SBCA Presidents' and *JBCA* Editors' Comments on Revised U.S. Analytic Guidance

Peer Review of the Proposed Update of OMB Circular A-4

W. Kip Viscusi

Viscusi Circular A-4 Peer Review Comments

by W. Kip Viscusi[*]

September 12, 2024

[*] University Distinguished Professor of Law, Economics, and Management, Vanderbilt University

Law School, 131 21st Avenue South, Nashville, TN 37203. kip.viscusi@vanderbilt.edu.

Abstract

This working paper provides commentary on my 2023 peer review panel comments on the 2023 Office of Management and Budget (OMB) Circular A-4. The Prologue section introduces my official peer review comments and indicates how the structure of my comments was tailored to the guidelines established by the OMB. The main section consists of my 2023 peer review comments as they were submitted to OMB. I recommended changes in the draft Circular A-4 to increase the discount rate from the 1.7% rate that OMB proposed, to report domestic benefits whenever global benefits are reported, to adopt a behavioral transfer test for use of behavioral economics findings, to update the procedures for estimating the value of a statistical life, and to abandon the proposed distributional weights. The Epilogue to my comments summarizes how the final version of Circular A-4 differs from the draft. The most problematic component of the new Circular A-4 is the OMB distributional weights, which will transform the role of benefit-cost analyses.

Keywords: Circular A-4, regulation, benefit-cost analysis, value of a statistical life, behavioral economics, equity

JEL Codes: K32, D61, H23, I30

Prologue to W. Kip Viscusi Circular A-4 Peer Review Comments

My comments on Circular A-4 follow the guidance provided by the questions that were posed to the OMB Circular A-4 review panel, of which I was a member. Within each set of OMB questions, I used the following structure of topics to organize my comments: discount rate, distributional analysis, scope of the analysis including geographic scope, development of analytic baselines, unquantified impacts, uncertainty, behavioral economics and nudges, fatality risks and the value of a statistical life, and willingness to pay and willingness to accept. For some questions that OMB posed to the reviewers, not all these topics were pertinent. With very few notable exceptions, I proposed different changes from the 2003 version of Circular A-4 than those incorporated in OMB's draft proposed Circular A-4 or the final version of the 2023 Circular A-4.

The comments that I provided for the proposed version of Circular A-4 remain pertinent to the final version of Circular A-4, as OMB made only minor changes in the document in response to the extensive peer review. The only change from the earlier draft that is of consequence is that the final version of Circular A-4 adopted a discount rate of 2% rather than the 1.7% value that was proposed in the draft Circular A-4.

Peer Review of the Proposed Update of OMB Circular A-4

Peer Reviewer: W. Kip Viscusi, July 18, 2023

Please provide your responses to the charge questions below (see separate "Circular A-4 Peer Review Charge" document).

1. Please comment on whether the recommendations in the guidance are supported by the leading theoretical and empirical peer-reviewed academic literature in economics or other relevant disciplines, and if not, please provide alternative recommendations that would be (and citations to support them).

   <u>Discount rate.</u>

   The proposed social rate of time preference of 1.7% on p. 76, line 3525, reflects more fine tuning than is warranted. For that rate, I would suggest 2% rather than 1.7%. Regardless of what number OMB selects as the focal rate, it is essential to provide a strong economic justification for that number to avoid RIAs being overturned by the courts because of their choice of the discount rate. I review these cases relating to how agency discount rates have fared in the courts in my peer reviewed article, "The Social Rate of Discount: Legal and Philosophical Underpinnings," *Annual Review of Financial Economics*, 2023 (in press), also available as SSRN Working Paper 4083202. Simply citing OMB guidance is not sufficient for agencies unless there is compelling economic evidence in support of the selected rate. This issue is likely to be particularly prominent for analyses that adopt long-term rates different than the base social rate of discount.

   I believe that OMB should continue to advocate reporting of benefits and costs using multiple discount rates. I advocate 3% as an additional discount rate of interest for two reasons. First, if the current low interest rates are the result of a Federal Reserve policy that will not continue, the 3% rate will be more appropriate than 2%. Second, use of a 3%

rate is consistent with past A-4 guidance, and consequently it will make possible a comparison of RIA results with policies analyzed using the previous version of A-4. Note too that 3% is in line with the 30-year average of the 10-year real Treasury interest rate, 1985-2014, as indicated on page 20 of the Preamble document. Due to the long future time horizon of policy analyses such as those pertaining to climate change, interest rate performance during such recent periods is not irrelevant. Given the effect of Federal Reserve policies in depressing interest rates in recent decades, which is a monetary policy that is unlikely to continue indefinitely, a 3% rate remains a reasonable rate.

There also is support in various submissions for reporting results using multiple discount rates. The public submissions by Susan Dudley, OMB-2022-0014-0129, and Art Fraas et al., OMB-2022-0014-3917, include two previous OIRA administrators in Republican administrations, Susan Dudley and John Graham. The longevity of the revised A-4 document will be enhanced if administrations with a different perspective will be able to use the RIA results. Dudley does not advocate a specific alternative discount rate but suggests that agencies present results using multiple discount rates. See Susan Dudley, Public Submission, pp. 12-13. Fraas et al. advocate 3% and 5% as the two discount rates. See Fraas, et al., Public Submission, p. 3. Their submission provides details regarding their rationale for this approach and extensive references. The pertinent factors include the influence of the Federal Reserve Bank policies on market rates of interest as well as references suggesting that these policies are not likely to continue over the long-term.

<u>Distributional Analysis.</u>

In my view, this section should be substantially reworked, strengthening the guidance for providing distributional impact information, but with much of the discussion of

weighting eliminated. In particular, I would eliminate the section -- e. Weights and Benefit-Cost Analysis that begins on p. 65.

The most promising component of this section is the advocacy that RIAs report distributional effects of their policies. This is a very worthwhile advance. However, the draft A-4 provides agencies with too much leeway regarding the dimensions on which to report the distributional effects. As Kniesner and I document in Thomas J. Kniesner and W. Kip Viscusi, "Promoting Equity through Equitable Risk Tradeoffs," *Journal of Benefit-Cost Analysis,* 2023, 14(1), pp. 8-34, in their implementation of the Biden Administration's Justice40 equity effort, agencies have used a myriad of different profiles to determine who is disadvantaged. These dimensions include rural residence, being over age 65, living near a highway, and demographic characteristics such as being Black or Hispanic. Consistent with our JBCA article, I propose that OIRA establish standardized income-based categories for reporting distributional effects so that the effects across agencies can be compared. Thus, my proposal is that OMB specify a specific, standardized set of income-based categories, which would be concrete implementation of the government's identification of categories for the distributional effects on p. 62, line 2872, and the importance of having consistency in these analyses, as noted on p. 62, line 2879. Such a structure will facilitate comparisons of distributional effects across different agencies. Of course, agencies could supplement these distributional breakdowns with other breakdowns of distributional effects. For example, Hamilton and I found that analysis of risk levels by minority status was also useful in our analysis of over 200 Superfund sites in James T. Hamilton and W. Kip Viscusi, *Calculating Risks? The Spatial and Political Dimensions of Hazardous Waste Policies* (Cambridge: MIT Press, 1999).

The discussion of distributional weights ignores the substantial implicit redistribution that takes place by using average VSL levels and average unit benefit levels rather than population-specific values. This notion is implicit in the discussion on p. 66, line 3044, but not examined in detail. My 2023 JBCA paper with Kniesner (Thomas J. Kniesner and W. Kip Viscusi, "Promoting Equity through Equitable Risk Tradeoffs," *Journal of Benefit-Cost Analysis,* 2023, 14(1), pp. 8-34) documents the extent to which there is redistribution as a result of using average population-wide values for the VSL. The magnitude of the discrepancy is greater with large income elasticities of the VSL. Using a VSL income elasticity of 1.0, which agencies such as DOT now use, the article reports that the ratio of the average VSL to the VSL for the target population is 1.9 for the 10th percentile of the worker distribution, 1.4 for the 25th percentile of the worker income distribution, 1.2 for the median Black worker, and 1.3 for the median Hispanic worker. In effect, these disadvantaged groups already receive a premium as a result of using average benefit values for that group. The income elasticity discussion of distributional weights in Table 1 of the Preamble is based on three papers that I coauthored. The Preamble uses these results as part of its advocacy for distributional weights. However, the main implication of this research has the opposite message, which is that there is substantial redistribution that is already taking place by using an average VSL for all. In effect, the baseline for conceptualizing what redistribution is needed to achieve equity would be quite different if the population-specific estimates of the VSL were used rather than the population average. Similar concerns are raised by Scott Farrow, Society for Benefit-Cost Analysis blog, "On Balance: When All Lives Matter Equally: Equity Weights for BCA by Combining the Economics of VSL and US Policy," March 16, 2021.

The draft document proposes an explicit distributional weighting scheme for which there is no consensus in the economics literature or as a policy matter. A principal underlying assumption pertains to the diminishing marginal utility of income. For any individual, there is generally diminishing marginal utility of income. However, empirical evidence making comparisons across different individuals is less clear since individual utility functions are only estimated up to a positive linear transformation, such as a + bu(x). See my articles: W. Kip Viscusi and William Evans, "Utility Functions that Depend on Health Status: Estimates and Economic Implications," *American Economic Review*, 1990, 80(3), pp. 353-374, and W. Kip Viscusi, "Utility Functions for Mild and Severe Health Risks," *Journal of Risk and Uncertainty,* 2019, 58(2/3), pp. 143-166, among others. More generally, see John Pratt, Howard Raiffa, and Robert Schlaifer, *Introduction to Statistical Decision Theory* (Cambridge: MIT Press, 2001).

In justifying distributional weights, the Preamble, p. 14, line 615, alludes to the role of happiness surveys. However, self-reported happiness measures are inconsistent with the lifetime trajectory of the VSL. In particular, the happiness measure trajectory over the life cycle is opposite that of the VLS. Happiness scores over the lifetime display a U shape whereas the VSL has an inverted-U shaped relation. There are other reasons why happiness scores should not supplant market-based WTP measures of mortality risk reduction values. See W. Kip Viscusi, "Wellbeing Measures of Mortality Risks: Life-Cycle Contradictions and Ordinal Index Challenges," *Behavioural Public Policy*, 2020, 4(2), 245-253.

Scope of the Analysis Including Geographic Scope

The discussion of intertemporal scope issues was on point. However, I disagree with the discussion of geographic scope. Agencies should be required to report the benefits to the United States, including benefits to U.S. citizens and military who are abroad. The

benefits to the U.S. should serve as the primary analysis rather than possibly using global

benefits as indicated on p. 10, line 393. Instead of saying that it is "generally appropriate" to

present impacts on the U.S., I believe that it is always appropriate. This information is

important for three reasons. First, statutory guidance frequently specifies that the objective

of the statute is to provide benefits to the "Nation," not the world. While there has been an

effort to emphasize benefits to the world with respect to climate change policies, the

objective of U.S. policies is not to promote worldwide social welfare but to reflect the

preferences of the citizenry. Second, knowing the benefits to the U.S. is essential to better

understand the equity implications for the U.S. The concerns with respect to equity

expressed in Biden's executive order cannot be addressed without this knowledge. Third, in

its 2022 analysis of the SCC, EPA uses the U.S. VSL to value the U.S. mortality costs but an

income-adjusted value for other countries. In the absence of information that distinguishes

the U.S. from the rest of the world, it is impossible for independent analysts to assess the

global mortality costs based on different benefit transfer assumptions.

When appropriate, as in the case of global warming policies, I also support the

reporting of the global benefits. This information is valuable for two principal reasons. First,

the global benefit value is what is pertinent to determining the economically efficient global

climate change policy. See W. Kip Viscusi, "The Social Rate of Discount: Legal and

Philosophical Underpinnings," *Annual Review of Financial Economics*, 2023 (in press), also

available as SSRN Working Paper 4083202. Knowing this value enables the U.S. and other

countries to set globally efficient targets for climate change policies. Second, even from the

standpoint of the domestic benefits, the value of any reciprocity resulting from other

countries undertaking effective climate change policies because of U.S. actions is a

domestic benefit that should be recognized. In addition, if there is altruism among U.S.

citizens for the well-being of those in other countries, that altruism also should be recognized as a U.S. benefit. My article with Ted Gayer (Ted Gayer and W. Kip Viscusi, "Determining the Proper Scope of Climate Change Policy Benefits in U.S. Regulatory Analyses: Domestic Versus Global Approaches," *Review of Environmental Economics and Policy*, 2016, 10(2), pp. 245-263) recognizes each of these influences. However, ultimately the benefit number that should be used for the SCC should be conceptualized as the benefits that can be traced to the benefit derived by the U.S. either directly or indirectly.

Development of Analytic Baselines

My main suggestion is that the status quo serve as the baseline unless the RIA provides empirical evidence, specific evidence of future policy changes, or other regulatory guidance that provide a credible basis to assume a different temporal pattern for benefits and costs. Perhaps the proposed A-4 could strengthen the role of empirical evidence noted on p. 13, line 551. Our research on EPA analyses of Superfund sites (see James T. Hamilton and W. Kip Viscusi, *Calculating Risks? The Spatial and Political Dimensions of Hazardous Waste Policies* (Cambridge: MIT Press, 1999) found that EPA often asserted hypothetical changes in land use that affected assessed benefits even though there was no sound empirical basis for this assessment. In effect, I am proposing stronger language in A-4.

Unquantified Impacts

This section seemed fine and is of potentially broad significance. For example, many non-monetized effects involve health impacts for which it is difficult to assign quantitative measures of the impact, such as the number of people exposed to exposure levels above the reference safe dose.

Uncertainty

This section included a surprising reference to non-expected utility frameworks. Expected utility theory is generally accepted as the normative reference point. Departures from this theory are sometimes labelled as a form of irrationality and often serve as an indicator of potential market failure. To adopt this approach to dealing with uncertainty is inconsistent with A-4's treatment of behavioral market failures.

Risk neutrality is desirable when the losses are spread broadly across the population. When individuals incur substantial losses, their personal risk aversion does come into play and is a legitimate concern when monetizing benefits for financial losses.

It is important for OMB to emphasize that risk assessments should be guided by the mean risk levels, not the upper bound of the risk. There could be elaboration of this issue around p. 69, line 3218. Any presentation of confidence intervals in regulatory analyses that reports the upper bound of the risk should also report the counterpart lower bound value. This procedure is not the norm in analyses by agencies such as EPA and FDA, but should be. See James T. Hamilton and W. Kip Viscusi, *Calculating Risks?: The Spatial and Political Dimensions of Hazardous Waste Policy* (Cambridge: MIT Press, 1999); W. Kip Viscusi, James T. Hamilton, and P. Christen Dockins, "Conservative Versus Mean Risk Assessments: Implications for Superfund Policies," *Journal of Environmental Economics and Management*, 1997, 34(3), pp. 187-206; and W. Kip Viscusi, Joel Huber, and Jason Bell, "Responsible Precautions for Uncertain Environmental Risks," *Journal of Benefit-Cost Analysis*, 2019, 10(2), pp. 296-315.

Behavioral Economics and Nudges

The proposed A-4 and the Preamble recognize behavioral biases as a form of market failure, and also suggest that nudges can serve as an effective policy instrument.

Each of these aspects of the document requires that the underlying behavioral economics rationale is sound.

Consider first the role of behavioral economics factors generally. The existence of behavioral biases in narrowly defined experimental contexts should not serve as a sufficient rationale for government regulation. A case in point is that of the EPA-DOT fuel economy standards analyzed in Ted Gayer and W. Kip Viscusi, "Overriding Consumer Preferences with Energy Regulations," *Journal of Regulatory Economics*, 2013, 43(3), pp. 248-264. The RIA was based on the assertion that consumers completely ignore the long-term fuel economy gains and that government regulation was required to address this problem. While it is not impossible that there is some market shortcoming, the extent and prevalence of the intertemporal irrationality was simply asserted, not documented.

To address this problem of not properly documenting the behavioral failure, Ted Gayer and I have proposed that OIRA adopt a behavioral transfer test to serve much the same function for behavioral economics findings as does the more conventional benefit transfer test. The criteria we recommend for the behavioral transfer test include the following:

-Does the evidence reflect the stakes, characteristics of decision makers, opportunities for learning, and frequency of decisions comparable to the market context of interest?

-Is the sample in the study reflective of the beliefs and preferences of the policy's target population group?

-Do respondents in the study understand what is being valued?

-Is there sufficient evidence of consistency of responses and attention to the experimental task to make us confident of the findings?

-Are the decisions comparable to market-based decisions with respect to the commodity in terms of the financial stakes and consumer attributes?

-Was the experiment incentivized and published in a peer review outlet?

For additional support and elaboration of these issues, see W. Kip Viscusi and Ted Gayer, "Rational Benefit Assessment for an Irrational World: Toward a Behavioral Transfer Test," *Journal of Benefit-Cost Analysis,* 2016, 7(1): 69-91. Also see Ted Gayer, Public Submission, OMB-2022-0014-0127. Similar concerns along with appropriate citations are raised in Susan Dudley, Public Submission, OMB-2022-0014-0129. The proposed A-4 alludes to the importance of recognizing behavioral distortions (p. 15, line 654), and behavioral biases (p. 15, line 662 and section iv on pages 18-19). The behavioral transfer tests that Gayer and I propose are applicable to all such matters.

The evidence in support of nudge policies is often similar in that it may be based on experimental contexts and small samples. Behavioral transfer tests are also applicable to studies of nudges. Among the most prominent nudge policies are informational policies, such as hazard warnings. These and other types of nudges are potentially effective policy instruments. Often the choice is between nudges and policies involving financial incentives. Proper comparison of the performance of nudges and financial incentives requires that payments in the form of transfers, which typically constitute the main cost of financial incentive policies, be treated appropriately consistent with the guidance in the earlier A-4. Previous comparisons in the literature other than in my work have not recognized the proper treatment of transfers. See W. Kip Viscusi, "Efficiency Criteria for Nudges and Norms," *Public Choice*, 2022, 191 (3-4), pp. 465-482, and W. Kip Viscusi, "Nudges Versus Financial Incentives," in Cass R. Sunstein and Lucia A. Reich, editors, *Research Handbook on Nudges and Society* (Cheltenham, U.K.: Elgar Publishing, 2023 in

press), also available as SSRN Working Paper 4422704. Together these articles provide a comprehensive review of the most prominent nudge and financial incentive policies in four policy areas of interest.

<u>Fatality Risks and the Value of a Statistical Life</u>

Equitable Risk Tradeoffs. In a series of publications, I have advocated a concept of promoting risk equity through the use of the same VSL across the population despite evidence heterogeneity of the VSL. See W. Kip Viscusi, "Risk Equity," *Journal of Legal Studies*, 2000, 29(2), Part 2, pp. 843-871; W. Kip Viscusi, *Pricing Lives: Guideposts for a Safer Society* (Princeton: Princeton University Press, 2018); and Thomas J. Kniesner and W. Kip Viscusi, "Promoting Equity through Equitable Risk Tradeoffs," *Journal of Benefit-Cost Analysis,* 2023, 14(1), pp. 8-34. From an equity standpoint, doing so treats all lives equally irrespective of income, minority status, or age. The proposed guidance is consistent with this approach but does not require it. On page 51, line 2348, the proposed guidance establishes a floor on the VSL for children, for whom a lower VSL is not permitted, but does not prevent agencies from adopting a child premium, as some agencies may do in order to justify their regulation. See the critique of CPSC's proposed doubling of the VSL for children in Thomas J. Kniesner and W. Kip Viscusi, "Is a Child's Life Twice as Valuable as an Adult's?" *Regulation*, Summer 2023, pp. 11-12.

The proposed A-4 does not endorse the use of QALYs for valuing mortality risks but does support the use of QALYs for nonfatal risks in many places, including caveats regarding QALYs. The revised A-4 should disavow the use of QALYs even more. The underlying assumption of QALYs is that the number of life years is the driving concern, where these years become quality-adjusted. This focus on counting the number of life years is inconsistent with the application of the VSL by agencies, which do not scale the VSL in

terms of the number of remaining life years but instead generally use a standard VSL across the population. For nonfatal risks, OMB should continue to rely on WTP measures.

For fatal risks for which evidence based on occupational hazards is appropriate from a benefit transfer standpoint, agencies should use revealed preference data based on labor market studies. The applicability of general VSL estimates to traumatic risks such as those in transportation contexts is documented in W. Kip Viscusi and Elissa Philip Gentry, "The Value of a Statistical Life for Transportation Regulations: A Test of the Benefits Transfer Methodology," *Journal of Risk and Uncertainty*, 2015, 51(1), 53-77. The discussion in the proposed A-4 of benefit transfer methods on p. 37, line 1670, is directly pertinent since in the case of transportation accidents it is feasible to establish the comparability of the VSL of transportation-related fatalities and the VSL from occupational risks more generally.

The best evidence based on labor market studies uses the BLS Census of Fatal Occupational Injuries (CFOI) mortality data. To the best of my knowledge, DOT is the only agency that relies exclusively on CFOI-based labor market studies of the VSL. They all should do so. Earlier mortality risk measures entail much greater measurement error. Moreover, the studies based in these earlier risk variables have been shown to be subject to substantial publication selection effects, possibly overstating the VSL by 70-80%. Estimates based on the CFOI measures are less susceptible to such biases. There are additional publication selection biases that arise from using the "best estimate" from different studies rather than all estimates. See W. Kip Viscusi, "Best Estimate Selection Bias in the Value of a Statistical Life," *Journal of Benefit-Cost Analysis*, 2018, 9(2), pp. 205-246; W. Kip Viscusi, "The Role of Publication Selection Bias in Estimates of the Value of a Statistical Live," *American Journal of Health Economics*, 2015, 1(1), 27-52; and W. Kip Viscusi, *Pricing Lives: Guideposts for a Safer Society* (Princeton: Princeton University Press, 2018).

Evidence from stated preference studies with respect to mortality risk valuation is subject to rampant publication selection effects and do not provide a sound basis for benefit assessment. See Clayton J. Masterman and W. Kip Viscusi, "Publication Selection Biases in Stated Preference Estimates of the Value of a Statistical Life," *Journal of Benefit-Cost Analysis*, 2020, 11(3), pp. 357-379.

For very short life extensions, agencies can use the value of a statistical life year (VSLY). The underlying theory for this measure first appeared in Michael J. Moore and W. Kip Viscusi, "The Quantity-Adjusted Value of Life," *Economic Inquiry,* 1988, 26(3), pp. 369-388. The best measures of the VSLY are in Joseph E. Aldy and W. Kip Viscusi, "Adjusting the Value of a Statistical Life for Age and Cohort Effects," *Review of Economics and Statistics,* 2008, 90(3), pp. 573-581. Note that we find that the VSLY varies over the life cycle, which I have also found in subsequent studies. The result is inconsistent with a constant QALY. Also note that the proposed A-4 document's discussion regarding the heterogeneity of the VSL on p. 50, including FN 85, is very dated, as it is based on a 2003 article by John Graham. My 2008 RESTAT article with Aldy finds that there is a pronounced inverted-U shaped pattern to the VSL, which I have found in other articles as well.

One benefit area for which I believe stated preference studies are desirable is for valuing illnesses that might not be comparable to traumatic injuries in terms of their morbidity effects. However, all such stated preference evidence should meet the criteria specified by OMB for such studies and also include a detailed description of the health impacts involved. For example, many studies simply elicit a WTP for cancer risks generally, but the morbidity effects are not identical for all cancers. See W. Kip Viscusi, Joel Huber, and Jason Bell, "Assessing Whether There Is a Cancer Premium for the Value of a Statistical Life," *Health Economics*, 2014, 23(4), 384-396, in which we find a 20% premium for bladder

cancer, but we find a larger premium for blood cancer in Wesley A. Magat, W. Kip Viscusi, and Joel Huber, "A Reference Lottery Metric for Valuing Health," *Management Science,* 1996, 42(8), pp. 1118-1130.

Due to increases in income levels over time, agencies have been updating the VSL for income using a positive income elasticity, often about 1.0. Estimates of the income elasticity of the VSL vary and are in the range of 0.6 in W. Kip Viscusi and Joseph E. Aldy, "The Value of a Statistical Life: A Critical Review of Market Estimates throughout the World," *Journal of Risk and Uncertainty*, 2003, 27(1), pp. 5-76; 0.25 to 0.63 in Hristos Doucouliagos, T.D. Stanley, and W. Kip Viscusi, "Publication Selection and the Income Elasticity of the Value of a Statistical Life," *Journal of Health Economics*, 2014, 33, pp. 67-75; 1.4 in Thomas J. Kniesner, W. Kip Viscusi, and James P. Ziliak, "Policy Relevant Heterogeneity in the Value of Statistical Life: New Evidence from Panel Data Quantile Regressions," *Journal of Risk and Uncertainty,* 2010, 40(1), pp. 15-31; a U.S. Income Elasticity of 0.5 in W. Kip Viscusi and Clayton J. Masterman, "Income Elasticities and Global Values of a Statistical Life," *Journal of Benefit-Cost Analysis*, 2017, 8(2), pp. 226-250; and 0.55 for affluent nations in Clayton J. Masterman and W. Kip Viscusi, "The Income Elasticity of Global Values of a Statistical Life: Stated Preference Evidence," *Journal of Benefit-Cost Analysis*, 2018, 9(3), pp. 407-434. An income elasticity of 1.0 makes explaining income elasticity updates very straightforward. I have used that number in a couple of articles, and agencies often use that value as well. However, for purposes of an RIA, a lower income elasticity for the U.S. may have a stronger empirical justification.

WTA and WTP

The proposed guidance frequently suggests that policy analyses can use either WTP or WTA measures. This type of comment appears repeatedly as WTP and WTA are

treated as being equally valid. See, for example, p. 28, line 1257 and line 1262, which oddly

refers to WTA and WTP as "similar." While they are similar theoretically, they are often quite

different empirically, as is noted on p. 29, line 1280. Empirical estimates of the WTA

estimates are inconsistent with any effort to reconcile the WTA premium with rational

economic behavior or attempts to explain the WTA-WTP discrepancy based on influences

such as income effects. OIRA should insist on the use of WTP values unless agencies can

document the validity of WTA measures. See W. Kip Viscusi, Joel Huber, and Jason Bell,

"Reference-Dependent Valuations of Risk: Why Willingness-to-Accept Exceeds

Willingness-to-Pay," *Journal of Risk and Uncertainty*, 2012, 44(1), 19-44; W. Kip Viscusi,

"Reference-Dependence Effects in Benefit Assessment: Beyond the WTA-WTP Dichotomy

and WTA-WTP Ratios," *Journal of Benefit-Cost Analysis*, 2015, 6(1), 187-206; and W. Kip

Viscusi, *Pricing Lives: Guideposts for a Safer Society* (Princeton: Princeton University Press,

2018).

2. Where the guidance reflects assumptions, are they supported by the theoretical and empirical peer-reviewed academic literature in economics, or other relevant disciplines? If unsupported assumptions are identified, are there alternatives you would recommend? Please provide supporting references for both parts of the response—concerns about assumptions, if any, and suggested alternatives.

Discount Rate

As noted above, basing the future discount rate on the recent period assumes that the monetary policies of the Federal Reserve will continue in a similar manner in the future, which many economists do not believe is will be the case. See the references in the public submission by Art Fraas et al., OMB-2022-0014-3917.

Distributional Analysis

My discussion in the Distributional Analysis heading for Question 1 identified two main areas   where the assumptions were not warranted. The proposed A-4 imposes a particular social welfare function incorporating distributional weights that is not consistent with standard WTP measures. There is not widespread support for this arbitrary social welfare function. Moreover, it neglects the extent of redistribution that will already occur based on the application of average WTP values for all those affected by a policy. I provided the reference to my 2023 JBCA article with Kniesner on that issue. The other area of disagreement with the assumptions in this section was the claim that happiness scores are a useful measure of benefit values. I provided my article reference above.

Scope of the Analysis

The discussion of the geographic scope of the analysis in the proposed A-4 ignored the statutory guidance with respect to whether benefits to the Nation are consequential. I propose that domestic benefits should always be presented even if global benefits are

calculated. Doing so is also essential to understanding the domestic distributional impact of policies.

<u>Fatality Risks and the Value of a Statistical Life</u>

The proposed A-4 guidance illustrated the use of VSLY, indicating on p. 50, line 2288, that for someone with a 40-year remaining life expectancy that the calculated VSL would equal 40 x VSLY. While the logic is correct, someone with a 40-year life expectancy would be in their 40's around the peak of their lifetime VSL trajectory so that there is no need to resort to the use of VSLY in this instance. A typical mean age in a VSL study is about 40. For example, the mean age is 41 in Thomas J. Kniesner, W. Kip Viscusi, Christopher Woock, and James P. Ziliak, "The Value of Statistical Life: Evidence from Panel Data," *Review of Economics and Statistics*, 2012, 94(1), pp. 74-87.

3. Does the guidance appropriately recognize and account for potential challenges for implementation (e.g., technical feasibility or constraints on data availability or other resources)?

<u>Distributional Analysis</u>

By failing to establish OMB guidance for the categories for which information regarding distributional impacts is required, OMB may be in a position where it is difficult to make distributional judgments across policies. With respect to implementation, let me also emphasize that OMB should not readily accept any claims that it is not feasible to do a distributional analysis. Officials at EPA and in various D.C. organizations told us that analyzing distributional effects of Superfund sites was not feasible, but we did it for over 200 sites using information at the block group level, which is more refined than the analyses being undertaken under Justice40. See James T. Hamilton and W. Kip Viscusi, *Calculating Risks? The Spatial and Political Dimensions of Hazardous Waste Policies* (Cambridge: MIT Press, 1999).

4. Do you have any other suggestions for improving the completeness, objectivity, and/or transparency of agency regulatory analyses? If so, how might these be incorporated into guidance?

Scope of the Analysis

The most important suggestion for improving the completeness and transparency of the analysis is to report domestic impacts as well as global impacts for policies with international impacts, such as climate change policies.

Uncertainty

The most important way to improve objectivity in the analysis is to use mean risk estimates, and to report lower bounds in any situation in which upper bounds are also reported.

5. What practices might be identified in the guidance to encourage accounting for non-monetized (possibly also non-quantified) effects?

This section of the guidance was very good as written.

6. Do you have suggestions that would improve the clarity and logical presentation of the guidance and/or ease execution of analyses?

The guidance was clear and presented logically. However, the guidance document is very long, in part because there is a detailed effort to justify all the components of the guidance. Substantial trimming of the background discussion would make the document more accessible.

7. Should the guidance include suggestions of broadly useful data sets? If so, which data sets, and how should this information be presented in the guidance? How should the guidance reflect best practices related to data quality (including timeliness of data)?

      The guidance is likely to serve as a reference for RIAs for many years. During that time, data set availability will change, as will best practices. Should OMB be motivated to provide such information, this can be done apart from this guidance document.

8. Do you have any additional recommendations for ensuring that the guidance and associated methodologies are supported by the theoretical and empirical peer-reviewed academic literature in economics, or other relevant disciplines? If so, please provide them here.

In my responses to question 1, I provided comments on the main areas of OMB interest as well as topics that were not explicitly indicated as matters for which comments were requested, such as behavioral economics and nudges, fatality risks and the value of a statistical life, and the use of WTP and WTA values.

In addition, please feel free to provide a general summary of your comments and recommendations.

The final comment I made in the group meeting is that the guidance document should reflect mainstream economic analysis and be able to serve as a guidance document in future administrations. Many of the proposed revisions are excellent. I believe that the document will have a longer useful life if the following changes are made.

Discount Rate

Agencies should show multiple discount rates. In addition to the administration's proposal, which I would change to 2%, I would also recommend that agencies provide results based on a 3% rate. Some other groups advocate also showing results using higher discount rates, such as 5%.

Distributional Analysis

The proposed presentation of distributional impacts is likely to a long-term improvement in policy analyses, particularly if done correctly. My proposal that OMB and agencies be cognizant of the implicit distributional consequences of applying uniform unit benefit measures to all should be incorporated in any subsequent welfare analysis. The proposed social welfare function weights in A-4 are arbitrary, are not generally accepted, and will undermine the constructive progress that the proposed A-4 will be able to achieve with respect to distributional impacts.

Geographic Scope

Economic analysts and presidential administrations differ in the weight that they would place on domestic and global impacts. Requiring agencies to present both sets of information in situations in which global benefits are consequential will enable administrators to weight these impacts in their preferred manner.

<u>Uncertainty</u>

Reporting mean risk assessments and symmetric presentation of upper and lower bounds of the risk will lead to the greatest expected health improvements from government policies.

<u>Behavioral Economics and Nudges</u>

Adopting the behavioral transfer tests as suggested by Ted Gayer and me will restrict the introduction of behavioral economics concerns to the situations where they are most appropriate.

<u>Fatality Risks and the Value of a Statistical Life</u>

Agency estimates of the VSL and the VSLY should be based on revealed preference data from the labor market using mortality risk data from the BLS Census of Fatal Occupational Injuries. There is no need to augment this information with stated preference evidence except for health impacts for which there is no comparable labor market data and for which morbidity effects are greater than for traumatic accidents, as in the case of cancer.

Throughout their analyses, agencies should rely on WTP measures, not WTA. Restricting the focus to WTP also will eliminate the applicability of QALYs.

<u>Final Comment</u>

Overall, the proposed A-4 document is very well done and reflects a tremendous amount of work, as well as a careful examination of the pertinent issues.

Epilogue to Viscusi Peer Review Comment on Proposed OMB Circular A-4

My comments to OMB remain pertinent, as there were few changes from the draft Circular A-4. Rather than reiterate my official submission in this Epilogue, I will use the Epilogue to address the broader issue of the major consequences that the 2023 revision will have for the role of benefit-cost analysis in OMB's policy evaluations. Susan Dudley and I raise some other concerns in Dudley and Viscusi (2023). I also examine the treatment of mortality risk benefits in Aldy and Viscusi (2024) and implementation issues involving distributional weights in Fraas, et al. (2024). I provide a detailed critique of the OMB distributional weights in Viscusi (2024).

The 2003 version of the OMB Circular A-4 provided a mainstream economics approach to benefit-cost analysis of government regulations. In the two decades in which the 2003 Circular A-4 guidance document was in place, both Republican and Democratic presidential administrations relied on this document to define the framework for economic analyses. The 2023 Circular A-4 reflects a concerted effort to "modernize" Circular A-4, but it goes beyond simply updating the procedures to reflect more recent developments in the economic literature. In fact, as Aldy and Viscusi (2024) indicate, it fell short on the degree of updating that was necessary with respect to the valuation of mortality risks, which is the largest component of regulatory benefits. The main issue I focus on in my Epilogue is the abandonment of an efficiency-oriented approach by the 2023 Circular A-4.

Traditional benefit-cost analyses account for the welfare implications of policies, but make this assessment based on the current societal distribution of income. What is the market failure that warrants government intervention? What are the costs of the policies? What are the policy benefits, as reflected in society's willingness to pay for the benefits? And what policy choices provide the greatest spread between benefits and costs? These are questions that economists are well equipped to answer and which government agencies have been addressing for decades.

The most transformative departure from this efficiency-oriented approach is the 2023

Circular A-4's promulgation of a set of distributional weights, which place greater weight on

impacts to households with income levels below the national median household income level and

lower weight on impacts on households with incomes above the national median. In the peer

review comments that I provided to OMB, I concluded that OMB should abandon these weights. At

the 2023 Society for Benefit-Cost Analysis panel on Circular A-4, I stated that the distributional

weights reflected the Biden OMB's social welfare function but did not reflect society's social

welfare function. I also speculated that these weights would not be retained by any future

Republican administration or any centrist Democratic administration. I provide a detailed critique

of the OMB distributional weights in Viscusi (2024). As I demonstrate in that article, the weights lack

a sound economic justification, do not reflect a societal consensus regarding distributional

weights, and do not function sensibly for either financial policy impacts or for mortality risk

valuation.

Despite my misgivings about the OMB distributional weights, surely society does have a

legitimate concern with the well-being of the entire population, including those who are

disadvantaged. Were assessment practices before the 2023 Circular A-4 remiss by not placing

sufficient emphasis distributional issues? Even without imposing explicit distributional weights,

there were already distributional concerns embedded in policy analyses. Government agencies

value mortality risks, which comprise the largest benefit component, based on the average value of

a statistical life (VSL) across the entire population. Agencies do not assign VSL levels that are

greater for more affluent populations. As documented in Kniesner and Viscusi (2023), the extent of

the distributional premium can be substantial, as this procedure leads to a VSL for workers at the

10th percentile of the income distribution that is 1.9 times as great as their personal VSL.

As I indicated in my peer review comments to OMB on the draft version of the guidance document, if Circular A-4 was going to include distributional weights it should alert agencies to the fact that there is already a distributional premium that lower income groups receive. The final 2023 OMB Circular A-4 recognized this issue by noting that agencies should take this consideration into account. What OMB did not do was outline a general procedure for how agencies should make such an adjustment. Rather it assumed that the absolute value of the elasticity of the marginal utility of income, which was the basis for the weights, is the same as the elasticity of the VSL. However, the empirical evidence reviewed in Viscusi (2024) demonstrates that this assumption is not warranted. The issue of distributional concerns being embedded in current procedures is not restricted to only the VSL. Use of average price and average willingness-to-pay unit benefit measures has a similar distributive impact in that it provides a unit benefit premium for those in lower income groups, just as does use of average VSL levels.

Further complicating the role of distributional weights is that the Biden Administration initiated a policy that it called Justice40, whereby disadvantaged groups should receive 40 percent of the benefits of government policies. This policy implemented President Biden's Executive Order 13985, "Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government," which he issued on the first day of his presidency. As documented in Kniesner and Viscusi (2023), agencies differ widely on which groups should be designated as disadvantaged and the weights that they apply to the different populations in assessing whether the policies have met the 40% requirement. Whereas the Circular A-4 distributional weights are based on household income levels, the Justice40 policy reflects a broad range of personal characteristics, such as age and minority status, as well as more targeted considerations such as proximity to interstate highways and areas with high energy costs. The distributional weights and the Justice40 provisions are based on different dimensions, with only

modest overlap. Circular A-4 provides no guidance on how to reconcile distributional weights with the constraints imposed by other progressive policies that the Biden Administration has enacted.

That the OMB distributional weights are not desirable does not imply that distributional concerns should not receive increased policy attention. A wide range of government policies target benefits to the poor, those in ill health, and people with housing and nutritional needs. These policies reflect legitimate concerns with respect to societal well-being. A constructive way for agencies to begin incorporating such considerations in policy decisions is to present detailed distributional breakdowns of the costs and benefits of government policies as part of the analysis. Doing so often highlights groups that are being disadvantaged by a policy or who might be overlooked. The 2023 Circular A-4 made excellent progress with respect to urging government agencies to better assess these distributional impacts as part of the regulatory impact analysis. I applauded this effort and urged OMB to go further than what it did in Circular A-4. To better assist policy makers in making policy assessments, OMB should have specified a set of income groups for which every agency would report distributional impacts. Doing so would have facilitated comparisons across agencies. Standardized procedures also would have limited opportunities for agencies to be selective in the information that they report. A lack of uniformity of reporting might lead agencies to provide a distorted view of the consequences of a policy.

The most constructive initiative to "modernize" Circular A-4 was the explicit requirement that agencies be more vigilant in reporting the distributional impacts of their regulations. Rather than overreaching by coupling the distributional impact reports with an explicit set of unjustifiable distributional weights, OMB should have refined the distributional analysis requirements to impose more structure on what agencies report for proposed regulations. The next revision of Circular A-4 should incorporate such structure and abandon the current distributional weights.

References

Aldy, Joseph, and W. Kip Viscusi. 2024. "Valuing Mortality Risk Reduction Benefits of Federal

Regulations: Comments on Circular A-4," draft manuscript.

Dudley, Susan, and W. Kip Viscusi. 2023. "Biden's OMB Politicizes Cost-Benefit Analysis," *The Wall

Street Journal*, August 28, 2023, available at https://www.wsj.com/articles/bidens-omb-

politicizes-cost-benefit-analysis-regulation-social-justice-2534e819.

Fraas, Art, Graham, John D., Krutilla, Kerry, Lutter, Randall, Shogren, Jason F., and W. Kip Viscusi.

2024. "Distributional Analysis: Challenges and Implementation under OMB's New Circular A-4,"

draft manuscript.

Kniesner, Thomas J., and W. Kip Viscusi. 2023. "Promoting Equity through Equitable Risk Tradeoffs,"

Journal of Benefit-Cost Analysis, 14(1): 8-34.

Viscusi, W. Kip. 2024. "Why OMB's Social Welfare Function Is Not Society's Social Welfare

Function," *Journal of Benefit-Cost Analysis*, in press.