August 27, 2008

Robert Hermann, Director
Governor's Office of Regulatory Reform
Agency Building 1, 4th Floor
Empire State Plaza
Albany, NY 12220-0107

RE: Comments on "Cost-Benefit Assessment in Rulemaking: A Guide for State Agencies" (2008)

The Institute for the Study of Regulation offers the following comments on New York State's recently updated guidelines for the use of cost-benefit analysis in agency rulemaking.[1]

The Institute for the Study of Regulation ("ISR") at New York University School of Law is a non-partisan advocacy organization and think-tank dedicated to improving the quality of governmental decision-making in the area of environmental, public health, and safety regulation. ISR advocates using properly conducted cost-benefit analysis as a tool to advance socially-beneficial regulation. ISR enthusiastically supports the Governor's Office of Regulatory Reform ("GORR") in its efforts to improve the accuracy, consistency, and transparency of cost-benefit analysis as conducted by New York agencies. With this mutual goal in mind, we make the following suggestions:

- Announce a sixty-day public comment period
- Expand the scope to cover deregulatory and non-regulatory decisions
- Warn of and correct for biases in compliance cost estimates
- Provide more thorough guidance on distributional analysis
- Expand on the admirable emphasis of ancillary benefits
- Advocate a full valuation of statistical lives, including all relevant risk preferences, without advancing the life-years model
- Revise intra-generational discount rates to account for dread
- Preclude any inter-generational discounting
- Caution against imaginary or false opportunity costs and alternative options
- Identify and prevent unnecessary delays

[1] We confine our comments to the guidelines' sections specifically on cost-benefit analysis; we express no opinion on "Appendix One: Risk Assessment."

Public Review of the Guidelines

GORR's guidelines stress the importance of using public comment and peer review to create a robust rulemaking process. Specifically, the guidelines insist on public presentation of, *inter alia*, an agency's cost-benefit methodology.[2] The guidelines further suggest that peer review is especially valuable "where there is or is likely to be substantial disagreement on the methods."[3] Since the guidelines seek to shape the rulemaking methods used by every state agency,[4] GORR should offer the public a similar opportunity for review and comment as the guidelines prescribe for agency rulemaking.

Given the importance of the guidelines, steps should be taken to publicize their release and to solicit public responses. Even when formal notice-and-comment is not statutorily required, experts have long recognized the value of public participation to provide agencies with relevant information, to give the public a voice, to increase confidence in and acceptance of agency judgments, and generally to improve the quality of regulation.[5] Thus even for interpretive rules, procedural rules, or statements of general policy – which are normally exempt from state and federal Administrative Procedure Acts – the recommended best practices include: pre-promulgation public notice whenever practical; an invitation to interested parties to submit written comments; the optional extension of an opportunity for oral comments; agency evaluation of received comments; and an agency explanation of its adherence to or alteration of the previous action, in light of any comments.[6]

The 1996 development of GORR's first iteration of the cost-benefit guide provides a sound model of a public comment process. At that time, GORR hosted or co-hosted three forums at which over 700 experts and interested parties discussed cost-benefit methodologies. Then GORR circulated an early draft of its manual, inviting oral and written comment from dozens of organizations.[7] Finally, GORR made "extensive revisions" to its handbook "in response to comments GORR received from these many diverse sources."[8]

The development of GORR's 2008 update has not yet included a public review process. GORR has not yet held hearings or forums, nor are we aware of any prepared list of interested

---

[2] NEW YORK STATE GOVERNOR'S OFFICE OF REGULATORY REFORM, COST-BENEFIT ASSESSMENT IN RULEMAKING: A GUIDE FOR STATE AGENCIES 17 (2008) [hereinafter Guide] ("This [public] presentation therefore must include a reasonably detailed description of the agency's: *methodology*, data sources, assumptions, findings") (emphasis added).
[3] *Id.* at 18.
[4] *See id.* at 3-4 ("This guide reflects a decision to…provid[e] fuller, plainer direction…on how to conduct a cost-benefit assessment using the ten analytical steps listed").
[5] *See* ADMINISTRATIVE CONFERENCE OF THE UNITED STATES, RECOMMENDATION NO. 83-2, THE "GOOD CAUSE" EXEMPTION FROM APA RULEMAKING REQUIREMENTS (1983) ("The advantages of public participation in agency rulemaking are widely recognized: the agency benefits because interested persons are encouraged to submit information the agency needs to make its decision; the public benefits for an opportunity to participate in shaping the final agency action"); *see also* ADMINISTRATIVE CONFERENCE OF THE UNITED STATES, RECOMMENDATION NO. 76-5, INTERPRETIVE RULES OF GENERAL APPLICABILITY AND STATEMENTS OF GENERAL POLICY (1976) ("Providing opportunity for comment upon interpretive rules and policy statements of general applicability, sometimes before and sometimes after their adoption, makes for greater confidence in and broader acceptance of the ultimate agency judgments").
[6] *See* ACUS, RECOMMENDATION NO. 76-5, *supra* note 5.
[7] *See* NEW YORK STATE GOVERNOR'S OFFICE OF REGULATORY REFORM, COST-BENEFIT HANDBOOK: A GUIDE FOR NEW YORK STATE'S REGULATORY AGENCIES v-x (1996).
[8] *Id.* at x.

parties or potential peer reviewers. Early drafts of the report were not circulated for review, nor were general public comments solicited.[9] Given that the revised guidelines are more detailed, more rigorous, and more prescriptive than the previous version[10] – in short, much more likely to deeply affect both an agency's rulemaking methods and, consequently, the public – a public process is all the more important.

ISR recommends that, in the interests of transparency and public participation, GORR announce a sixty-day public comment period on the guidelines. ISR hopes that GORR will give due consideration to any public input received and will only issue a formal and final version of the guidelines after such a review.

Scope: Deregulation and Agency Inaction

From their very start, the guidelines constrict their own application to a narrow scope of regulatory actions. "Step One" of the guidelines advises agencies to confirm and measure the need for only two kinds of regulatory actions: "a new rule or a rule change."[11] In short, GORR seems to have excluded deregulatory decisions from coverage.[12] GORR clearly has the authority to require cost-benefit analysis for deregulation: GORR has jurisdiction over agency "rules,"[13] defined by New York State's Administrative Procedure Act ("SAPA") to include "the amendment, suspension, or repeal" of any "agency statement, regulation or code of general applicability that implements or applies law."[14] Under Executive Order 20, GORR is only allowed to "exclude a particular rule or category of rules…from all or part of the requirements contained in this Executive Order, based on a determination by the Director that the application of the requirements of this order to such rule or category of rules lacks a substantial public benefit."[15] Deregulation can be just as costly, in terms of adverse impacts on social welfare, as inefficient regulation.[16] As such, we strongly argue that the application of cost-benefit analysis to deregulatory decisions has a substantial public benefit, and therefore such decisions should be required to undergo cost-benefit analysis.

---

[9] Additionally, GORR does not seem to have issued a press release to alert the public to the revision of this influential government document. *See* GORR-Press Releases, http://www.gorr.state.ny.us/Main_GORR_Pages/Press_Release-Menu.html (last visited August 12, 2008) (not listing any press release regarding the publication of the guidelines).

[10] *Compare* GORR COST-BENEFIT HANDBOOK, *supra* note 7, at iii (1996), ("[This manual] is not a 'guidance document' or a prescription of exactly how every cost-benefit analysis must be performed," but merely a document to "give regulators a feel for the range of issues they should contemplate") *with* Guide, *supra* note 2, at 3-4 (2008) ("This guide reflects a decision to…provid[e] fuller, plainer direction…on how to conduct a cost-benefit assessment using the ten analytical steps listed").

[11] *See* Guide, *supra* note 2, at 4.

[12] The 1996 version of GORR's handbook even more explicitly excluded deregulation, saying "GORR does not expect to request a comprehensive cost-benefit analysis for…minor rules, emergency rules, *or the repeal of obsolete or invalid rules*." GORR COST-BENEFIT HANDBOOK, *supra* note 7, at iii-iv (emphasis added).

[13] *See* New York State Executive Order 20 § II(A)(4)-(5) (1995) (reissued by Governor Spitzer as Executive Order 5 in 2007, and continued by Governor Patterson in 2008) (giving GORR authority to require cost-benefit analysis of proposed and existing rules); *Id.* § I(C) (defining "rule" to have the same meaning as in the State Administrative Procedure Act).

[14] N.Y. A.P.A. Law § 102(2)(a)(i)(McKinney).

[15] New York State Executive Order 20 § II(A)(11).

[16] For example, in 2002, the U.S. EPA promulgated a rule relaxing the New Source Review provision of the Clean Air Act, to allow old, dirtier, "grandfathered" power plants to upgrade without suffering stricter emissions controls. Though this deregulation clearly would have significant environmental and economic impacts, the EPA claimed that the economic consequences would be minor and that no cost-benefit analysis was necessary.

Additionally, GORR should encourage agencies to use cost-benefit analysis to evaluate decisions *not* to regulate. The decision not to regulate can be as costly as the decision to regulate too much. Efficient regulations deliver large benefits, and counteract important failures of the unregulated market. Just as regulations impose some cost on the economy, the lack of regulation, if regulation is called for, also imposes costs in the form of reduced social welfare.[17] GORR's authority in this area is less clear, since SAPA's definition of "rule" does not obviously include agency decisions to take no action.[18] But GORR does appear to have some power to force agencies to begin rulemaking proceedings, specifically by requesting "an agency, in order to develop a rule for proposal, to initiate a policy dialogue with interested parties."[19] Moreover, it could be argued that GORR's authority over analysis of existing rules includes the auxiliary power to direct further analysis of potential but un-adopted rules:[20] viewed broadly, an agency's entire body of existing rules is defined at the borders by the agency's decisions not to regulate further. Ultimately, we admit that GORR's formal powers to help agencies set agendas, prioritize, and review non-regulatory decisions are extremely limited. A new Executive Order, clarifying and strengthening these powers, would facilitate the balanced exercise of GORR's authority in this area. In the meantime, GORR should encourage agencies to use cost-benefit analysis voluntarily to assess non-regulatory decisions.

<u>ISR recommends clarification that the requirement to conduct cost-benefit analysis covers deregulatory decisions and not only new rules or rule revisions. GORR should further encourage agencies to adopt cost-benefit analysis for non-regulatory decisions as well.</u>

Compliance Costs

One mistaken and often-overlooked assumption made in the calculation of compliance costs is that industry cannot adapt to new requirements. Indeed, this premise is so pervasive and so inaccurate that it warrants special attention in the guidelines. Though the empirical literature on cost estimation is not sufficiently well-developed to generate clear conclusions about the extent of systematic bias, there is ample anecdotal evidence of the overestimation of costs. For example, William Reilly, EPA administrator under President George H.W. Bush, has stated that there has been "a pattern of consistent, often substantial, overestimation of [regulations'] economic costs."[21]

Routine reliance on industry data generates the first potential source of such bias. The guidelines expressly list "private industry" as a reliable and cheap option for obtaining data,[22] and they further encourage agencies to utilize "'plug-in' estimates from completed research" in order to minimize the expense of monetizing costs and benefits.[23] Unfortunately, industry representatives themselves may be similarly tempted to find the easiest and cheapest way to estimate compliance

---

[17] These comments draw from RICHARD L. REVESZ & MICHAEL A. LIVERMORE, RETAKING RATIONALITY: HOW COST-BENEFIT ANALYSIS CAN BETTER PROTECT THE ENVIRONMENT AND OUR HEALTH (2008). Please see that text for more detailed explanations of and more support for all arguments presented throughout these comments.
[18] *See* N.Y. A.P.A. Law § 102(2)(a)(i)(McKinney).
[19] New York State Executive Order 20 § II(A)(9).
[20] New York State Executive Order 20 § II(A)(2).
[21] William K. Reilly, *EPA's Cost Underruns*, WASH. POST, Oct. 14, 2003, at A23. *See also* OFFICE OF MANAGEMENT AND BUDGET, VALIDATING REGULATORY ANALYSIS: REPORT TO CONGRESS ON THE COSTS AND BENEFITS OF FEDERAL REGULATIONS AND UNFUNDED MANDATES ON STATE, LOCAL, AND TRIBAL ENTITIES 42 (2005) (noting a greater tendency for costs to be overestimated than underestimated).
[22] Guide*, supra* note 2, at 13.
[23] *Id.* at 19.

costs, which is likely to consist simply of totaling the costs of existing technologies and processes.[24] By failing to consider the short- or long-term development of technological advancements and process improvements, such estimates can sometimes be quite severely off the mark: for example, the actual cost of phasing out leaded gasoline in the United States proved to be 95% lower than industry had expected.[25] Agencies must be careful about such biases and should not be willing to sacrifice accuracy for convenience.[26]

A related error occurs when analysts only look at "end-of-pipe" technologies rather than changes in production processes. In "Step Five," the guidelines detail that the "cost of specialized equipment required by a proposed regulation should be included."[27] But the guidelines do not call agencies' attention to the potential emergence of process changes as more efficient substitutes for such end-of-pipe technologies. Moreover, the guidelines do not advise agencies whether or how to factor in potential cost decreases as technology improves and becomes more readily available.[28] When the guidelines recommend in "Step Two" that agencies set the status quo as the "appropriate baseline for most proposals,"[29] they signal agencies to base cost estimates on an unrealistically static model of the economy, with fixed levels of technological development and no room for innovation.[30]

<u>ISR recommends that GORR give agencies more detailed guidance on how to calculate compliance costs. At a minimum, GORR should help agencies achieve more accurate estimates of</u>

---

[24] The tendency for industry to overestimate compliance costs could sometimes be intentional. As Sally Katzen, head of the Office of Information and Regulatory Affairs under President Clinton, has written, "If you do not want to do something, you inflate the amount of time, inconvenience, and cost you estimate it would take." *Cost-Benefit Analysis: Where Should We Go from Here?*, 33 FORDHAM URB. L.J. 1313, 1315 (2006).

[25] ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION 561 fig.4.8 (2d ed. 1996).

[26] Additionally, consider that industry reports on compliance costs may be less likely than academic or government studies to undergo the type of peer review that the guidelines recommend. *See* Guide, *supra* note 2, at 18. That said, ISR does recognize the significant expenditures of time and money that some cost and benefit estimations may entail, and we agree that whenever the projected gains in decisional quality are outweighed by the losses associated with delay or expense, blindly continuing ahead is foolhardy.

[27] Guide, *supra* note 2, at 10. Given the examples listed by the guidelines, it seems particularly strange that GORR did not discuss the end-of-pipe vs. process change issue. Here, GORR uses special wastewater filters as an example of an end-of-pipe equipment cost that must be included. But just one page later, GORR uses an example in which artificial wetlands substitute for traditional wastewater treatment facilities. *See id.* at 11. Clearly GORR understands how a process change or technological advance can alter the cost-benefit analysis; now it must update the guidelines to convey that understanding to agency analysts.

[28] For example, a major component of the Clean Air Act Amendments of 1990 was the Acid Rain Program, directed at cutting down on the emission of sulfur dioxide and nitrogen oxides from power plants. While an interagency task force originally estimated the cost of reducing sulfur-dioxide emissions would range from $370 to $800 per ton, thanks to a tradable permit regime, railway deregulation (which reduced transportation costs for low-sulfur coal), better coal production techniques, new plant designs, a large increase in natural gas-generating capacity, and the increased availability of efficient natural gas technologies, the true cost was closer to $250 per ton – less than half the average estimate. *See* Lauraine G. Chestnut & David M. Mills, *A Fresh Look at the Benefits and Costs of the U.S. Acid Rain Program*, 77 J. ENVTL. MGMT. 252, 252-255 (2005); U.S. EPA, ACID RAIN PROGRAM 2005 PROGRESS REPORT 10 (2006), *available at* http://www.epa.gov/airmarkets/progress/docts/2005report.pdf.

[29] Guide, *supra* note 2, at 6.

[30] "Step Two" of the guidelines does caution agencies to "[e]xplain any uncertainties or assumptions about the baseline conditions." *Id.* But unless the guidelines call attention to these potential sources of bias more explicitly, analysts are likely to continue overlooking them. Moreover, agencies should be pushed to affirmatively factor technological development and dynamic market conditions into their compliance cost estimates, not merely to explain away their failure to do so as an uncertainty or assumption.

data – and by recommending use of a more dynamic view of the marketplace as the baseline against which costs are measured. GORR should require agencies to consider the potential for technological innovation and increased availability, as well as production process changes, to lower costs and replace end-of-pipe equipment over time.

Distributional Impacts

ISR strongly agrees with the guidelines that distributional analysis should always accompany cost-benefit analysis, and we commend GORR for beginning to set agencies on that path in "Step Four." Unfortunately, beyond listing the various groups, subgroups, and geographical regions that statutes and politics require agencies to consider, the guidelines give little advice on what to do next. Agencies are merely instructed to "identify" such impacted groups and to "consider" the impacts on "important subgroups."[31] But the guidelines do not reveal whether or how agencies should factor these identifications and considerations into their decision-making process. How should agencies respond if costs or benefits fall disproportionately on an important subgroup? Which subgroups are "important"? What if disproportionality is only discernable when multiple regulations are viewed together, and does not appear upon evaluation of any one particular regulation?

Distributional analysis is not an easy undertaking, but it is a necessary one: ignoring the distributional impacts of governmental action carries the risk of perpetuating and exacerbating socio-economic inequality. Cost-benefit analysis, on its own terms, excludes concern for the distribution of benefits and burdens of regulations. This omission is acceptable only if a separate effort is undertaken to account for these effects.

GORR has both the authority and the responsibility to facilitate this undertaking. New York's Executive Order 20 gives GORR the power "[t]o analyze or require the analysis of the impact of proposed and existing rules on matters such as but not limited to public health, safety and welfare, and job creation."[32] Minimizing any unjust distributional effects of regulation certainly should count as a chief element of the "public welfare." Thus, GORR can – and should – instruct agencies to conduct distributional analyses on both proposed rules and on relevant groupings of their existing rules. Moreover, GORR is itself empowered to conduct distributional analyses, and can do so on sets of multiple regulations issued by multiple agencies, so as to systematically evaluate the cumulative distributional effects of the state's entire regulatory regime.

We recognize that systematic evaluation of distributional effects is a new area for GORR to enter into, and we understand if GORR might hesitate to proceed in this direction without more explicit authorization from Executive Order 20. While we nevertheless encourage GORR to take full advantage of the broad powers already delegated by the Executive Order, we believe that a revised Executive Order 20, which more fully described GORR's role in evaluating the distributional impacts of regulation, is appropriate.

ISR recommends that, at a minimum, GORR should expand "Step Four" to provide real guidance for agencies on how to conduct distributional analysis. The guidelines should focus on

[31] Guide, *supra* note 2, at 8-9.
[32] New York State Executive Order 20 § II(A)(2).

distributional analysis into an agency's broader decision-making process. GORR should require agencies to follow those guidelines with the same rigor that it uses to enforce its cost-benefit analysis mandate. The guidelines should also explain how GORR will systematically evaluate the cumulative distributional effects of multiple regulations promulgated by multiple agencies. Given the magnitude, complexity, and importance of this task, GORR may want to consider issuing a separate set of guidelines on this subject alone, accompanied by a separate and even more vigorous public review process.

Ancillary Benefits

ISR greatly appreciates GORR's efforts to highlight the need to count ancillary benefits equally alongside of countervailing risks. The concept of ancillary benefits has traditionally received little attention,[33] but by carefully defining the term and listing specific examples, the guidelines go a long way toward ensuring that ancillary benefits will enjoy equal treatment with countervailing risks. Especially noteworthy are GORR's repeated calls for agencies to take a "broad view" of benefits and not to ignore benefits that may seem intangible or difficult to monetize.[34]

ISR would like to suggest some additional examples of ancillary benefits that GORR could consider listing in order to help prime agency analysts to recognize all significant ancillary benefits. A "substitution benefit" results when a regulation causes a shift toward a product or process that carries additional and unexpected benefits. For example, in complying with greenhouse gas regulations, electricity producers may switch to cleaner fuels, which could reduce other air pollutants, such as ozone and sulfur dioxide. An "attentiveness effect" occurs when the promulgation of a health or safety regulation increases people's sensitivity to the need for safety beyond the circumstances expressly covered. For example, attention to climate change might make individuals more concerned about the use of nonrenewable resources, even ones that do not have an impact on climate change. Besides including such examples, GORR could more generally guide agencies to books, websites, or other resources containing catalogs of ancillary benefits. Directing agencies to additional templates for analyzing ancillary benefits might help analysts focus their attention on this often-overlooked – yet extremely significant – category of benefits.

ISR recommends that GORR continue its efforts to set ancillary benefits on equal footing with countervailing risks. We suggest that the guidelines could further explicate the nature and types of ancillary benefits by pointing agencies in the direction of additional examples.

Estimating the Value of Life

Estimating the value of a statistical life is a crucial yet contentious step in cost-benefit analysis. We support GORR's explanation of contingent valuation studies and appreciate the

[33] For example, while GORR's own 1996 version of the cost-benefit guidelines devoted some twenty-six lines to indirect costs, indirect benefits barely earned a mention within the main text, and the sole example of an indirect benefit (confined to the glossary) was followed by the warning that "some indirect benefits often may [already] be included in the direct benefit estimates." *See* GORR COST-BENEFIT HANDBOOK, *supra* note 7, at 4, 10-11, 38-39. *See also* RISK VERSUS RISK: TRADEOFFS IN PROTECTING HEALTH AND THE ENVIRONMENT (John D. Graham & Jonathan Baert Wiener eds. 1995) (arguing that ancillary benefits should be discounted).
[34] Guide, *supra* note 2, at 11-12.

reference to EPA's guidelines on the matter.[35] However, we are troubled by the guidelines' citation to Chapter 15 of *Cost-Benefit Analysis: Concepts and Practice* as a source of "plug-in values."[36] Many of the "plug-in values" cited by that textbook are fundamentally based on a calculation for the value of a life-year or the value of a quality-adjusted life-year ("QALY").[37] Though the authors do acknowledge that some debate surrounds the use of life-years and QALYs,[38] the text as a whole allows the continued reliance on these two dubious concepts, and GORR should not advise agencies to depend on the values cited therein.

Proponents of the life-years method use a constant per-life-year value, so that all life-years are valued equally no matter when they occur. But under this methodology, because younger people will on average lose more life-years when they die, their lives are assigned a much greater value: the life of a 40-year-old becomes seven times more valuable than that of a 70-year-old. Besides seeming ethically suspect for this failure to protect a particularly vulnerable subpopulation (i.e., the elderly), the approach is fundamentally inconsistent with economic theory's basic tenet that willingness to pay determines value. The life-years methodology ignores the effect of scarcity on valuation and, instead of assuming that the elderly may have an increased willingness to pay to safeguard their few remaining years, ends up delivering regulatory benefit to those who may value it least. While various economic models and empirical studies offer different determinations of how the value of risk reduction might change with age, no plausible economic model or empirical study provides even lukewarm support for the diminishing linear relationship between life expectancy and willingness to pay that undergirds the life-years approach.[39] The valuation of life-years is not a useful or ethical substitute for the value of a statistical life, and agencies should not rely on plug-in estimates tied to this framework.

The idea of QALYs is similarly flawed. QALYs systematically overestimate the loss to quality of life resulting from less-than-perfect health because they fail to account for how people adapt to health setbacks. Moreover, people do not have a constant rate at which they are willing to trade dollars for QALYs: people may be willing to pay more to extend life than to increase health, even if the result is the same QALY increase; people may be willing to pay more to avoid some risks instead of others, even if the change in QALYs is the same; and people may be willing to pay different amounts per QALY at different points in their lives. Thus, QALYs are not compatible

---

[35] *Id.* at 12-13.

[36] *Id.* at 13 and 20.

[37] For example, the book gives a plug-in value for a life-year ($187,000) and cites as "comprehensive" a study that estimates the cost of crash injuries using $95,000 as the value of a life-year. ANTHONY E. BOARDMAN ET AL., COST-BENEFIT ANALYSIS: CONCEPTS AND PRACTICE 407, 411 (3d ed. 2006) (listing a comprehensive table and citing a study conducted by Zaloshnja et al.).

[38] *See id.* at 409 (noting the debate over whether the value of a life-year would actually decrease with age, or rather would increase with scarcity); *id.* at 481-82 (discussing what has been called the "senior death discount").

[39] No consensus has emerged around a single economic model, but some proposals predict that as the probability of death increases, so does the willingness to pay to avoid risk, because people cannot take money to their graves. *See* EPA, Chris Dockins, Kelly Maguire & Nathalie Simon, *Willingness to Pay for Environmental Health Risk Reduction When There Are Varying Degrees of Life Expectancy: A White Paper*, 7-8 (Aug. 22, 2006) (citing Pratt and Zeckhauser study). Similarly, empirical studies have alternatively revealed that willingness to pay is independent of age, increases with age, or has an inverted-U shape relationship with age. *See* Ann Alberini et al., *Does the Value of a Statistical Life Vary with Age and Health Status? Evidence from the United States and Canada*, (Resources for the Future Working Paper No. 01-19, 2001); Joseph Aldy & W. Kip Viscusi, *Adjusting the Value of a Statistical Life for Age and Cohort Effects*, (Resources for the Future Discussion Paper No. 06-10, 2006); W. Kip Viscusi & Joseph Aldy, *Labor Market Estimates of the Senior Death Discount for the Value of Statistical Life*, (Resources for the Future Discussion Paper No. 06-12, 2006).

with cost-benefit analysis because they do not provide an alternative to the direct measurement of willingness to pay.

We are also troubled by the suggestion in *Cost-Benefit Analysis: Concepts and Practice* that the value of a statistical life should be routinely adjusted for income, taste, and other socio-economic factors.[40] Just because income, ethnicity, race, age, or any other socio-economic factor might correlate with willingness to pay for risk reduction, does not mean that dividing the beneficiaries of regulations into such categories would be ethically defensible, legal, or even practical – it is simply impossible to individually tailor regulations. As well as avoiding the ethical troubles of making race-gender-income-age-based categorizations, using an average value of a statistical life tends to result in a form of regulatory wealth transfer whereby those with less wealth (who, therefore, have less willingness to pay) get more regulatory benefits than they might bargain for. So long as the costs of the regulation are not borne by the direct beneficiaries – as they almost never are – the result is a progressive distribution of social goods that is not normatively troubling.

Besides the traps of using life-years or QALYs, another deficiency in many estimates for the value of life must be addressed. People attach great value both to being free from involuntary risks and to avoiding significant amounts of suffering. Many of the risks subject to regulatory intervention are the result of involuntary exposure. Extensive literature on the issue suggests that individuals assign greater value to avoiding risks that are thrust upon them involuntarily than risks they incur voluntarily.[41] In one revealing study, for people to be indifferent between two life-saving programs targeting either avoidable or unavoidable risks, the program targeting the avoidable risk had to save 28% more lives.[42] But because on-the-job risk is generally thought of as a voluntary risk,[43] willingness-to-pay estimates for the value of life based on labor-market studies will systematically undervalue risk reduction for many involuntary environmental, health, and safety risks, such as toxic air pollution. Though the practice of distinguishing involuntary from voluntary risks is sometimes difficult, the strong risk preferences of most people along this dimension suggest that the issue deserves further research.

Similarly, there are clear reasons why people might prefer to reduce risks of diseases associated with significant amounts of suffering, above and beyond the mortality risks. One study estimated that the value of avoiding slow, painful deaths (e.g., by cancer) is roughly double the valuation of avoiding instantaneous deaths.[44] Again, willingness-to-pay estimates based on labor-market studies may systematically undervalue risk reduction since industrial accidents tend to result in more instantaneous deaths than many diseases.

---

[40] *See* BOARDMAN ET AL., *supra* note 37, at 430-432.

[41] *See, e.g.*, Paul Slovic, *Perceptions of Risk*, 236 Science 280 (1987).

[42] Maureen L. Cropper & Uma Subramania, *Public Choice Between Lifesaving Programs: The Tradeoff Between Qualitative Factors and Lives Saved*, 21 J. RISK & UNCERTAINTY 117 (2000).

[43] ISR recognizes that the socio-economic, geographic, and other circumstances facing many job-seekers restrict employment choice beyond the point where "voluntary" would seem to apply. Ideally, as Cass Sunstein recommends, job risks should probably be placed on a continuum, based on a set of factors relevant to voluntariness. *See* Cass R. Sunstein, *Bad Deaths*, 14 J. RISK & UNCERTAINTY 259, 272 (1997).

[44] George Tolley et al., *State-of-the-Art Health Values*, *in* GEORGE TOLLEY ET AL., VALUING HEALTH FOR POLICY: AN ECONOMIC APPROACH 339-44 (1994).

ISR recommends that the guidelines include more detail on the valuation of a statistical life and other "natural units," to ensure that agencies avoid using life-years or QALYs and to encourage more research into and consideration of suffering and involuntary risks.

Intra-Generational Discounting

Discounting assumes that because people prefer immediate gratification, a dollar today is worth more than a dollar next year, and so future costs and benefits must be marked down to translate them into present dollars. There are two contexts in which environmental, health, and safety benefits occur in the future, rather than at the time of the regulation. In the first, the target risk has a long latency period: decades pass between the exposure to a contaminant and the manifestation of the related disease. In the second, regulatory benefits accrue to future generations. Although discounting in the first context – known as *intra*-generational or individual discounting – is defensible (with some important caveats), *inter*-generational discounting is not. Intra-generational discounting accounts for a single person's time preferences with regard to risk: if an individual actually prefers an adverse effect to occur later rather than sooner, there are no compelling moral impediments to factoring that choice into the valuation of benefits. But inter-generational discounting is about risks faced by different individuals and asks whose preferences should be valued more, an inquiry fraught with ethical implications. These two concepts must not be conflated.

In general, ISR endorses the discounting of intra-generational costs and benefits as a useful and appropriate tool. The value of a statistical life is derived from willingness-to-pay studies mostly conducted in the context of industrial accidents. By comparison, available data on deaths resulting from latent harms is sharply limited by the problems of tracking people, events, and health outcomes over long periods of time. The cognitive limitations of understanding the very low probability risks for latent diseases also means that potential wage differentials due to risk preferences are less reliable in this area. Finally, teasing out work-related factors from lifestyle choices is extremely tricky for long-latency-disease risks. Given these difficulties with directly measuring willingness-to-pay to avoid long-latency disease,[45] discounting represents a second-best approach to estimating the costs of future illness.

The standard practice for discounting in the long-latency context, however, is incomplete and requires some refinement. The discounting technique assumes that people always prefer immediate gratification and delayed pain; in practice, this assumption often does not hold true. In certain situations, people may prefer to hasten an unpleasant risk to avoid feelings of dread.[46] The anti-dread effect may be especially relevant during the latency period after the detection of a life-threatening disease but prior to mortality, when dread may be extreme. Therefore, to accurately approximate people's actual risk preferences, any discounting of adverse consequences during a

---

[45] *See, e.g.*, Maureen L. Cropper & Frances G. Sussman, *Valuing Future Risks to Life*, 19 J. ENVTL. ECON. & MGMT. 160 (1990); Anna Alberini et al., *Willingness to Pay for Mortality Risk Reductions: Does Latency Matter?* (Resources for the Future Working Paper 04-13, 2004), *available at* http://www.rff.org/Documents/RFF-DP-04-13.pdf.

[46] In scientific studies, when subjects are faced with a choice between receiving identical, low-voltage shocks at different times, nearly 80% of participants choose to take the painful shock sooner. Some are even willing to endure more painful shocks in order to reduce the delay. Gregory S. Berns et al., *Neurobiological Substrates of Dread*, 312 Science 754 (May 5, 2005).

risk's latency period must be coupled with an increase in the estimate of those consequences as a result of dread.

The discount rates currently recommended by GORR are those developed by the federal Office of Management and Budget.[47] However, those rates are based on the standard assumption that people always prefer to delay adverse events and, as such, do not account for the powerful and opposite time preference represented by dread.

ISR recommends that GORR's guidelines on intra-discounting mandate the consideration of dread and caution agencies specifically against using the OMB rates. GORR should help agencies conduct their own research and develop their own, more appropriate and more accurate rates for intra-generational discounting.

Inter-Generational Discounting

While the guidelines recognize the ethical perils of inter-generational discounting, they do not go nearly far enough. Agencies should not, as "Step Eight" advises, merely "consider" developing a "scenario" in which discounting is not applied to future generations' costs and benefits.[48] Instead, the guidelines should instruct agencies never to discount in such a fashion.

As discussed above, inter-generational discounting requires us to compare risks faced by different individuals and choose to value one individual's preferences more just because he or she is alive first. Choosing to treat people differently almost always has the instinctive feel of an ethically-problematic decision; in the case of inter-generational discounting, the ethical quandary can be quantified. If, for example, greenhouse gas buildup is predicted to impose a net cost of $1 trillion in 400 years' time (a sum representing approximately one-tenth of the current United States gross domestic product), applying a discount rate of 4% yields a present value of those future net costs of only $113,000. Using this discount rate for these inter-generational costs, cost-benefit analysis would conclude that it is not worth spending more than $113,000 today to prevent this tremendous environmental catastrophe.[49] In short, inter-generational discounting produces absurd, unethical, and unacceptable consequences over long time horizons, requiring us not to spend even relatively trivial sums now to avoid relatively apocalyptic results in the future.

Additionally, there is no defensible justification for using inter-generational discounting. One argument proposes that since current rates of technological development and economic growth will lead to greater productivity and consumption opportunities for future generations, the same benefit will produce less utility in the future than it would if delivered to today's poorer population. However, this argument assumes an even distribution of the costs and benefits of regulations, which rarely occurs. For example, the negative consequences of climate change are more likely to impact developing countries, while the costs of climate change regulations will be borne primarily by

---

[47] *See* Guide, *supra* note 2, at 15-16 (directing agencies to OMB's 3% and 7% rates).
[48] Guide, *supra* note 2, at 16.
[49] Example taken from ANTHONY E. BOARDMAN ET AL., COST-BENEFIT ANALYSIS: CONCEPTS AND PRACTICE 262 (3d ed. 2006).

developed nations. Thus, the argument only works if, for example, future Bangladeshis will be better off than today's U.S. residents burdened by environmental regulation.[50]

Another justification offered for inter-generational discounting is the chance that a major catastrophe will destroy human civilization. In short, future benefits should be discounted by the probability that nobody will be around to enjoy them. Although it makes sense to discount by the probability of nonoccurrence, given the low probability rates for natural and human-caused disasters of this scale,[51] the appropriate discount rate to apply would be tiny, nowhere near the 3% or 7% recommended by OMB. In fact, even among agency analysts and experts who still insist on performing some inter-generational discounting, there is a growing consensus that the rate applied should be much lower than the OMB-recommended figures.[52]

A third argument for inter-generational discounting states: "If a smaller discount rate were to be applied to health [i.e., future benefits] than to money [i.e., future costs], it would always make sense to postpone adoption of public health programs that invest money now for deferred health improvements."[53] This argument is specious. First, regardless of whether future benefits are discounted at the market rate, it would always be desirable to undertake regulatory investments that yielded more than a market rate of return. Therefore, the claim must be limited to those cases in which the expenditure returned a benefit at less than the rate of financial instruments – a much narrower claim. Second, for some threats, the cost of addressing the problem will increase over time.[54] Finally, it may not always be possible in the future to transfer resources across projects and investments.[55]

Yet another claim in favor of inter-generational discounting maintains that a failure to discount future benefits will cause us to impoverish the present generation down to subsistence levels for the sake of future ones. This *reductio ad absurdum* reasoning falls apart under scrutiny, since

---

[50] In 2006, the GNPs of the United States and Bangladesh differed by a factor of nearly 100. United Nations Statistics Division, *Social Indicators, Indicators on Income and Economic Activity*, http://unstats.un.org/UNSD/demographic/products/socind/inc-eco.htm (last visited August 12, 2008). Bangladesh would very likely experience serious impacts from global warming much sooner than it could bridge that gap in productivity and standard of living.

[51] For example, a major asteroid strike occurs every half-million years. Nick Bostrom, *Existential Risk*, 9 J. EVOLUTION AND TECH. 1 (2002), *available at* http://www.jetpress.org/volume9/risks.html. The risk of all-out nuclear war or other human-caused disasters is certainly non-negligible, but still incredibly small compared to the suggested discount rates.

[52] *See, e.g.*, U.S. ENVIRONMENTAL PROTECTION AGENCY, TECHNICAL SUPPORT DOCUMENT ON BENEFITS OF REDUCING GHG EMISSIONS 9 (2008) (advocating a 0.5-3% discount rate for important inter-generational benefits); NICHOLAS STERN, CABINET OFFICE, HER MAJESTY'S TREASURY, THE ECONOMICS OF CLIMATE CHANGE: THE STERN REVIEW 48-52 (2006) (concluding that a single constant discount rate – as often used in cost-benefit analysis – is generally "unacceptable," and instead arguing for a declining discount rate that falls below 3% when factoring in uncertainty and changing growth/consumption rates over time).

[53] Susan W. Putnam & John D. Graham, *Chemicals Versus Microbials in Drinking Water: A Decision Science Perspective*, 85 J. AM. WATER WORKS ASS'N 57, 60 (1993).

[54] For example, a leaking Superfund site may be relatively cheap to clean up, until it pollutes an aquifer. If there is a future risk of catastrophic irreversible damage, reasonable risk aversion would suggest that we eliminate the threat as much as possible now, even if the current benefits are outweighed by the current costs.

[55] For example, an investment in education might pay off more in the short run, whereas an investment in an environmental program would have higher returns over the long term. Yet it might be impossible to transfer money out of education and into the environmental program in the future: public sentiment, a powerful teacher's union, or the difficulty of converting infrastructure could all serve to obstruct the transfer.

the standard of living for future generations will greatly depend on the flourishing of the present ones in areas such as technological knowledge, educational attainment, and productive capacity.[56]

Fortunately, discounting is not the only option for defining our moral obligations to future generations. Sustainable development, utilitarianism, corrective-justice, and other ethical theories all offer social decision-makers a model for how to treat future costs and benefits. Choosing between these ethical theories remains a difficult task, but the key point is that our obligation to future generations is a moral question and cannot be addressed by inapposite economic tools.[57] In the intrapersonal context, discounting is rooted in respect for individual preferences. In the inter-generational context, in contrast, it is the result of our desire to avoid difficult moral decisions regarding what we owe others.

ISR recommends that GORR's guidelines restrict any use of inter-generational discounting. Alternatively, if GORR insists on the continued use of inter-generational discounting, agencies should at a minimum be required to develop their own discount rates through proper economic analysis and to justify any upward departure from the low rates now employed by a growing consensus.

Opportunity Costs

The guidelines recommend that agencies consider a proposed rule's "opportunity cost": namely, "the best alternative use of the resources that would be needed to meet the rule's requirements."[58] ISR agrees that the examination of opportunity costs plays a legitimate role in cost-benefit analysis, and the directive to put resources to their best use is appropriate. However, GORR should caution against the use of opportunity cost analysis to incorporate either faulty health-wealth tradeoff analysis or inter-generational discounting into an agency's cost-benefit analysis.

A persistent fallacy plaguing the application of cost-benefit analysis is the assumption that more wealth automatically leads to more health. From this flimsy premise flows the false conclusion that since any regulation will impose costs on people, thereby decreasing their wealth, such regulations will also create the countervailing risk of diminishing people's health. In the words of one proponent of this so-called health-wealth tradeoff analysis, "Regulatory expenditures represent opportunity costs to society that divert resources from other uses. These funds could have provided for greater healthcare, food, housing, and other goods and services that promote individual longevity."[59] Another influential advocate of the health-wealth hypothesis estimated that any regulation costing more than $17.7 million (in 2006 dollars) to save a life instead will result in such decreased wealth – and corresponding increased risks to health – that more people will die as a result of the regulation than will be saved.[60]

---

[56] *See* Robert Solow, *An Almost Practical Step Toward Sustainability*, 19 RESOURCES POL'Y 162, 168 (1993).

[57] Though we disagree with its ultimate conclusion that annihilation risk and marginal utility of consumption justify inter-generational discounting, the Stern Review is notable for arguing that inter-generational discounting is not a strict economic question and that "one can confront [the decision] only by looking carefully at the ethical issues." STERN, *supra* note 51, at 51 (2006).

[58] Guide, *supra* note 2, at 13.

[59] W. Kip Viscusi, *Regulating the Regulators*, 63 U. Chi. L. Rev. 1423, 1452 (1996).

[60] Ralph L. Keeney, *Mortality Risks Induced by Economic Expenditures*, 10 RISK ANAL. 147 (1990).

The concept of a health-wealth tradeoff is faulty. No study has demonstrated a causal link, only *correlation*.[61] More recent studies indicate that while income, wealth, health, and education do all correlate with each other, ultimately only education – and not pure income or wealth – is a statistically useful predictor of health.[62] In fact, environmental, health, and safety regulations are just as likely to increase wealth by boosting economic productivity (e.g., by reducing workdays lost due to illness or accident).[63]

Another potential trap agencies should avoid is using the consideration of inter-generational opportunity costs to revert back to the immoral discounting of inter-generational benefits.[64] Under the opportunity-cost framework of analysis, agencies should consider only the return on alternative mutually exclusive projects or the contribution of the regulatory project to reductions in economic growth. Agencies should not fall back on the discounting model, which assumes that funds not invested in a regulatory program will be invested in financial instruments for the benefit of future generations, which rarely is the case. In other words, agencies should consider only actual alternative uses, not potential or imaginary investments.

ISR recommends that GORR revise its language on the technique for exploring opportunity costs. Agencies must be cautioned to compare only actual alternative uses, rather than imaginary investments or hypothetical options based on false assumptions. In particular, GORR should preclude agencies from engaging in improper health-wealth tradeoff analysis and should explain the differences between accounting for opportunity costs and inter-generational discounting.

Timelines and Delays

The history of cost-benefit analysis in government rulemaking is filled with examples of severe, frustrating, and sometimes unnecessary delays. Whether due to logistics, a lack of resources, or even the deliberate attempt to postpone regulation, delays are a constant obstacle that every efficient and effective system of cost-benefit analysis must overcome. Even when delays are caused by an earnest desire for accuracy and completeness, if the projected gains in decisional quality from an additional unit of information are outweighed by the losses associated with delay, waiting for more information is foolhardy.

ISR recommends that the guidelines should suggest a way to identify and prevent unnecessary delays. GORR should suggest specific timelines and enforce strict adherence thereto.

---

[61] For example, in the influential study cited above, Keeney never claimed to demonstrate causation between income and health, but only correlation. *See id.* (saying the study "assume[s] that the relationship between higher incomes and lower mortality risks is induced"). Additionally, even that correlation disappears for families making over $68,000 (in 2006 dollars): above that line, no additional health benefits are expected to correspond with any amount of additional income. *See id.*

[62] *See* JAMES P. SMITH, RAND CORP., UNRAVELING THE SES-HEALTH CONNECTION (2005), *available at* http://www.rand.org/pubs/reprints/2005/RAND_RP1170.pdf.

[63] *See e.g.*, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, PROTECTING WORKERS IN CONFINED SPACES: SUMMARY OF THE FINAL REGULATORY IMPACT ANALYSIS (1993).

[64] *See supra* pp.11-13 on inter-generational discounting.

Final Thoughts

ISR appreciates the tremendous difficulties involved in instructing myriad different agencies on how to conduct a complex and contentious process in an accurate, fair, and transparent manner. GORR must be commended on its extremely admirable effort to achieve this objective. The guidelines' emphasis on ancillary benefits, introduction to distributional analysis, and caution on inter-generational discounting are just some of the many crucial improvements GORR has made in this draft.

But there still is room for further refinement. Public comment can bring GORR the additional information and new perspectives needed to enhance the quality of these guidelines. We hope that after additional public comment and review, GORR will be able to produce a set of guidelines that will: cover deregulatory and non-regulatory decisions; improve the accuracy of cost and benefit estimations; eliminate the use of unsound assumptions about compliance costs and alternative options; end immoral practices like the discounting of future generations' costs and benefits; and incorporate a real sense of distributional justice into the decision-making process.

ISR confidently believes that developing such a set of guidelines is realistic aim, and a necessary one to best serve the needs of New York State and its citizens. We offer our ongoing assistance to GORR and the entire New York State government as they continue to work toward this goal.

Sincerely,

Michael A. Livermore
Executive Director

Jason A Schwartz
ISR Legal Fellow