcement had to be supported by empirical data, the ban would effectively be a nullity.

Id. at 519. The Court’s words here are plausibly invoked in many cases in which a litigant objects that an agency has failed to quantify the benefits of regulation. *Cf.* Coates, *supra* note 9 (contending that in the domain of financial regulation, cost-benefit analysis is often not feasible).

66. Although the Commission acknowledged that companies may expend resources to oppose shareholder nominees, it did nothing to estimate and quantify the costs it expected companies to incur; nor did it claim estimating those costs was not possible, for empirical evidence about expenditures in traditional proxy contests was readily available. Because the agency failed to “make tough choices about which of the competing estimates is most plausible, [or] to hazard a guess as to which is correct,” we believe it neglected its statutory obligation to assess the economic consequences of its rule.

Bus. Roundtable, 647 F.3d at 1150 (citations omitted) (quoting *Pub. Citizen v. Fed. Motor Carrier Safety Admin.*, 374 F.3d 1209, 1221 (D.C. Cir. 2004)).

67. *Id.* at 1146 (noting that this analysis was required by “Section 3(f) of the Exchange Act and Section 2(c) of the Investment Company Act of 1940, codified at 15 U.S.C. §§ 78c(f) and 80a-2(c), respectively”).

The D.C. Circuit invalidated the regulation on numerous grounds, most of which fell into one of two general categories. The first was that the agency was required either to provide a quantitative cost-benefit analysis or to explain why doing so would not be feasible.⁶⁸ The second was that the evidence failed to support the SEC's conclusion that the rule's benefits would outweigh its costs.⁶⁹ These holdings seem to support a much broader proposition, which is that SEC regulations are at serious risk of invalidation unless they are accompanied by a clear demonstration that the quantified benefits justify the quantitative costs.⁷⁰

For the court, one problem is that on its face, the underlying statute imposes no such requirement. True, the SEC must consider the effects of a regulation on "efficiency, competition, and capital formation." But that requirement does not, by itself, mandate a formal analysis of benefits or a comparison between costs and benefits. Indeed, it is not entirely clear that, to show the requisite consideration, the agency must provide a quantitative analysis of costs. Perhaps the agency could consider them in purely qualitative terms.⁷¹

In the face of these objections, the best justification for the court's approach would take the following form. To consider the effects of a rule on "efficiency, competition, and capital formation," the Commission must go beyond vague, general conclusions. If the available evidence permits quantification, it would be arbitrary not to quantify. The obligation to consider those effects requires a serious effort, consistent with what the evidence allows, and a serious effort requires numbers. It would also be arbitrary—within the meaning of the APA—for the agency to proceed if the effects on "efficiency, competition, and capital formation" were adverse and significant, at least if they were not justified by compensating quantified benefits. It would follow that, if a rule has net costs (or no net benefits) or if the Commission cannot show that a rule will have quantified benefits (if relevant evidence is available), the court should invalidate that rule as arbitrary.

So understood, *Business Roundtable* can be taken to have offered a plausible reading of the interaction between the governing statute and the APA. The ruling would not, however, be based purely on the APA; the explicit requirement to consider effects on "efficiency, competition, and capital formation" is critical. Moreover, the court acknowledged that quantification might not be possible—and hence can be taken to give the SEC an escape route in cases of ignorance or uncertainty. But because the court devoted a great deal of space to explaining its view that the SEC had acted arbitrarily, it did create a warning

68. On some of the complexities with the idea of feasibility, see Masur & Posner, *supra* note 24.

69. See *Bus. Roundtable*, 647 F.3d at 1149 (rebuking the agency for "neglect[ing] to support its predictive judgments"); *id.* at 1151 (criticizing the agency's use of "mixed empirical evidence") (quotation marks omitted).

70. *Id.* at 1148–49.

71. For a skeptical discussion, see generally Masur & Posner, *supra* note 8.

for any agency that fails to compare costs and benefits—at least if it is authorized to do so.

The broadest reading of *Business Roundtable*, going well beyond its particular context and in evident tension with relevant dicta in *Michigan v. EPA*, that *in order to avoid a serious charge of arbitrariness, an agency is obliged to quantify both costs and benefits and to show that the former justify the latter*. To be sure, quantification is not necessary if it is impossible. But if quantification is impossible, are agencies necessarily permitted to proceed? Always? If the costs of regulation are very high and the benefits unquantifiable, are the agencies authorized to go forward? *Business Roundtable* does not answer these questions.

II. EASY CASES

With *Michigan* and *Business Roundtable* as background, two sets of cases are easy. If Congress expressly forbids an agency to consider costs, or requires it to regulate to the point of feasibility without balancing benefits and costs, then the issue is at an end.⁷² The APA's prohibition on arbitrariness is irrelevant. And if an agency is required to consider benefits and costs or lawfully elects to do so, then senseless or unreasonable judgments will result in invalidation.

A. Statutory Prohibitions

Suppose that a statute prohibits agencies from considering costs and requires them to proceed whenever there is a finding of significant harm. In issuing ambient air quality standards under the Clean Air Act, EPA is essentially constrained in that way; it must issue standards “requisite to protect the public health,” with an “adequate margin of safety.”⁷³ In promulgating occupational safety and health standards involving toxic substances and harmful physical agents, the DOL must regulate significant risks “to the extent feasible,” without balancing costs and benefits.⁷⁴ Under Executive Order 13563,⁷⁵ both EPA and DOL must nonetheless produce regulatory impact analyses, which will catalogue costs and benefits. But those analyses are not subject to judicial review.⁷⁶

It follows that if the agencies fail to engage in quantified cost-benefit analysis under the relevant statutes, an arbitrariness challenge could not possibly succeed. True, EPA might be vulnerable if it does not show that a standard is “requisite to protect the public health,”⁷⁷ and the Occupational Safety and

72. See *Whitman v. Am. Trucking Ass'ns, Inc.*, 531 U.S. 457, 486 (2001).

73. *Id.* at 472 (quoting 42 U.S.C. § 7409(b)(1) (2012)).

74. 29 U.S.C. § 655(b)(5); *Indus. Union Dep't, AFL-CIO v. Am. Petroleum Inst. (Benzene)*, 448 U.S. 607 (1980).

75. *Improving Regulation and Regulatory Review*, 76 Fed. Reg. 3821 (Jan. 18, 2011).

76. *Id.*

77. 42 U.S.C. § 7409(b)(1).

Health Administration (“OSHA”) must show that the regulated risk is “significant.”⁷⁸ But as the law now stands, neither agency is permitted to weigh costs against benefits.⁷⁹ The general point is that arbitrariness review takes place against the backdrop of relevant statutes. If a statute says that costs are irrelevant or that they can be considered only in a specified way, the APA’s ban on arbitrariness has no independent force (so long as the agency has complied with all statutory directives).⁸⁰

At this point, it is important to note an apparent anomaly: We have seen that in *Michigan*, the Court can be taken to have held that it is arbitrary for an agency to refuse to consider costs,⁸¹ even though Congress sometimes directs agencies not to consider costs. Does this mean that the Supreme Court has implicitly held that Congress has behaved arbitrarily? And if so, does a ban on consideration of costs raise serious constitutional questions under rationality review?⁸²

To both questions, the best answer is a firm “no.” To see why, we need to distinguish between unlawful arbitrariness under the APA and unlawful arbitrariness under the Constitution. At least as a general rule, it is not arbitrary or irrational, in the constitutional sense, for Congress to forbid consideration of costs, and no decision suggests that it is. Congress might rationally conclude that national ambient air quality standards should be set only on the basis of considerations of public health, with cost playing a role at stages of implementation.⁸³ Similarly, Congress might rationally conclude that a feasibility approach is better, on welfare grounds, than one based on cost-benefit balancing.⁸⁴ It would be frivolous to raise a constitutional challenge to statutory standards that do not require or authorize that form of balancing.⁸⁵

78. *Benzene*, 448 U.S. at 662.

79. *Am. Textile Mfrs. Inst., Inc. v. Donovan*, 452 U.S. 490, 509 (1981). I am bracketing the surprising and noteworthy dicta in *Entergy v. Riverkeeper*, 556 U.S. 208 (2009), which reads the Court’s OSHA decision to say that the agency is permitted to decide not to make cost-benefit analysis the rule of decision—but not required to make that decision. *Id.* at 223. It is possible that in the fullness of time, these dicta will turn out to be important and to allow OSHA to make cost-benefit analysis the rule of decision.

80. *See Nat’l Ass’n of Mfrs. v. Sec. Exch. Comm’n*, 748 F3d 359 (D.C. Cir. 2014).

81. *Michigan v. EPA*, 135 S. Ct. 2699, 2711 (2015).

82. *Cf. Williamson v. Lee Optical Co.*, 348 U.S. 483 (1955).

83. *See* Cass R. Sunstein, *Is the Clean Air Act Unconstitutional?*, 98 MICH. L. REV. 303, 378 (1999).

84. *See infra* Part V.

85. At least this is so outside of quite extreme cases. We could imagine a constitutional challenge to a statute that imposed significant costs for no or trivial benefits, certainly if no explanation is available for Congress’s decision to do that.

It is important in this regard that rationality review under the Constitution is highly deferential—far more so than arbitrariness review under the APA.⁸⁶ For that reason, there is no incongruity in saying that a congressional prohibition on considering costs is acceptable as a matter of constitutional law even though an agency’s refusal to consider costs is unacceptable as a matter of administrative law.

What emerges from the doctrine, then, is that any decision not to consider costs must come from the national legislature; it cannot be made by an agency acting on its own. In this respect, the prohibition on failing to consider costs, imposed via arbitrariness review, is a kind of clear statement principle, in a sense a nondelegation canon;⁸⁷ *Congress must itself prohibit consideration of costs, and it must do so in explicit terms.* Taken as a nondelegation canon, that idea has considerable appeal, because it requires the national legislature, with its unique constitutional position, to make the decision in favor of disregarding costs altogether.⁸⁸

B. Funny Numbers

Now suppose that a statute requires or authorizes an agency to consider costs and benefits,⁸⁹ and that the agency does so, but that it also makes unexplained and apparently arbitrary choices.⁹⁰ Imaginable examples include:

- (a) failing to discount either costs or benefits;⁹¹
- (b) failing to apply the same discount rates to benefits as to costs;⁹²
- (c) double-counting certain costs or benefits;

86. See *Motor Vehicles Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 42–43 n.9 (1983).

87. See Cass R. Sunstein, *Nondelegation Canons*, 67 U. CHI. L. REV. 315, 316 & n.5 (2000).

88. For related discussion, see Cass R. Sunstein, *Cost-Benefit Default Principles*, 99 MICH. L. REV. 1651 (2001).

89. See, e.g., 2 U.S.C. § 658b(c)(2) (2012) (requiring “a qualitative, and if practicable, a quantitative assessment of costs and benefits anticipated from the Federal mandates”); *id.* § 1532(a)(2) (requiring “a qualitative and quantitative assessment of the anticipated costs and benefits”); 42 U.S.C. § 300g-1(b)(3)(C)(i)(I) (2012) (requiring agency findings on “quantifiable and nonquantifiable health risk reduction benefits”); *id.* § 7612(a) (requiring the agency to “consider the costs, benefits and other effects associated with compliance with each standard issued”).

90. See, e.g., *Nat’l Ass’n of Home Builders v. EPA*, 682 F.3d 1032, 1040 (D.C. Cir. 2012) (“[W]hen an agency decides to rely on a cost-benefit analysis as part of its rulemaking, a serious flaw undermining that analysis can render the rule unreasonable.”).

91. *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201, 1218 (5th Cir. 1991).

92. *Id.*

(d) ignoring and thus entirely failing to take account of important costs or benefits;⁹³

(e) making apparently irrational judgments about the effects of a regulations, such as the number of premature deaths to be prevented;

(f) monetizing certain benefits, such as a statistical life or a reduction in morbidity, in an unexplained and apparently irrational way.⁹⁴

In all of these cases, an agency would be at a risk of losing on arbitrariness grounds. If an agency is obliged to consider costs and benefits or chooses to do so, and if its judgments are arbitrary, then those judgments will be struck down.⁹⁵ To be sure, and for reasons given above, the judicial role should be highly deferential. It is in this sense that arbitrariness review certainly does not enact OMB Circular A-4; agencies need not adopt what are now taken as best practices within the executive branch on pain of judicial invalidation. The house of cost-benefit analysis has many rooms, and as we have seen, the choice among competing approaches typically raises difficult technical issues for which courts lack competence. The endorsement of cost-benefit analysis within the executive branch reflects an institutional judgment as well as a substantive one: Officials within that branch have the personnel and the capacity to engage those technical issues, which often involve both science and economics.⁹⁶

Because courts are in a very different position, a high degree of deference is warranted. Within the broad bounds of reason, an agency might make a large number of discretionary choices.⁹⁷ The only point is that the prohibition on arbitrariness imposes some constraints on those choices.

III. UNQUANTIFIED ALTERNATIVES

Let us now turn to more difficult issues, for which existing cases give unclear guidance, and on which reasonable people might differ. Suppose that an agency calculates the costs and the benefits of its proposed action and makes no mistakes in its calculations—but that *it fails to calculate the costs and benefits of one or more alternatives to that proposed action*. If the agency simply ignores a

93. *Bus. Roundtable v. Sec. Exch. Comm'n*, 647 F.3d 1144, 1151–52 (D.C. Cir 2011).

94. *Corrosion Proof Fittings*, 947 F.2d at 1218–19.

95. *Advocates for Highway & Auto Safety v. Fed. Motor Carrier Safety Admin.*, 429 F.3d 1136, 1146 (D.C. Cir. 2005) (finding the Federal Motor Carrier Safety Administration's ("FMCSA") assertion that its new rule would generate a "sufficient benefit" to be nonsensical given the FMCSA's "patently illogical" assumptions).

96. *See generally* Cass R. Sunstein, *The Most Knowledgeable Branch*, 164 U. PA. L. REV. 1607 (2016).

97. *See* Michael Greenstone et al., *Developing A Social Cost of Carbon for U.S. Regulatory Analysis*, 7 REV. ENVTL. ECON. 23 (2013); Cass R. Sunstein, *The Arithmetic of Arsenic*, 90 GEO. L.J. 2255 (2002).

reasonable alternative, it is acting arbitrarily.⁹⁸ But imagine that the agency has given a purely qualitative rather than quantitative account of why the alternative is not desirable, without offering numbers. Is that also arbitrary? At first glance, the answer seems stunningly obvious: It is hardly arbitrary to decline to give numbers; agencies are under no obligation to quantify the costs and benefits of rejected alternatives. In general, that is indeed the right answer under the APA. But the issue is not quite so straightforward.

A. *Asbestos and Its Discontents*

In an important decision in the environmental context, a court of appeals went some way toward holding that if an agency rejects an alternative without quantifying its costs and benefits, it is acting arbitrarily.⁹⁹ In *Corrosion Proof Fittings v. EPA*, EPA banned asbestos under the Toxic Substances Control Act (“TSCA”); it also explained why the ban was, on balance, amply justified by an assessment of costs and benefits.¹⁰⁰ In the process, it offered a qualitative account of why less aggressive approaches, such as disclosure and labeling requirements, would be inferior to a ban. But for those alternatives, it provided no numbers. The court held that the decision was unlawful for that reason.¹⁰¹

Importantly, the holding was not rooted in the APA. It followed, or so the court said, from the distinctive requirements of TSCA,¹⁰² which can be taken to call for cost-benefit balancing¹⁰³ and explicitly directs the agency to use the “least burdensome requirements” necessary.¹⁰⁴ In the court’s view, it is unlawful,

98. See *Motor Vehicles Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29 (1983).

99. *Corrosion Proof Fittings*, 947 F.2d 1201.

100. *Id.* at 1215–17.

101. *Id.* at 1217.

102. 15 U.S.C. §§ 2601–2629 (2006).

103. *Id.* § 2601(c) (requiring EPA to “carry out this chapter in a reasonable and prudent manner [after considering] the environmental, economic, and social impact of any action”). Note that these words do not explicitly require a quantitative assessment of costs and benefits or a demonstration that benefits outweigh or justify costs. An obligation to consider “the environmental, economic, and social impact” does no such thing, and in general, a reference to “unreasonable risk of injury” (see *Corrosion Proof Fittings*, 947 F.2d at 1214–15) need not be taken to impose a requirement of quantitative cost-benefit analysis. I am bracketing these issues here.

104. 15 U.S.C. § 2605(a) (“If the Administrator finds that there is a reasonable basis to conclude that the manufacture, processing, distribution in commerce, use, or disposal of a chemical substance or mixture, or that any combination of such activities, presents or will present an unreasonable risk of injury to health or the environment, the Administrator shall by rule apply one or more of the following requirements to such substance or mixture to the extent necessary to protect adequately against such risk using the least burdensome requirements.”) (emphasis added).

in light of that particular language, for the agency to fail to quantify the costs and benefits of the rejected approach.¹⁰⁵

It is not at all obvious that the court was right. An agency's obligation to use the least burdensome alternative does not, by itself, require a *quantitative analysis of the costs and benefits of that alternative*, even under a statute that requires cost-benefit analysis of the ultimate policy choice. True, the agency must analyze the costs and benefits of that choice. True, the agency cannot *ignore* less burdensome alternatives. It must discuss them and offer some account of why it has not selected them. But an agency can do that without providing numbers. TSCA does not, in terms, say that EPA must do a cost-benefit analysis not only of the approach it chooses but also of less burdensome alternatives to that approach.

The most modest reading of the court's analysis, and the narrowest, would emphasize that under a statute that explicitly requires (1) cost-benefit balancing and (2) use of the least burdensome alternative, an agency faces a burden of justification in the face of a plausible argument that that alternative is better, in the sense that it has higher net benefits. At a minimum, the agency must give some explanation of why it has rejected that alternative. A mere conclusion is insufficient. The simplest and best way for the agency to offer the requisite explanation is to provide numbers. Without seeing the costs and benefits of disclosure and labeling requirements, it would not be possible to compare them to a ban. In *Corrosion Proof Fittings*, EPA was simply too conclusory—it offered a bald assertion, not an explanation. Putting the court's decision in the most sympathetic light, it demanded numbers as a way of requiring the agency to go beyond unhelpful abstractions. This reconstruction of the court's reasoning would leave open the possibility that an agency could explain its reduction of a less burdensome alternative without numbers—but at least if that alternative seems promising, quantitative analysis would seem to be the best and clearest way for an agency to explain itself.

A less modest and more interesting reading of *Corrosion Proof Fittings*, and the broadest, is that in light of the distinctive requirements of TSCA, the agency was essentially under a burden of showing that its own approach maximized net benefits. A demonstration that benefits exceeds costs would not be sufficient to meet that burden, because an approach that has net benefits might have lower net benefits than some other approach. To be sure, and importantly,

105. *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201, 1217 (5th Cir. 1991) (“Under TSCA, the EPA was required to evaluate, rather than ignore, less burdensome regulatory alternatives. TSCA imposes a least-to-most-burdensome hierarchy. In order to impose a regulation at the top of the hierarchy—a total ban of asbestos—the EPA must show not only that its proposed action reduces the risk of the product to an adequate level, but also that the actions Congress identified as less burdensome also would not do the job. The failure of the EPA to do this constitutes a failure to meet its burden of showing that its actions not only reduce the risk but do so in the Congressionally-mandated least burdensome fashion.”).

a statutory requirement that benefits justify costs, alongside a mandate to use the least burdensome alternative, is not an explicit requirement that an agency choose the approach with the highest net benefits. But when combined with the APA, perhaps it is close enough. Perhaps it is arbitrary, under such a statute, not to choose the approach that maximizes net benefits.

Of course numbers need not be given if it is impossible to do so. And in some cases, alternatives can be reasonably rejected without numbers. The problem is that in *Corrosion Proof Fittings*, the agency did not adequately explain itself.

B. Alternatives and the APA

How would this analysis apply in an APA case, without the distinctive requirements of TSCA? Consistent with the maximalist position, it might be suggested that *an agency acts arbitrarily whenever it fails to explain, with quantitative cost-benefit analysis, why it has not chosen a less burdensome alternative*. That position is far too strong, but it is important to see exactly why.

Consider a stylized example, based on an actual rulemaking.¹⁰⁶ Imagine that DOT is deciding how to improve rear visibility so as to reduce the incidence of “backover crashes” (defined as crashes that occur when people are backing up and do not see what is behind them). It has three alternatives, each of which is explicitly mentioned in the governing statute: (1) mandating installation of cameras, which is the most expensive and also the most effective approach; (2) requiring side-view mirrors to be larger, which is the least expensive and least effective approach; and (3) requiring installation of sonar, which ranks between cameras and mirrors in terms of both cost and effectiveness. Suppose that the agency chooses cameras. If it says nothing at all about mirrors and sonar, it has acted arbitrarily. But does it have to quantify their costs and benefits? The statute does not explicitly make cost-benefit analysis the rule of decision, and while it refers to the three alternatives, it does not require the agency to choose the least burdensome approach.

To make the case as easy as possible for DOT, assume that it explains that mirrors would do essentially nothing about the problem, that its judgment to that effect survives rationality review, but that it has not quantified the effects of relying on mirrors. Would it be arbitrary for it to fail to do so? That would be an implausible conclusion. If the agency has rationally concluded that mirrors would be ineffective—that it would impose significant costs for essentially

106. Federal Motor Vehicle Safety Standards; Rear Visibility, 79 Fed. Reg. 19,178 (Apr. 7, 2014), <https://perma.cc/F9XN-N9B8>; *NHTSA Announces Final Rule Requiring Rear Visibility Technology*, NAT'L HIGHWAY TRAFFIC SAFETY ADMIN. (Mar. 31, 2014), <https://perma.cc/J4QL-6MHR>. For discussion, see Sunstein, *supra* note 96.

no benefits—it is hardly irrational for it to reject the option of mirrors.¹⁰⁷ No quantification is necessary.

The strongest counterargument would be that without numbers, it is not possible to know which approach has highest net benefits (or lowest net costs), and a non-arbitrary judgment that mirrors would be “ineffective” does not provide sufficient information. As a matter of policy, that position is not unreasonable.¹⁰⁸ But as a reading of the arbitrariness requirement, it is unacceptably aggressive, because it is hardly arbitrary for an agency to conclude that it should not choose an ineffective means of satisfying a statutory requirement (supposing that the judgment of ineffectiveness is itself reasonable).

Now suppose that DOT chooses cameras over sensors, concluding that cameras would be “significantly more effective” and that “the additional expense is well justified.” Is that level of abstraction sufficient to survive rationality review? A challenger might well ask: What, concretely, do these claims mean? On what are they based? Certainly the agency should be required to do more than simply to announce its conclusions. It is not implausible to think that it must support its claims with numbers—ranges if not point estimates—unless it can explain why it has failed to do so. Numbers would count as an adequate explanation, but a purely qualitative discussion might not. The question is what an adequate nonquantitative explanation might look like; I now turn to that question.

IV. REFUSING TO QUANTIFY

We now turn to the most difficult issues. An agency refuses to quantify (some or all) costs and benefits, and a litigant objects that its refusal to do so is arbitrary. When is that objection convincing? We have seen that, in some cases, an agency can rationally insist that numbers are not necessary, because the conclusion is clear without them—because, for example, a particular alternative would do no good. Suppose, however, that the agency is not so simple, and that a litigant argues that an agency must quantify as a way of adequately explaining itself. Is that argument convincing?

107. The rear visibility case has an unusual characteristic, which is that all of the relevant approaches have net costs; none has net benefits. In those circumstances, the standard task is to choose the approach that has lowest net costs. Under the approach I am exploring, the approach with the lowest net costs would be best (and any other choice would be presumptively arbitrary), just as the approach with the highest net benefits would be best (and any other choice would be presumptively arbitrary). At least this would be so if the governing statute authorizes the agency to choose the approach with the lowest net costs or the highest net benefits.

108. See generally Masur & Posner, *supra* note 8.

A. Uncertainty and Defensible Ignorance

Suppose that the agency declines to quantify certain benefits and costs on the ground that it is not feasible to do so. Let us begin with cases in which the agency claims that it lacks enough evidence or knowledge to justify anything like a specification of benefits, even before it begins the task of attempting to monetize them. EPA might say, for example, that in light of the limits of existing information, it cannot quantify the benefits, in terms of numbers of certain kinds of cancers reduced, of more stringent regulation of arsenic in drinking water.¹⁰⁹ Scientists cannot give a point estimate, nor do they have confidence in any kind of range.¹¹⁰ Is that a problem?

Under arbitrariness review, the initial question is simple: Is the agency's explanation unreasonable? Because agencies have technical expertise, a challenger would face a heavy burden here (though it could imaginably succeed).¹¹¹ If the agency has adequately explained its failure to quantify, the issue would seem to be at an end. As the D.C. Circuit said in 2015:

The appellants further complain that [the Commodity Future Trading Commission (“CFTC”)] failed to put a precise number on the benefit of data collection in preventing future financial crises. But the law does not require agencies to measure the immeasurable. CFTC's discussion of unquantifiable benefits fulfills its statutory obligation to consider and evaluate potential costs and benefits.¹¹²

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109. See National Primary Drinking Water Regulations; Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring, 66 Fed. Reg. 6976, 7009 (Jan. 22, 2001) (to be codified at 40 C.F.R. pt. 9, 141, and 142); see also Sunstein, *supra* note 97. In the important context of financial regulation, see Coates, *supra* note 9.
110. Realistically, they will have a lower bound (0) and probably an upper bound. But the range might be very high. See EPA's refusal to quantify with respect to specified cancers caused by arsenic, discussed in Sunstein, *supra* note 97.
111. On the possibility that quantification is not feasible, see *Fed. Comm'n Comm'n v. Fox Television Stations, Inc.*, 556 U.S. 502, 519–20 (2009). For general discussion, see Coates, *supra* note 9. For a rare case in which an agency lost on an issue of this general kind, see *Chlorine Chemistry Council v. EPA*, 206 F.3d 1286, 1291 (D.C. Cir. 2000) (finding that data did not support agency's decision to use a no-threshold, linear dose response curve). See also *Am. Trucking Ass'ns, Inc. v. EPA*, 175 F.3d 1027, 1052 (D.C. Cir. 1999) (“[It] seems bizarre that a statute intended to improve human health would, as EPA claimed at argument, lock the agency into looking at only one half of a substance's health effects in determining the maximum level for that substance. . . . Legally, then, EPA must consider positive identifiable effects of a pollutant's presence in the ambient air in formulating air quality criteria under § 108 and NAAQS under § 109. EPA's other arguments are technical, and are of two sorts: those that allegedly show petitioners' studies to be fatally flawed and those that allegedly show specific inflation of results in these studies. We need only consider the first sort, for EPA chose to give the studies no weight at all.”).
112. *Inv. Co. Inst. v. Commodity Futures Trading Comm'n*, 720 F.3d 370, 379 (D.C. Cir. 2013). See generally Coates, *supra* note 9. Whether or not the argument is convincing as a

If this principle holds for a statute that expressly requires consideration of costs and benefits, it certainly holds under arbitrariness review more generally.

B. *Acting Amidst Uncertainty: Simple Cases*

Suppose that the agency has rationally concluded that certain benefits are unquantifiable, and has nonetheless, or therefore, decided to proceed. That decision raises a separate question. *Is it arbitrary to proceed where certain benefits cannot be measured?*

The simplest cases arise when an agency rationally says (1) that the quantifiable benefits of a new regulation exceed the quantifiable costs, but also (2) that there are other, unquantifiable benefits that should be taken into account.¹¹³ Just as above, (2) may be explained on the ground that scientists cannot specify their magnitude in light of limits in existing knowledge. There is nothing arbitrary here. First, the failure to specify unquantifiable benefits might be the height of reasonableness; under imaginable assumptions, specification, rather than the opposite, would be arbitrary.¹¹⁴ Second, the quantifiable benefits exceed the quantifiable costs, and so the agency's decision to proceed is not itself arbitrary.

C. *Predictive Judgments Without Numbers*

Sometimes agencies make predictive judgments about the likely effects of their actions, speaking in qualitative terms without quantifying either costs or benefits. For example, EPA might adopt a water quality regulation that involves ecological rather than human health benefits; the FCC might adopt a regulation to protect children from exposure to obscene words on television; the Department of Justice ("DOJ") might require new steps to make buildings accessible to those who use wheelchairs; the Equal Employment Opportunity Commission might ban discrimination on the basis of sexual orientation; the FTC might require energy efficiency labels for appliances. In all of these cases, and many more, cost-benefit analysis might be possible, but might seem to strain existing knowledge, and also to be an awkward fit with the relevant statutes and regulations.

1. *The benefits and costs of cost-benefit analysis.* Note preliminarily that under existing executive orders, a full-scale regulatory impact analysis, with a

matter of policy, it is convincing as a matter of judicial review of agency action. On the policy issue, see Eric Posner & E. Glen Weyl, *Cost-Benefit Analysis of Financial Regulations: A Response to Criticisms*, 124 *YALE L.J.F.* 246 (2015), <https://perma.cc/NK2Y-JDFW>.

113. *Cf. supra* notes 109–10, discussing EPA's difficulty in quantifying some of the benefits related to regulating arsenic in drinking water.

114. For some qualifications, see Masur & Posner, *supra* note 8 (arguing that quantification is always possible, even if it involves guesses).

detailed account of costs and benefits, is required only for regulations with an annual economic impact of at least \$100 million.¹¹⁵ To be sure, benefits must always “justify” costs,¹¹⁶ but for regulations with modest economic effects, a comprehensive analysis is not required. These ideas have no standing in court, but they suggest an important and general point, which is that the argument for a detailed catalogue of costs and benefits is greatly weakened when the economic impact is not large. One reason is that in such cases, the social need for such a catalogue is much reduced, and so too are the social benefits. Cost-benefit analysis itself has both costs and benefits, and the costs of analysis might exceed the benefits. When the stakes are low, the benefits of cost-benefit analysis are reduced.

True, it is often valuable, and not costly, for agencies to offer some kind of general account, with bottom-line numbers. Within the executive branch, such an account, with numbers, is often very helpful, even without a full-scale regulatory impact analysis, offering a detailed catalogue of costs and benefits. Even so, a judicial challenge to a failure to offer numbers is weaker if the rule will have a modest economic impact. It is one thing to speak purely qualitatively when the costs are said to exceed \$100 million or \$500 million; it is quite another when they are under \$10 million. The conclusion is that a failure to offer numbers is less likely to be arbitrary if the costs are low—though we could imagine cases in which the agency’s ultimate decision is difficult to understand if numbers are not provided, in which case they must be required under arbitrariness review.

2. *Reasonable predictions and qualitative judgments.* In some cases, moreover, it is hardly arbitrary for agencies to make predictive judgments and to decide to proceed, based not on empirical evidence and numbers, but on reasonable qualitative assumptions about likely outcomes.¹¹⁷ The easiest cases arise when evidence is unavailable. True, predictive judgments might be turned into projections of costs and benefits, but it would be extravagant to say that numbers are always necessary to avoid a charge of arbitrariness. If the FCC takes steps to strengthen or weaken existing restrictions on obscenity, it might well be *helpful* to quantify costs, but the benefits might be thought to defy quantification, and a more qualitative approach is hardly arbitrary.¹¹⁸ If an agency adopts new regulations to reduce discrimination on the basis of disability or sexual orientation, a quantitative cost-benefit analysis might well be valuable: What would be the costs of those regulations? How many people would be helped? By how much? Can a monetary value be assigned to that help? But

115. See Exec. Order No. 12,866, 3 C.F.R. 638 (1994), *reprinted as amended in* 5 U.S.C. § 601 (2012).

116. *Id.*

117. See the valuable discussion of qualitative or conceptual cost-benefit analysis in Coates, *supra* note 9, at 891–98.

118. For a relevant discussion, see *id.* at 895.

it would be exceedingly difficult to argue that a failure to provide answers to such questions is arbitrary under the APA. An agency might well be able to explain itself adequately without such answers.

The same conclusion might well apply when an agency imposes a disclosure requirement in order to promote informed choices (say, a fuel economy label for new cars). To be sure, the agency must say *something* to explain its decision, and a cost-benefit analysis can provide that explanation. In imaginable circumstances—involving, say, an evidently expensive mandate of highly questionable value to consumers—such an analysis might be necessary in order to rebut the charge of arbitrariness.¹¹⁹ But it would be implausible to say that whenever a statute requires or authorizes an agency to mandate disclosure, a quantitative analysis of costs and benefits is required by the APA.

3. *Law and numbers.* The larger point here is that the range of agency action is exceptionally wide, and agencies can reasonably decide that quantitative analyses are not well-suited to all contexts. Where the stakes are relatively low, such an analysis might not be necessary. Where an agency is making reasonable predictive judgments, and when numbers are not needed or especially helpful to clarify them, such an analysis might also be unnecessary—and it might not be feasible. Of course the underlying statute matters a great deal. A statute that requires quantitative cost-benefit analysis must be analyzed differently from one that merely authorizes that analysis.

Within the constraints of law, a great deal depends on the costs of decisions and the costs of errors. If a litigant makes a plausible argument that an agency has acted arbitrarily, imposing serious burdens for no gain, the agency's best defense might involve or even require a quantitative account of costs and benefits. A purely qualitative account might be far too conclusory. And if a litigant argues that the agency has acted arbitrarily in failing to offer a quantitative account, a great deal depends on the costs and benefits of doing exactly that. In some cases, the costs of a quantitative analysis would exceed the benefits—or so an agency might non-arbitrarily conclude. But in other cases, reliable numbers are both available and necessary, and the benefits of cost-benefit analysis will so obviously exceed the costs that the agency's approach will indeed be arbitrary. Let us now see why that might be so.

D. Harder Cases

Some of the hardest problems arise when the agency agrees to consider costs, acknowledging that it is arbitrary not to do so, but *chooses to proceed even though the quantifiable benefits of its action are far lower than the quantifiable costs.* By itself, that choice would be arbitrary unless it is explained. A mere statement

119. On this issue, see generally Christine Jolls, *Debiasing Through Law and the First Amendment*, 67 STAN. L. REV. 1411 (2015).

of the agency's intentions and preferences is not sufficient.¹²⁰ If the agency lacks evidence, it might nonetheless be able to show that it has made a reasonable predictive judgment, consistent with the underlying statute; if evidence is unavailable, or if it is not feasible to collect it, there is nothing unreasonable about that.¹²¹ But imposition of costs far in excess of benefits requires some kind of justification.

1. Breakeven Analysis

One of the most promising approaches here involves "breakeven analysis." Under that approach, an agency explores how high the unquantified benefits would have to be in order for the benefits to justify the costs.¹²² The simplest way for an agency to explain its decision to proceed, in the face of (1) quantified costs that exceed quantified benefits and (2) unquantifiable benefits, is to engage in that form of analysis.

In the rear visibility regulation itself, DOT acknowledged a shortfall of about \$200 million: the monetized costs were between \$546 million and \$620 million, and the monetized benefits around \$265 million and \$396 million.¹²³ In explaining its decision to proceed, the agency referred to a range of (what it saw as) unquantifiable values, including equity (the lives of small children were at risk), parental anguish (in some cases, parents were responsible for the deaths of their own children), and increased ease of driving.¹²⁴ Let us simply stipulate that these values were indeed unquantifiable.

Was the agency's identification of the relevant values sufficient to survive arbitrariness review? There is a very strong argument that it was, at least in light of the fact that the monetary shortfall, while significant, was not egregious. Without running afoul of the proscription on arbitrariness, an agency could make a plausible judgment that the list of factors was sufficient to make up that

120. See *Motor Vehicles Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

121. In the area of exposure to "indecent" words, the Court appears to have said that where the agency's predictive judgment is reasonable, and where evidence is not available, no empirical support will be required. See *Fed. Comm'n Comm'n v. Fox Television Stations, Inc.*, 556 U.S. 502, 519–20 (2009). For an interesting discussion with far-reaching implications, see Adrian Vermeule, *Rationally Arbitrary Agency Decisions in Administrative Law*, 44 J. LEGAL STUD. S475, S501 & n.19 (2015). I cannot discuss Vermeule's illuminating discussion in detail here, but my own view is that the overwhelming majority of regulatory decisions involve potentially or actually evidence-based judgments, making relatively little space for rational arbitrariness (as he sees it).

122. See Cass R. Sunstein, *The Limits of Quantification*, 102 CALIF. L. REV. 1369, 1372 (2014).

123. Federal Motor Vehicle Safety Standards; Rear Visibility, 79 Fed. Reg. 19,178, 19,178 (Apr. 7, 2014) (to be codified at 49 C.F.R. pt. 571); see also Sunstein, *supra* note 122, at 1371.

124. Federal Motor Vehicle Safety Standards; Rear Visibility, 79 Fed. Reg. at 19,225–36; see also Sunstein, *supra* note 122, at 1371.

shortfall. But without a great deal of difficulty, it could have undertaken a more formal analysis.

For example, DOT properly referred to the increased ease and simplification of driving. Suppose that for each driver, the relevant improvement is valued at merely thirty dollars, taken as a reasonable lower bound. Suppose too that the regulation would apply to 60,000 cars that would otherwise lack cameras. If so, it would produce \$180 million in additional benefits. At that point, the monetized benefits become very close to the monetized costs.

DOT might have added that some work suggests that parents value a young child's life at \$18 million¹²⁵—a number that would add \$45 million to its existing benefits figure. At that point, the benefits and costs are essentially equivalent. And indeed, that \$18 million figure captures the parents' valuation of children's lives, not children's valuation of their lives. It would have been an unusual step, but DOT might have undertaken a sensitivity analysis with values, for a statistical child's life, of \$18 million and \$27 million—with the latter adding \$90 million, leaving a shortfall of \$110 million. Recall finally that we are speaking here of parents who would not only (only!) lose their children, but who would also be directly responsible for that loss. How much would it be worth to reduce the risk of that eventuality?

With an analysis of this kind, DOT's decision to proceed seems entirely reasonable—not because of a mere list of what intuition suggests are unquantifiable benefits, but because once we speak of lower bounds and expected ranges, the arbitrariness objection starts to lose its force. It would be excessive to say that in cases of this kind, an agency would be *required* to engage in breakeven analysis to avoid invalidation on arbitrariness grounds. The reason is that the agency's less formal approach, referring to what it saw as unquantifiable values, was reasonable. But we could imagine much harder cases, in which breakeven analysis would be indispensable, because the agency could not easily justify its decision without it.

Simple though it is, the example is easily generalizable. At least in the face of significant costs, exceeding quantifiable benefits, it will often be insufficient for an agency to announce that some benefits of the regulation are not quantifiable—unless Congress has directed the agency to proceed. But if the agency has made a non-arbitrary judgment that the benefits are not quantifiable, the agency would be on firm ground if it engaged in a reasonable breakeven analysis.¹²⁶ If the agency failed to engage in any such analysis, and simply listed one

125. See Sean Williams, *Statistical Children*, 30 *YALE J. REG.* 63 (2013).

126. See also the qualified endorsement, by Professor Coates, of "conceptual" cost-benefit analysis ("CBA"), on the ground that:

[It might] be useful for financial agencies to frame the questions that they face in evaluating regulations in terms of conceptual CBA, so as to stimulate and guide research The question, then, is how to encourage financial regulators to engage in meaningful, detailed conceptual CBA for its own sake—which should en-

or more unquantifiable benefits, it might not be acting arbitrarily, but in some cases, the outcome of arbitrariness review might not be clear.¹²⁷ As the costs grow, it becomes harder to say that such a list is sufficient to justify agency action in the face of an arbitrariness challenge.

Suppose, for example, that an agency has imposed a cost of \$600 million with a regulation that will reduce the risk of a financial crisis by some unquantifiable amount. To survive a claim of arbitrariness, it would be best for the agency to engage in some kind of breakeven analysis, which is eminently doable.¹²⁸ But in light of the sheer magnitude of a financial crisis, a court should not require breakeven analysis as a precondition for validation.¹²⁹

2. *Equity, Dignity, and Fair Distribution*

I have been focusing on breakeven analysis in general. Let us now turn to a more particular possibility. The agency might say that even though monetized costs exceed monetized benefits, considerations of *equity, dignity, or fair distribution* justify its action.¹³⁰ It might contend that those considerations cannot be monetized, but that they nonetheless matter. This contention might be used as a basis for breakeven analysis, at least if equity or dignity is involved, or it might be used simply to identify values that the agency does not quantify in any way.

a. *The price of dignity.* Suppose, for example, that an agency is adopting a regulation to make buildings accessible to people who use wheelchairs. Imagine that the monetized costs of the regulation are \$600 million and that the monetized benefits are \$300 million. Imagine that the agency nonetheless proceeds, arguing that the purpose of the regulation is to make buildings accessible, and the fact that monetized costs exceed monetized benefits is neither here nor there. Is that arbitrary?

The initial question involves the underlying statute. Let us simply stipulate that the agency has discretion to proceed or not to proceed, and how aggressively to proceed, and that it is authorized to take costs and benefits into account in making those decisions. At first glance, it is hard to say that the agency has acted arbitrarily. The Americans With Disabilities Act (“ADA”), for exam-

hance public understanding and may also assist regulators themselves—but also because more and better conceptual CBA should stimulate research on quantitative CBA by making more apparent the key quantities to be estimated, and so by stimulating academics to think harder about research designs that would permit that quantification.

Coates, *supra* note 9, at 1009–10.

127. Masur & Posner, *supra* note 8, offers valuable discussion.

128. See Sunstein, *supra* note 122.

129. For a detailed discussion, see Coates, *supra* note 9.

130. Note that Exec. Order No. 13,563, 76 Fed. Reg. 3821 (Jan. 18, 2011), explicitly refers to these values.

ple, does not state that cost-benefit analysis is the rule of decision (and indeed, there is a plausible argument that even if costs and benefits are relevant, the agency could not lawfully interpret it to embrace that decision rule).¹³¹ If the agency wishes to give significant weight to wheelchair accessibility, without turning it into some monetary equivalent, it would hardly seem to be acting arbitrarily. Under the ADA, an agency could lawfully impose costs of (say) \$50 million on a large number of private entities, if the consequence of the imposition is to produce substantial benefits for large numbers of disabled people—and it would be difficult to say that to survive arbitrariness review, the agency would be required to show that the monetizable benefits exceed \$50 million.

The strongest response would be that considerations of equity, dignity, or fair distribution cannot possibly be priceless. With a regulation of this kind, the agency is implicitly deciding that wheelchair accessibility has a value, or at least a reasonable lower bound. Perhaps the relevant valuation is sensible; perhaps it is not. At the very least, that question can be asked as a result of arbitrariness review. To make the issue as stark as possible, suppose that the implicit valuation, for annual access by a person who uses a wheelchair, is \$10 million. Many agencies value a human life at \$9 million.¹³² Can a year of wheelchair accessibility be worth as much as a human life?

With an actual regulation involving access by wheelchair users, the DOJ engaged in breakeven analysis. Its calculation was that if either society or wheelchairs were willing to pay a very small amount per bathroom visit—for one part of the regulation, in the vicinity of 5 cents,¹³³ and for another part, in the vicinity of \$2.20—the regulation would be worthwhile.¹³⁴ It asked what

131. *Cf.* *Vande Zande v. Wis. Dep't of Admin.*, 44 F.3d 538, 543 (7th Cir. 1995); Cass R. Sunstein, *Cost-Benefit Analysis Without Analyzing Costs or Benefits: Reasonable Accommodation, Balancing, and Stigmatic Harms*, 74 U. CHI. L. REV. 1895 (2007).

132. *See* OFFICE OF POL'Y, *supra* note 47.

133. *See* DEP'T OF JUSTICE: DISABILITY RIGHTS SECTION OF THE CIVIL RIGHTS DIV., FINAL REGULATORY IMPACT ANALYSIS OF THE FINAL REVISED REGULATIONS IMPLEMENTING TITLES II AND III OF THE ADA, INCLUDING REVISED ADA STANDARDS FOR ACCESSIBLE DESIGN 143 (2010), <https://perma.cc/5FHQ-MUSM> ("We estimate that people with the relevant disabilities will use a newly accessible single-user toilet room with an out-swinging door approximately 677 million times per year. Dividing the \$32.6 million annual cost by the 677 million annual uses, we conclude that for the costs and benefits to break even in this context, people with the relevant disabilities will have to value safety, independence, and the avoidance of stigma and humiliation at just under 5 cents per use.").

134. *See id.* ("We estimate that people with the relevant disabilities will use a newly accessible single-user toilet room with an in-swinging door approximately 8.7 million times per year. Dividing the \$19.14 million annual cost by the 8.7 million annual uses, we conclude that for the costs and benefits to break even in this context, people with the relevant disabilities will have to value safety, independence, and the avoidance of stigma and humiliation at approximately \$2.20 per use.").

wheelchairs users would have to be willing to pay for the relevant benefits,¹³⁵ and what society would have to be willing to pay to provide them,¹³⁶ in order for the relevant requirements to have a net present value of zero. It concluded that the relevant amounts could be very small and nonetheless achieve the breakeven or threshold point.

There is nothing at all arbitrary about proceeding in this way. But was the agency legally obliged to justify itself through this relatively elaborate route? Would it have been arbitrary, within the meaning of the APA, if the agency had referred more broadly to considerations of equity and dignity, and argued that a shortfall of several hundred million dollars should not be seen as prohibitive? Almost certainly not. Breakeven analysis is helpful, but the APA's ban on arbitrariness does not require agencies to engage in it. The most that can be said is that, in extreme cases, where a challenger contends that the costs are very high and that the benefits are questioned, the agency might be required to generate some numbers in order to defend itself.

Here as well, the analysis is generalizable; it can apply in many contexts. Where the monetized costs and benefits are not wildly out of line, invocation of fairness and dignity can tip the balance, even if the agency's analysis is not at all quantitative. If the agency wants to be maximally secure, it would engage in some form of breakeven analysis, but that should not be required.

b. *Distribution, and its awkward fit with cost-benefit analysis.* The idea of equity overlaps with that of fair distribution, and we could easily imagine a regulatory decision that brings distributional justice to the foreground. Suppose that an OSHA regulation imposes a total cost of \$200 million and that it prevents fifteen premature deaths among mine workers. (For simplification, assume that the regulation has no benefits other than prevention of premature mortalities.). If a life is valued at \$9 million, the regulation has net costs of \$65 million. The agency might emphasize that the benefit is enjoyed by mine workers, who are relatively disadvantaged, and that the cost will be born by consumers, who are relatively well off. The agency might add that protection of worker

135. *See id.* at 146 (“Under this methodology, for three of these four requirements, persons with disabilities need place a value of less than 1 cent on the benefits of avoided humiliation and/or improved safety (or any other non-monetized benefits) on each visit to facilities with elements affected by these requirements in order to make each requirements’ respective NPVs equal zero.”).

136. *See id.* (“The second threshold estimate, by contrast, calculates the average monetary value each American (on a per capita basis) would need to place annually (over a fifteen-year period) on the ‘existence’ of improved accessibility for persons with disabilities (or the ‘insurance’ of improved accessibility for their own potential use in the future) in order for the NPVs for each respective requirement to equal zero. Under this methodology, if Americans on average placed an ‘existence’ value and/or ‘insurance’ value of between 2 cents on the low end to 7 cents on the high end per requirement, then the NPVs for each of these requirements would be zero. Note that this later calculation assumes no added value of avoided humiliation, of increased safety and increased independence.”).

safety is the primary purpose of the relevant statute, and at least so long as the net costs stay within reasonable bounds, it will act in a way that fits with that primary purpose.

An argument of this kind would be controversial. But it is hardly arbitrary. A regulatory statute might be designed to protect vulnerable people, and there is nothing arbitrary about protecting them even if they gain less, from the regulation, than the losers lose. Perhaps the agency would be required to show that the gainers are genuinely gaining, and that the gain is significant; but the outcome of a net benefits analysis, in monetary terms, need not and should not be decisive.

Here yet again, the argument is easily generalized. If an agency is conferring benefits on one group and imposing costs on another, it might well be acting lawfully, even if the monetized costs exceed the monetized benefits. To be sure, it might be arbitrary for the agency to say *nothing* about the magnitude of the benefits and the costs. But under statutes that are designed to help specified groups—say, victims of discrimination or rape, or people who have long lacked health insurance—it is hardly arbitrary for agencies to emphasize the importance of distributional considerations.

V. FEASIBILITY ANALYSIS

A. *The Problem*

An agency might say that it is not basing its decision on cost-benefit analysis at all. It might say that it is rooting its approach in “feasibility analysis,” which, it will be recalled, means that it will regulate any significant risk to the point that is consistent with technological or economic feasibility.¹³⁷ Is that approach arbitrary? We are stipulating that (1) Congress has not forbidden the agency from choosing feasibility analysis and (2) Congress has not required the agency to make that choice.

The question is far from hypothetical. OSHA is generally authorized to issue regulations that are “reasonably necessary or appropriate” to provide safe and healthful places of employment.¹³⁸ According to the leading court of appeals decision,¹³⁹ this language authorizes the agency to choose between (1) regulating significant risks to the point of economic and technological feasibility and (2) using cost-benefit analysis. Decades ago, the agency chose (1), and a lower court upheld that choice.¹⁴⁰ The agency has continued to rely on (1) in

137. See Masur & Posner, *supra* note 24, at 657.

138. 29 U.S.C. § 652(8) (2012).

139. *Int'l Union, United Auto Workers v. Occupational Safety & Health Admin.*, 37 F.3d 665, 668 (D.C. Cir. 1994).

140. *Am. Textile Mfrs. Inst., Inc. v. Donovan*, 452 U.S. 490, 509 (1981) (“[C]ost-benefit analysis by OSHA is not required by the statute because feasibility analysis is.”). Note that in *Entergy*

both Republican and Democratic administrations. And under a key provision of the Clean Water Act,¹⁴¹ the Supreme Court has said that EPA has the option, under the governing statute, of using (1) feasibility approach or (2) requiring some kind of balancing between costs and benefits.¹⁴²

In principle, there is a strong argument that agencies can reasonably choose a feasibility approach. In fact, the argument might well seem decisive. We have seen that in some statutes, Congress has itself embraced exactly that very approach.¹⁴³ No one contends that it lacks the constitutional authority to make that choice. It might appear odd, even a form of hubris, for a federal court to declare that an approach embraced by the national legislature is unlawfully arbitrary under the APA if selected by an agency. Moreover, some distinguished commentators have argued vigorously on behalf of feasibility analysis, contending that it is superior to cost-benefit analysis.¹⁴⁴ Would it make sense for a court to rule that such commentators are not merely wrong but irrational?

The initial response is that Congress' occasional embrace of feasibility analysis is not, by itself, a sufficient justification for that form of analysis. Congress has also called for cost-blindness and as we have seen, it is nonetheless arbitrary for agencies to ignore costs.¹⁴⁵ As we have also seen, the Court's decision to this effect imposes a kind of clear statement principle: If the federal government is to act in a cost-blind way, it must be because the national legislature has made an explicit and focused decision to that effect. It is easy to imagine a similar principle that would condemn agency selection of feasibility analysis: *If the federal government is going to undertake that kind of approach, it must be because Congress has said that it should, not because of a judgment by a mere agency.*

A judgment of that kind would have to depend on that conclusion that while feasibility analysis is not so unreasonable as to fail constitutional review for irrationality, it nonetheless fails APA standards for arbitrariness. As we have seen, that is a perfectly imaginable judgment; it parallels existing law with respect to cost-blindness. But is the imaginable judgment also correct?

v. Riverkeeper, 556 U.S. 208, 222–23 (2009), the Court indicated, in dicta, that the agency has the authority to make cost-benefit analysis the rule of decision, though *Am. Textile Mfrs. Inst., Inc.* expressly says otherwise. See 452 U.S. at 540.

141. 33 U.S.C. § 1326(b) (2012).

142. *Entergy v. Riverkeeper*, 556 U.S. 208 (2009).

143. See *Am. Textile Mfrs. Inst., Inc.*, 452 U.S. at 509.

144. See David M. Driesen, *Distributing the Cost of Environmental, Health, and Safety Protection: The Feasibility Principle, Cost-Benefit Analysis, and Regulatory Reform*, 32 B.C. ENVTL. AFF. L. REV. 1 (2005); David M. Driesen, *Two Cheers for Feasible Regulation: A Modest Response to Masur and Posner*, 35 HARV. ENVTL. L. REV. 313 (2011).

145. See, e.g., *Michigan v. EPA*, 135 S. Ct. 2699 (2015).

B. *Feasibility: For and Against*

The best argument for invalidating feasibility analysis (unless statutorily mandated) would be that it is exceptionally difficult to defend, at least in ordinary circumstances.¹⁴⁶ Return to the case of rear visibility and suppose that the cost of cameras would be \$1 billion. Suppose that the result of cameras would be to prevent ten deaths per year. Would it be even minimally rational to spend more than \$100 million to save a single life? In *Corrosion Proof Fittings*, the court invalidated EPA's asbestos ban in part on the ground that in certain sectors, the cost per life saved, as reflected in EPA's own calculations, was implausibly high.¹⁴⁷ To be sure, that decision involved a statute that (in the court's view) specifically called for cost-benefit analysis. But is there anything rational that an agency could say in response to an objection that, as applied, feasibility analysis requires arbitrarily high costs for modest gains?

At the very least, the agency would have to explain its choice, even under the most minimalist approach. It would not be sufficient for it to announce its conclusion that feasibility is better. It would have to offer some account of *why* an agency should impose a regulatory requirement even when the monetized benefits fall so short of the monetized costs.

We have already seen several possible accounts. An agency might point to unquantifiable factors; it might emphasize the importance of equity, dignity, and fair distribution. The problem is that these points *do not justify feasibility analysis*. They might well show that it is not arbitrary to proceed even though the monetized benefits are lower than the monetized costs. What they fail to show that it is not arbitrary to abandon any form of weighing in favor of an inquiry into feasibility.

The best justification on behalf of that inquiry might take the following form.¹⁴⁸ A \$1 billion expenditure might mean significant welfare losses—as, for example, where it requires businesses to close or scale back their operations. But notwithstanding its sheer magnitude, that loss might also mean far less, in welfare terms, than one might initially think. Suppose, for example, that a \$1 billion expenditure means that every new car will sell for (say) about fifty dollars more. Are car purchasers significantly harmed if they have to pay, on average, \$22,250 rather than \$22,200 per car? A widely diffused cost of that kind might have relatively modest welfare effects.

An agency might say: *Our master concept is human welfare, not net benefits. Even though the monetized costs of our action exceed the monetized benefits, we*

146. See generally Masur & Posner, *supra* note 24.

147. 947 F.2d 1201 at 1218–19 (5th Cir. 1991).

148. Cf. Driesen, *Two Cheers for Feasible Regulation*, *supra* note 144 (discussing various justifications for feasibility analysis).

*believe that it would produce a net welfare gain.*¹⁴⁹ And for its domain (the agency might conclude), feasibility analysis works as a reasonable proxy for welfare analysis—in some contexts, as a sensible alternative to cost-benefit analysis itself. Whenever the costs of regulation are widely diffused, a high aggregate number will greatly overstate the adverse welfare effects of regulation.¹⁵⁰ If a regulation is feasible, and if it addresses a serious problem, it will be justified on welfare grounds.

As a matter of policy, it is not at all clear that this argument is convincing. For each individual vehicle purchaser, a loss of fifty dollars might not mean a great deal, but for tens of thousands of people, the loss would be significant. (Would a fifty dollar tax, imposed on every American, produce very modest welfare losses?) And where there is a disjunction between what emerges from cost-benefit analysis and likely welfare effects, the most natural response is not to jump directly to feasibility analysis. It is instead to ask whether there is a justification (on welfare grounds) for proceeding even though the benefits are lower than the costs.

But simply as a matter of administrative law, the argument on behalf of feasibility analysis is hard to deem arbitrary. It is plausible that a widely diffused cost, even if it is very high, will impose relatively modest welfare losses. A five dollar cost, imposed on 300 million people, would produce an unusually large monetary amount (\$1.5 billion!)—but the resulting figure could greatly overstate the welfare effects.¹⁵¹ At the very least, the agency could make a legally sufficient argument to this effect.

Alternatively, the agency might link its use of feasibility analysis with a distributional argument. It might urge that under its regulation, certain groups (say, workers who face serious health or safety risks) are its principal concern, and that it is willing to impose “feasible” regulation on others in order to address that concern. On certain assumptions about the incidence of regulatory consequences, an argument of this kind would not be arbitrary (whether or not it would be convincing).

The agency’s best explanation of a feasibility approach would speak in these terms. In some cases, of course, that explanation would not be sufficient to satisfy the requirements of reasonableness. In the context of water pollution, for example, a cost of \$600 billion, alongside benefits of \$45 million, would be hard to justify on grounds of welfare or fair distribution, at least if the \$45 million involve largely ecological benefits (and not human health), and if unquantifiable benefits cannot be brought to bear.¹⁵² Whether it is non-arbitrary

149. See John Bronsteen et al., *HAPPINESS & THE LAW* 30–33 (2015); Driesen, *Two Cheers for Feasible Regulation*, *supra* note 144.

150. See John Bronsteen et al., *Well-Being Analysis vs. Cost-Benefit Analysis*, 62 *DUKE L.J.* 1603 (2013), for an argument to this effect.

151. See *id.*

152. See *Entergy v. Riverkeeper*, 556 U.S. 208 (2009).

to adopt feasibility analysis very much depends on whether the context is one for which considerations of welfare or fair distribution can be made plausible.

CONCLUSION: AN OBLIGATION WITH FIVE ESCAPE ROUTES

Under the APA, agencies must avoid arbitrariness, and a regulation that imposes costs without conferring benefits is arbitrary. The same is true of a regulation that increases environmental risks on net, or that imposes very high costs for trivial gains. Importantly, however, the prohibition on arbitrariness is not naturally taken as a requirement of a particular rule of decision, where Congress has failed to mandate any such rule in an organic statute. Cost-benefit analysis is hardly an uncontested decision rule, in the environmental context or elsewhere, and it might seem arrogant, or worse, for courts to require agencies to follow it. It would indeed be implausible to insist that the APA enacts OMB Circular A-4.

Nonetheless, some statutes require or permit an agency to quantify costs and benefit and to weigh them against each other. I have argued that in the face of a plausible objection that agencies have not adequately justified themselves, or that they are imposing significant costs for modest benefits, agencies must explain their failure to engage in some form of quantified cost-benefit analysis, showing that benefits do in fact justify the costs. Unless a statute says otherwise, a refusal to offer such a demonstration requires some non-arbitrary explanation under the APA.

I have explored five possible explanations here:

(1) Some statutes forbid consideration of costs; compliance with such statutes is hardly arbitrary.

(2) In some cases, agencies can explain their decisions without resort to numbers, because qualitative explanations turn out to be sufficient and perfectly reasonable (consider FCC decisions with respect to allowing obscenity on broadcast television).¹⁵³ Such explanations might be especially appropriate where the stakes are low.

(3) In some cases, it might not be feasible to quantify costs and benefits; limits in existing evidence might make any such effort an exercise in speculation.¹⁵⁴ Where quantification is not possible, it is not arbitrary to refuse to quantify—though the question remains whether it is arbitrary for an agency to proceed. Breakeven analysis might well show that no arbitrariness involved, but in most cases, such analysis is not mandatory; as in the case of the rear visibility rule, a qualitative analysis might turn out be sufficient.

(4) Values such as dignity, equity, and fairness might be relevant, and they might prove difficult or impossible to quantify (consider a regulation eliminat-

153. See, e.g., *Fed. Comm'n Comm'n v. Fox Television Stations, Inc.*, 556 U.S. 502 (2009).

154. See *id.*

ing the entry ban, in the United States, on people who are HIV-positive).¹⁵⁵ Or an agency might be attempting to promote distributive goals; consider statutes protecting mine safety or forbidding discrimination on the basis of race, sex, or disability. Even in such cases, however, some numbers might turn out to be mandatory, for example, to show that a regulation would actually produce substantial benefits. But a full-blown cost-benefit justification would not be required (and might even be inconsistent with the underlying statutory goal).

(5) A regulation might produce welfare effects that are not adequately captured by monetized or monetizable costs and benefits. The master concept is welfare, and cost-benefit analysis is the most administrable way to capture welfare. When agencies reasonably contend that it proves inadequate, reviewing courts should step aside.

In a wide range of cases, justifications of this kind should protect agencies against an objection from arbitrariness. At the same time, justifications must be offered. In some cases, they will not be available.

The largest conclusions are straightforward. A central goal of administrative agencies is to promote social welfare, suitably defined.¹⁵⁶ It should be unnecessary to underline the importance of that goal. Of course the judicial role is far from primary. Within the bounds of law, the principal line of defense against regulation that reduces social welfare consists of processes within the executive branch, which are specifically designed to promote analytical discipline in the interest of promoting social welfare.¹⁵⁷ But those processes are not always sufficient.¹⁵⁸ When they fail, courts legitimately require agencies to justify their choices. In some cases, a non-arbitrary justification requires numbers.

155. See Julia Preston, *Obama Lifts a Ban on Entry into U.S. by H.I.V.-Positive People*, N.Y. TIMES (Oct. 30, 2009), <https://perma.cc/M33H-HBC7>.

156. On some of the complexities here, see ADLER, *supra* note 37.

157. See Sunstein, *supra* note 96.

158. Recall that the independent agencies are not subject to the standard processes. For a powerful critique and call for reform, see Revesz, *supra* note 7.

