Nobody Wants This: Essentially No Experts Advised Retaining Old Discount Rates

Jason A. Schwartz

Abstract: Contrary to the suggestion that the 2023 update to OMB's *Circular A-4* "ignored [a] consensus" favoring higher discount rates (Blomquist 2025), the positions of the nine peer reviewers on the 2023 update were much more nuanced and diverse. In fact, they featured significant support for the 2023 update, including a majority that supported a central value of 2% or lower as the risk-free discount rate, and no calls for retaining the 7% capital-based rate. Moreover, public comments—including from noted experts on the discount rate and Nobel laureates—overwhelmingly supported the update. OMB also made several substantive changes in the final version of the updated guidance to further respond to the feedback from peer reviewers. Given the multitude of expert perspectives on discounting, there is no single consensus view. Yet ironically, to the extent almost all reviews might have agreed on at least one point, it is this: virtually nobody favored the course of action now adopted by the Trump Administration, of simply retaining the twenty-year-old, outdated guidance on discounting without any updates.

Introduction

In 2023, following inter-agency scrutiny, peer review, and public comment, the Biden Administration's Office of Management and Budget (OMB) proposed updating the twenty-year-old guidance for agencies on which discount rates to use in regulatory analysis.[1] In 2025, President Trump issued an Executive Order instructing OMB to revoke the 2023 update and

[1] OMB, Circular No. A-4: Explanation and Response to Public Input 1 (Nov. 9, 2023), https://perma.cc/C258-7383 [hereinafter OMB 2023 Explanation & Response].

return to the old guidance from 2003—without any additional peer review or public comment.[2] Some suggest it was appropriate for the Trump Administration to jettison the 2023 update "without additional review" because that update had allegedly not sufficiently followed the advice of its peer reviewers.[3] Dr. Glenn Blomquist, for example, has pulled various quotes from the 2023 peer review report to suggest the Biden Administration's update "ignored [a] consensus" favoring higher discount rates.[4]

In fact, the nine peer reviewers' positions were much more nuanced and diverse, and they included significant support for the 2023 update. Blomquist comes closer to the truth with his wry observation that in a set of nine peer reviews, "we might expect to get at least ten different views."[5] Moreover, these nine peer reviewers were not the only experts on regulatory analysis to share their insights on the proposed update. OMB received 142 public comment submissions that addressed discounting, many with multiple signatories, and many submitted by noted experts including Nobel-prize-winning economists, authors of some of the most recent literature on discounting, scholars of regulatory analysis, and former high-ranking government officials. One comment letter, for example, was signed by 102 PhD economists, including a Nobel laureate.

Among such a multitude of expert viewpoints, there is no single consensus on discounting. Yet ironically, to the extent almost all reviews might have agreed on at least one

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[2] Exec. Order 14192, Unleashing Prosperity Through Deregulation, 90 Fed. Reg. 9065 (Jan. 31, 2025), https://www.federalregister.gov/documents/2025/02/06/2025-02345/unleashing-prosperity-through-deregulation.

[3] *E.g.*, Susan Dudley, *Whither Benefit-Cost Analysis in Trump's Second Term?*, On Balance, Feb. 25, 2025, https://www.benefitcostanalysis.org/index.php?option=com_dailyplanetblog&view=entry&year=2025&month=02&day=24&id=117:on-balance-whither-benefit-cost-analysis-in-trump-s-second-term-. *See also* Susan Dudley & W. Kip Viscusi, *Biden's OMB Politicizes Cost-Benefit Analysis*, WSJ, Aug. 28, 2023 (accusing OMB of selectively "lowering the discount rate to create a better benefit-cost picture of costly regulations that promise future benefits" and that, as a result of this "perceived…bias[ ]," a "future administration will simply rewrite [the guidelines]").

[4] Glenn Blomquist, *What OIRA Peer Reviewers Advised Regarding Notable Proposed Updates to Circular A-4: An Ignored Consensus?*, 16 J. BENEFIT-COST ANALYSIS 159, 159 (2025).

[5] *Id.* at 178.

point, it is this: virtually nobody favored the course of action now adopted by the Trump Administration, of simply retaining the twenty-year-old, outdated guidance on discounting without any updates.

1. Circular A-4 and the 2023 Draft Update: In April 2023, OMB published a proposed update to Circular A-4, the guidance document for agencies on how to conduct regulatory analysis. The original Circular A-4 was published in 2003. Back in 2003, OMB explained that the real rate of return on long-term government debt is the best available approximation of how society values future consumption compared to present consumption. Using the average yields on 10-year Treasury notes from 1973–2002, OMB found a real rate of 3.1% as of 2003, which it rounded to 3% as the risk-free "social rate of time preference" (SRTP).[6]

Of course, regulations affect not just consumption but capital investments as well. OMB observed in 2003 that the "analytically preferred method" is to use the "shadow price of capital" to convert any benefits or costs to capital into consumption-equivalent units and then simply discount with the standard SRTP. But because at the time "shadow prices [were] not well established for the United States," and because "the distribution of impacts from regulations on capital and consumption are not always well known," OMB advised agencies in 2003 to also use a "default" rate of 7% (reflecting average marketplace returns to capital) in base-case analysis, together with the 3% rate.[7] Higher rates were allowed for further sensitivity analysis if agencies

[6] OMB, Circular A-4: Regulatory Analysis at 33–34 (2003) [hereinafter 2003 Circular A-4].

[7] *Id.* at 33-34. In effect, the 3% and 7% rates became lower- and upper bounds on net benefits, based on an implicit assumption that all benefits of the regulation would go to consumers while the share of costs borne by consumers (versus capital) was uncertain.

were "uncertain about the nature of the opportunity cost [of capital]"; lower rates were allowed for further sensitivity analysis for longer-term, inter-generational effects.[8] The 2003 guidance did not address making any further adjustments to account for risk.

OMB's 2023 draft update more clearly distinguished between three distinct concepts: (1) the risk-free SRTP; (2) accounting for capital effects; and (3) accounting for risk.[9] To update the estimate of the SRTP, the 2023 draft kept the same basic methodology from the original Circular A-4 and simply used the most recent 30-years' of data (2003–2022) to replace the outdated data from the 1970s. The straightforward application of that same methodology to the more recent data yielded an average figure of 1.7% as the risk-free SRTP.[10] (The draft also included a discussion of the Ramsey approach to discounting as an alternative. This was deleted from the final update; see below.)

Then, to adjust for capital effects, OMB's 2023 draft took seriously its earlier pronouncement that the shadow price approach is the "analytically preferred method." Rather than using market rates of return to capital as an imperfect proxy—and one that inappropriately reflects returns from unpriced externalities and market power[11]—the draft gave agencies actionable guidance to implement the shadow price approach. When regulatory effects may have

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[8] *Id.* at 34–36. This article mostly addresses the guidance on near-term discounting, rather than the proposed revisions on inter-generational discounting.

[9] OMB, Circular A-4: Draft for Public Review (Apr. 6, 2023), https://perma.cc/KZ45-N9A7 [hereinafter OMB 2023 Draft Update].

[10] *Id.* at 76.

[11] Taxes on investments also cause a divergence between the SRTP and the returns to capital demanded by the marketplace. But the market rate of return is further affected by distortions that are inappropriate to reflect in the social discount rate. For example, a private entity that builds a new construction project gets to enjoy the benefits of that project while many of the costs of air pollution, water pollution, and other negative externalities from that construction are passed on to the society. Because the private investors do not absorb all the external costs of their investment, private returns are likely to be greater than social returns to capital investment. *See* Elizabeth B. Stein et al., *Applying Discount Rates in Energy Utilities' Benefit-Cost Analyses* (Policy Integrity Issue Brief, Mar. 2025), https://policyintegrity.org/files/publications/Discount_Rates_Issue_Brief_vF.pdf.

substantial incidence on capital, OMB recommended agencies consider both a low shadow price value of 1.0 and a high value of 1.2 (reflecting open and closed economies, respectively).[12]

Depending on whether more benefits or more costs fell on capital, the shadow price approach could raise or lower the discounted net benefits estimate compared to a straightforward application of the SRTP. OMB provided numerical examples to help explain and to guide agencies.[13] If the exact incidence of benefits and costs falling on capital is not known, the draft advised agencies to test two outer-bound cases: first assuming all benefits but no costs fall on capital, and then assuming all costs but no benefits fall on capital.

Finally, the draft addressed risk. Some economists recommend adding a risk premium to the risk-free SRTP to account for the systemic risk that regulations might have the greatest net benefits in a scenario when the future economy is already doing well and social welfare is already high.[14] But the 2023 draft observed that in fact, regulations could sometimes deliver their highest net benefits when other outcomes are worse (such as regulations for pandemic preparedness), in which case the addition of a positive risk premium would be inappropriate.[15] Instead, the draft advised agencies to estimate certainty-equivalent values when risk is material,

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[12] Draft 2023 Update at 79.

[13] *Id.* at 80 & n.160.

[14] *See*, *e.g.*, Mark C. Freeman & Ben Groom, Green Book Discount Rate Review: Summary of Findings and Recommendations 10–12 (2026) (report commissioned by United Kingdom H.M. Treasury), https://assets.publishing.service.gov.uk/media/6a43915e7ac6fd9c6a94abbe/Findings_and_Recommendations_-_Green_Book_Discount_Rate_Review.pdf.

[15] Draft 2023 Update at 82. *See also* Freeman & Groom, *supra*, at 12 (recommending applying a negative risk premium of -0.5% to the risk-free SRTP of 2%, for government programs like pandemic protection that "pay off at times of societal decline").

for the sake of transparency, accuracy, and not overlooking how regulations may often provide insurance value by paying off the most during worse future scenarios.[16]

Compared to the 2003 Circular, the 2023 draft update provided agencies with many more tools to reflect the different motivations for discounting and the interaction between discounting and risk. The 2003 version in theory guided agencies to use both 3% and 7% rates, but in practice under the 2003 version, agencies have almost never proposed a rule that was not net-beneficial at the 7% capital rate. Under the 2003 Circular, 7% effectively became a single and universal threshold for all benefit-cost analyses. By comparison, the 2023 draft guidance in effect recommended three rates: a central rate, plus two outer bounds analyses adjusting for the shadow price. The draft also allowed agencies to consider alternative approaches to discounting, such as the Ramsey approach, upon consultation with OIRA,[17] and to consider related adjustments (such as to account for the differential value of non-market versus market goods) as supplemental analysis.[18]

After completing an initial round of inter-agency review, OMB submitted this draft for peer review and public comment.

2. The Peer Review Reports: An external consultant independently selected nine peer reviewers. The resulting peer review panel did not reflect much diversity of background. Eight of the nine

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[16] *See also* EPA, Draft Regulatory Impact Analysis on Section 111 Deregulation at 3-11 n.27 (2025) ("While it is technically possible to adjust the discount rate to account for uncertainty, doing so may hide important assumptions about the relative effects of discounting and uncertainty from decision-makers. Uncertainty about future values should be treated separately when discounting.").

[17] Draft 2023 Update at 77.

[18] *Id.* at 78 & n.152.

were men; the reviewers' median year for obtaining their advanced degree was 1985 (i.e., forty years ago);[19] only two were trained in a relevant field besides traditional economics; only two had published on the discount rate at the time;[20] and four were past officers of the Society for Benefit-Cost Analysis.[21]

Note that, as is typical for peer reviews of government drafts[22] but unlike a peer review process on an academic paper, there was no opportunity for questions, clarifications, or back-and-forth responses between the peer review panel and OMB. Before the peer reviewers submitted their reports, the external consultant convened them for a discussion session amongst themselves only, without OMB participation. Though such a discussion session has value, that kind of interaction can also encourage a degree of group-think.[23] OMB would later publish a

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[19] OMB, Experts Chosen for OMB Circular A-4 Peer Review, June 20, 2023, https://bidenwhitehouse.archives.gov/wp-content/uploads/2023/06/Peer-Reviewers-for-Circular-A-4.pdf. Aldy received his PhD in Economics in 2005, https://scholar.harvard.edu/sites/scholar.harvard.edu/files/jaldy/files/aldy_cv.pdf; Blomquist received his PhD in Economics in 1977, https://gatton.uky.edu/sites/default/files/2025-05/blomquist_cv_may_21_2025.pdf; Coglianese received his PhD in Political Science 1994 and JD in 1991, https://www.law.upenn.edu/live/files/11350-cary-coglianese-cv; Cordes received his PhD in Economics in 1977, https://infosecon.net/workshop/downloads/2011/pdf/An_Overview_of_the_Economics_of_Cybersecurity_and_Cybersecurity_Policy.pdf; Farrow received his PhD in Economics in 1983, https://economics.umbc.edu/wp-content/uploads/sites/243/2025/04/sfumbcresN2-2-2025.pdf; Gillingham received his PhD in Management Science & Engineering (minor in Economics) in 2011, https://environment.yale.edu/sites/default/files/2023-01/Gillingham_cv_0.pdf; Pizer received his PhD in Economics in 1996, https://media.rff.org/documents/Pizer_William_CV.pdf; Romer received her PhD in Economics in 1985, https://eml.berkeley.edu//~cromer/vitae.pdf; Viscusi received his PhD in Economics in 1976, https://cdn.vanderbilt.edu/vu-web/people-manager/files/people-2021-ViscusiCVbiblio121224AlisaChirkovaHolla-20250114125207.pdf.

[20] Based on searches of the CVs cited above, plus a Google Scholar search for Joseph (JJ) Cordes. Pizer and Viscusi have both published several pieces in top journals. Aldy's CV shows presentations at conferences concerning the discount rate. Farrow has since (in 2024) published a comment on Li & Pizer's work.

[21] Society for Benefit-Cost Analysis, SBCA Presidents' and JBCA Editors' Comments on Revised U.S. Analytic Guidance, https://sbca.memberclicks.net/jbca-special-issue-on-circular-a-4-comments (listing comments from peer reviewers Blomquist, Cordes, Farrow, and Viscusi).

[22] In OMB's peer review guidance, the only reference to an agency response to the peer review is a report written after the conclusion of the review to explain "the agency's agreement or disagreement with the views expressed in the [peer review] report." *See* OMB, M-05-03, Final Information Quality Bulletin for Peer Review, Dec. 16, 2004, https://bidenwhitehouse.archives.gov/wp-content/uploads/legacy_drupal_files/omb/memoranda/2005/m05-03.pdf [hereinafter Peer Review Bulletin].

[23] Cass R. Sunstein, *Group Judgments: Statistical means, Deliberation, and Information Markets*, 80 NYU L. REV. 962 (2005).

thorough 94-page response to the peer review and other public input—including 38 pages responding exclusively to feedback on discounting[24]—consistent with the federal guidance on agency responses to peer review to explain the agency's "agreement or disagreement" with the peer review.[25]

Blomquist attempts to distill a consensus from the peer reviews by noting that many of the peer reviewers advocated for a range of discount rates that includes 3%.[26] This distillation, however, oversimplifies the peer reviewers' more nuanced individual views on three distinct questions that may affect the discount rate estimate: the risk-free SRTP, accounting for capital effects, and accounting for risk.[27]

[24] OMB 2023 Explanation & Response, *supra*, at 57-94.
[25] Peer Review Bulletin at 41.
[26] Blomquist, *supra*, at 163, 172.
[27] ICF Intl., Individual Peer Reviewer Comments on Proposed OMB Circular No. A-4, "Regulatory Analysis" (Aug. 3, 2023).

Table 1: Summary of Peer Review Comments on Discounting

Peer Reviewer	Risk-Free SRTP	Accounting for Capital	Accounting for Risk	Sensitivity
Aldy	1.7% is "reasonable"	No comment	No comment	Suggests sensitivity for "uncertainty"
Blomquist	Somewhere between 1% ("an appropriate … risk-free rate") and 8%	No clear position	+3–4% (in combination with a 1% risk-free SRTP; suggests overall default rate should be < 3.4%)	Suggests "at least one alternative rate for sensitivity"
Coglianese	2% as central value (to correct false precision)	< 7% (calling 7% too "high")	No comment	1.5%–2.5% range as sensitivity (alludes to using 3% to allow comparisons to past analyses)
Cordes	2–5%, with 3% as central value	Shadow price is conceptually correct, and approach cited in the draft can be a "template"	No clear position	Suggests that using 2% along with "some higher alternatives" could be "defensible"
Farrow	3%	3% (citing evidence that prior rates, when weighted by term structure, converge to 3%)	Recommends no further adjustment for risk	"Encourage" sensitivity at other "justif[iable]" rates
Gillingham	2% (to correct false precision and adjust for risk)	Shadow price is strongly grounded (but suggests tweaking values to 1.0–1.4)	Could be +0%, but a weakly-positive adjustment is factored into the 2% SRTP value. Certainty-equivalents are appropriate.	No comment
Pizer	2% (to correct false precision and adjust for monetary distortions)	Shadow price is justified, values of 1.0–1.2 are appropriate	Certainty-equivalents are correct but challenging; instead recommends a +1% risk premium	Sensitivity analysis is appropriate; suggests testing 0%–2.5% risk premia
Romer	2–3% (correcting the 1.7% estimate for liquidity and better inflation metrics)	No clear position	Certainty-equivalents are correct but challenging, though risk adjustment is also "difficult";[28] speculates on range of +0.5–2%	No comment
Viscusi	2%	No comment	No comment	Recommends 3% for sensitivity

[28] *Compare* Individual Peer Reviewer Comments: Christina Romer in ICF Intl. *supra* at 99 n.86 (citing Gormsen & Huber (2023) to conclude that "corporations overwhelming use a risk-adjusted discount rate approach") *with* OMB 2023 Explanation & Response at 75-76 & nn.466-468 (explaining how the underlying papers do not support the claim and how the research did not investigate use of certainty equivalents); *see also* Niels Joachim Gormsen &

On the risk-free SRTP, while most peer reviewers felt the draft's 1.7% estimate was "too low"[29] for various reasons including "false precision,"[30] there was no clear consensus in favor of retaining 3% as a primary rate. To the contrary, five peer reviewers (Aldy, Coglianese, Gillingham, Pizer, and Viscusi) approved of a central value of 2% or lower. Six reviewers (Aldy, Blomquist, Coglianese, Cordes, Farrow, and Viscusi) advocated broadly to apply other risk-free rates as a sensitivity test to account for "uncertainty," but recommended sensitivity rates either were not specified or diverged widely (e.g., from 1.5–2.5% to 2–5%). (Another reviewer, Pizer, recommended sensitivity around the risk premia, rather than on the risk-free rate.)

On accounting for capital, no peer reviewer advocated to retain the 7% rate. All reviewers that addressed capital effects either supported the shadow price approach in general (Cordes,[31] Gillingham, and Pizer) or called for rates below 7% (Coglianese).[32]

Finally, on accounting for risk, only three reviewers (Blomquist, Pizer, and Romer) called for adding a positive risk premium on top of the SRTP in all cases. Meanwhile, three reviewers (Gillingham, Pizer, and Romer) also noted that certainty-equivalents, though sometimes practically challenging, were a technically correct approach.

Kilian Huber, *Corporate Discount Rates*, 115 AM. ECON. REV. 2001, 2041 (2025) (finding that only 33% of surveyed corporate quarterly conference calls mentioned adding a risk-premium to discount rates); *id.* at 2044 ("In contrast, we find no clear evidence that riskier or financially constrained firms changed their discount rates by more in Supplemental Appendix Tables A13 and A14.").

[29] Romer, *supra*, at 95.

[30] ICF Intl. at 34, 37, 50, 70, 72, 75, 80.

[31] In a subsequent article reflecting on the peer review, Cordes also "gross[ed]-up" the 7% rate factoring in taxes and inflation and determined that the result "certainly seem[s] too high for the twenty-first century." Joseph J. Cordes, *Revision of Circular A-4 Is Warranted to Reflect the Advances in Scholarship Relevant to Regulatory Analysis, but Some Caveats Are in Order*, 16 J. BENEFIT-COST ANALYSIS 179, 180 (2025).

[32] Farrow commented that weighing both 3% and 7% within the Li & Pizer framework yields a result that converges on 3%. Note that Pizer's own review also cites the Li & Pizer work to instead support the draft proposal's shadow price approach.

3. Public Comments: The nine experts selected for the peer review panel were not the only experts to weigh in on the draft update. OMB received 142 public comments that address discounting, with 711 individuals and organizations signing on to those comments. Of those signatories, about 232 possessed expertise relevant to discount rates or regulatory analysis. Many were PhD economists, including prominent authors of recent academic articles on discounting; some were legal scholars of regulatory analysis; others were former government officials, such as an agency's lead economist and OMB desk officers. Three Nobel laureates in economics (Stiglitz, Nordhaus, and Acemoglu) signed on to comments. OMB therefore carefully considered the feedback on its draft from public comments along with the peer review.

As the table below shows, there was overwhelming support in the public comments for the draft update, including for updating the existing methodology with new data to derive a risk-free SRTP of 1.7%, and for using a shadow price approach to account for capital effects rather than the 7% discount rate. Support in comments for a lower SRTP was not surprising given it was consistent with several expert elicitations on estimating the SRTP, which all found a median risk-free rate of 2%.[33] Some notable comments included:

- A letter from 14 PhD economists, including several discount experts, "highly…commend[ing]" the draft updates on discounting.
- A letter from 3 economists, including Nobel laureate Stiglitz, saying the draft "reflect[s] the changes in thinking and evidence."

[33] *E.g.*, Freeman & Groom, *supra*, at 8 (noting that their survey data supported a risk-free social rate of 2%); *see also* Drupp et al; Howard and Sylvan (2020); Weitzman.

- A letter from 19 PhD economists—onto which peer reviewer Christina Romer also signed—which concludes that "the [proposed] approach and rationale articulated is quite reasonable."
- A letter from 102 PhD economists, including Nobel laureate Acemoglu, concluding that "given the long-standing decline in real interest rates and market projections, this modification is well justified."

Of course, many other comments, particularly from regulated corporations, were not supportive of the draft update. Yet few if any public comments from credentialed experts on regulatory analysis supported retaining the 2003 guidance without change. A letter from past SBCA presidents and journal editors, for example, felt that 1.7% was too "precise" and recommended presenting a range of estimates for sensitivity analysis, but did not otherwise critique the draft nor advocate for retaining the old rates without updates.[34] Though some commenters did recommend continuing to use a range of estimates of a capital-based rate rather than implementing the shadow price approach, even these often called for re-estimation based upon multiple factors rather than mechanically maintaining the 7% discount rate.[35] Only a minority of public comments explicitly called for adopting a range of SRTP estimates for sensitivity analysis or for universal risk premiums.

[34] Arnold C. Harberger et al., Letter from Former SBCA Presidents and JBCA Editors to OIRA Administrator, 16 J. Benefit-Cost Analysis 152, 155–56 (2025).

[35] *E.g.*, Comments from Art Fraas et al., https://www.regulations.gov/comment/OMB-2022-0014-3917 (calling for consideration of a range from 5–10%, acknowledging that "significant evidence and modeling has been published since the 2003 version of Circular A-4). *But see* Donald Kenkel, *Economic Efficiency-Based Benefit-Cost Analysis: Comments on Circular A-4*, 16 J. BENEFIT-COST ANALYSIS 248, 271 (2025) (reproducing comments by Kenkel that advocated applying standard rates of 7% and 10%, along with 1.7% and 3%).

The table below summarizes how the weight of public views compared to the peer reviews and to the draft and final versions of the 2023 update.

Table 2: Comparison of Circular A-4 Versions, Peer Reviews, and Public Comments on Discounting

	Risk-Free SRTP				Accounting for Capital Effects			Accounting for Risk	
Circular A-4 Version	< 2%	≥ 2 but < 3%	≥ 3%	Sensitivity Rates	Shadow price	Rate < 7%	Range Includes or Exceeds 7%	Certainty-equivalents	Risk premium
2003			3%	Lower rates as sensitivity for long-term effects	"Analytically preferred"; allowed with OMB review		7% as default; higher rates for sensitivity	Not addressed	
2023 Draft	1.7%			Ramsey approach, related adjustments allowed as supplemental	Values of 1.0 & 1.2 for substantial capital effects			Recommended instead of discount adjustments	Allowed if risk is material and certainty-eq. unavailable
Peer Review	1 review supported the draft rate[36]	4 reviews supported 2%[37]; 1 review supported 2–3%[38]	2 reviews supported 3%[39]; 1 review was unclear[40]	6 reviews wanted sensitivities for uncertainty[41]	3 reviews supported shadow price generally[42]	2 review supported lower rates[43]; 4 reviews' positions unclear[44]	No review explicitly supported retaining 7% as default[45]	1 review supported certainty-eq.;[46] 2 more agreed but felt small risk adj. is more practical[47]	1 review suggested risk premiums[48] (plus 2 favored small adj. for practicality)
Public Comments by Econ. Experts	217 expert signatories	5 expert signatories	10 expert signatories	Minority of total expert signatories	213 expert signatories		11 expert signatories (e.g., Fraas et al. suggest range of 5-10%)	Majority of expert signatories supported the draft proposal	16 expert signatories
2023 Update		2.0%		Sensitivities for risk and capital effects	Values of 1.0 & 1.2 for substantial capital effects			Recommended over discount adjustments	Risk-adj. rate (e.g., 3.1%) allowed if justified

[37] Gillingham (for false precision and risk); Pizer (for false precision and monetary distortions); Viscusi (arguing that 1.7% was too "fine-tuned"); Coglianese (concern for false precision, but more because of a single value than because of an unrounded value; but note Coglianese also suggests in a footnote that retaining a 3% rate could be warranted, at least for sensitivity).

[46] Gillingham ("strongly recommend allowing for the use of certainty equivalents"; risk premium could be zero or negative, but probably weakly positive; folds this reasoning into argument to use 2.0% rather than 1.7%, does not recommend an additional risk premium).

[38] Romer (agreeing that decline is real and not just cyclical, but arguing that 1.7% is "somewhat too low" and pointing to inflation measures and liquidity to support a value over 2%); note that Chrinstia Romer also separately signed on to public comments that called the proposed update to 1.7% "an approach we support." https://www.regulations.gov/comment/OMB-2022-0014-0021.

[39] Cordes (3% as central value, with range of 2–5%); Farrow (interprets Li & Pizer to support an average of 3%; but note this diverges from Pizer's own views).

[40] Blomquist (alternatively endorses SRTP rates as low as 1% with a 3-4% risk premium, or as high as 8%; though also vaguely alludes to retaining the 2003 section on discounting);

[41] Aldy ("some concern" if multiple rates are not used to "convey uncertainty"); Blomquist; Coglianese (range from 1.5–2.5%); Cordes (suggesting range of 2–5%, though not mentioning risk); Farrow (encourages sensitivity testing at other rates, rationale and limitations unspecified); Viscusi (arguing for 3% as a sensitivity rate to allow comparisons to past RIAs and to anticipate possible changes in monetary policy). In addition, Pizer suggested sensitivity analysis on the risk premia, rather than on the risk-free rate.

[42] Cordes (calling shadow price "conceptually correct" and approving A-4's citation to Newell, Brest & Pizer as a "template"); Gillingham ("strongly grounded," though recommends a slightly wider range); Pizer (approach is "justified" and range is "appropriate and well-grounded").

[43] Coglianese (7% is too "high"); Farrow (argued against using shadow price; cites Li & Pizer to support consumption and private rates converging at 3% by year 10, and simplifies to suggest using a 3% rate for all projects regardless of timespan); see also Cordes (supporting shadow price approach, but also suggesting range of 2-5%, with 3% as central value; "there is a case for proposing a default real discount rate lower than the 2003 Circular A-4 default rate of 7%);

[44] Aldy (no comment on capital effects); Blomquist (no clear position on capital effects as distinct from risk); Romer (did not directly address, though did note that risk adjustment should be less than equity premium); Viscusi (no position).

[45] Blomquist vaguely alludes to retaining certain "relevant" sections of the 2003 version of A-4, perhaps including the section on discounting, though in a paragraph that also praises the 2023 update ("I am pleased to see the effort to update the Guidance"); Blomquist's section on discounting never discusses retaining the 7%.

[46] Gillingham ("strongly recommend allowing for the use of certainty equivalents"; risk premium could be zero or negative, but probably weakly positive; folds this reasoning into argument to use 2.0% rather than 1.7%, does not recommend an additional risk premium).

[47] Pizer (a shadow price approach is "correct," but as a matter of "practice" recommends instead a 1% risk premium); Romer (certainty equivalent valuation is correct but difficult, though also notes risk adjustment is difficult; supports small adjustment of 0.5–2%).

[48] Blomquist (suggesting Nordhaus's risk premiums of 3–4%, but also overall arguing to retain the 2003 version, which had no risk premiums).

4. The 2023 Final Update: After considering all the feedback, including both the peer reviews and public comments, OMB published a final update in November 2023. The final update made several notable changes on the discount rate to respond directly to the concerns raised by peer reviewers. These changes and other responses to the peer review and public input were thoroughly explained in OMB's 94-page response document, a full two-fifths of which focused on discounting.[49]

First, the risk-free SRTP estimate was adjusted from 1.7% to 2%. This adjustment followed peer reviewer Romer's advice to use PCE rather than CPI to adjust for inflation.[50] More generally, the change was consistent with the view of several reviewers that 1.7% was generally "too low."

Second, whereas the draft had included a significant subsection on allowing agencies to use the Ramsey model as an alternative approach to discounting,[51] this alternative approach was removed from the final update. Deleting the discussion of the Ramsey alternative was consistent with the advice of most peer reviewers.[52]

Third, the final update made it more explicit that agencies could use a risk premium to adjust the discount rate when certainty-equivalent valuations are not available and when there is a specific justification to account for systemic risk, such as a reasoned judgment that the

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[49] OMB 2023 Explanation & Response.

[50] This advice was also echoed in public comments.

[51] 2023 Draft at 77.

[52] Coglianese (allowing multiple approaches compromises clarity and simplicity); Cordes (calling the Ramsey discussion "unclear"); Farrow (suggesting inconsistencies within the document relating to the Ramsey formula create the appearance of bias); Gillingham (critiquing the draft's presentation of the Ramsey approach, calling its use "complicated" and advising it only be used for a "small" subset of rules and only with OMB oversight); *but see* Pizer (supporting Ramsey as an option). *See also* Cordes, 16 J. Benefit-Cost Analysis at 189 (calling the removal of the Ramsey approach "[n]otabl[e]").

regulation's net benefits are likely to be lowest when other societal outcomes are already generally worse. The final update even gave specific guidance on how agencies might implement a risk-adjusted rate of 3.1%.

Though this article has focused on discounting, the final 2023 update to Circular A-4 also included dozens of other significant responses to the peer review feedback, including: de-emphasizing material on cost-effectiveness; updating the section on the value of statistical life; further limiting the optional exploration of distributional weights by noting it should only be done when informative; clarifying language in defining the scope of analysis; explicitly noting that evidence of behavioral biases should be specific to the regulatory context; and adding more calls for pilot programs and data collection.

OMB's approach to the peer review was consistent with the federal guidance on information quality, which advises that agencies should carefully consider all critiques and incorporate comments "where relevant and valid."[53] But ultimately, "agencies are not expected to cede their discretion . . . to peer reviewers," and "peer review is considered completed once the agency considers and addresses the reviewers' comments," including a written explanation of areas of "agreement or disagreement."[54]

5. Conclusion: There was no single consensus position on discounting in the peer review, which reflects the fact that there is no single consensus position on discounting in economics.[55] Rather,

[53] Peer Review Bulletin at 5, 21.
[54] *Id.* at 5, 21–22.
[55] Though note that several expert elicitations have found a median estimate of 2%.

on each of the three main issues in discounting—estimating the SRTP, accounting for capital, and accounting for risk—the peer reviews comprised a nuanced range of views, from broad support to suggested tweaks to stronger opposition. There was no way for OMB to implement the conflicting views of all nine different peer reviewers. That said, the final update—consisting of a 2% risk-free SRTP, a shadow price of capital of 1.0–1.2, and a preference for certainty-equivalents but with the option of a risk-adjusted rate of 3.1% when justified—directly implemented several key peer review recommendations and was broadly consistent with the advice offered by the peer reviewers. Moreover, the substance of both the draft and final versions was overwhelmingly supported by the public comments from relevant experts.

To the extent some of Blomquist's criticism focuses on OMB not following peer reviewers' advice to explicitly adopt multiple discount rates for sensitivity analysis, this view reflects a misunderstanding of how the shadow price approach and guidance on risk should be implemented.[56] Rather than testing a rule's sensitivity to a random set of alternate discount rates, the 2023 update encourages agencies to think about sensitivity to capital effects and risk more critically and apply additional tests to transparently reveal that sensitivity. For example, for a rule with both substantial effects to capital and systemic risk, implementing the 2023 update would yield not just one but up to five distinct calculations of net benefits:

1. An undiscounted summary of benefits and costs, which should be produced for every rule.
2. Net benefits using a 2% risk-free SRTP and assuming a shadow price of 1.0.

[56] *See*, *e.g.*, Cordes, 16 J. BENEFIT-COST ANALYSIS at 182, 189 (asserting that the 2023 draft afforded agencies "considerable flexibility" on discounting, and worrying that agencies might end up testing different discount rates for different analyses).

3. Net benefits using a 2% risk-free SRTP, assuming a shadow price of 1.2, and assuming as an outer-bound test that all benefits but no costs fall to capital.
4. Net benefits using a 2% risk-free SRTP, assuming a shadow price of 1.2, and assuming as an outer-bound test that all costs but no benefits fall to capital.
5. Net benefits using a 3.1% risk-adjusted SRTP as a default if certainty-equivalent valuations are not available and if such a risk adjustment is justified.

During the twenty years when agencies followed OMB's advice to use both 3% and 7% discount rates as default values, virtually no regulations were ever proposed or finalized that were not cost-benefit justified at both discount rates.[57] Rather than testing the sensitivity of the rule to the choice of discount rate, the original Circular A-4's highest recommended discount rate (i.e., 7%) simply became the single threshold that virtually all rules were implicitly required to clear. Adding specified sensitivity rates to the updated guidance would likely force agencies again into that same trap, with the highest rate alone controlling analytical outcomes. The approach taken in the 2023 update was intended to act more as a true sensitivity test to uncover the actual influence of assumptions about capital effects and risk. Thus, the 2023 update did respond to the underlying concern motivating many of the calls for sensitivity rates, only through different means.

Given how deliberate the 2023 update was in considering peer review, and given the overwhelming support of public comments,[58] it is unfortunate that some are continuing to

[57] Rare exceptions include, for example, the National Primary Drinking Water Regulations: Lead and Copper Rule Revisions, 86 Fed. Reg. 4,198, 4,263 (Jan. 15, 2021); and the 2020 SAFE vehicle fuel efficiency standards.

[58] *See* Arnold C. Harberger et al., *Letter from Former SBCA Presidents and JBCA Editors to OIRA Administrator*, 16 J. BENEFIT-COST ANALYSIS 152, 152 (2025) (conveying appreciation that OIRA solicited public comments in addition to enlisting a peer review panel, suggesting the authors want OIRA to consider comments in conjunction with the peer review).

critique the 2023 update as either not responsive or out of step with mainstream economic thinking. It is especially unfortunate to use that misleading take as a justification to return to the old 2003 version of Circular A-4. The peer review and public comments almost universally recognized that Circular A-4 was overdue for an update, and that both the evidence and thinking on discounting had evolved over two decades. Virtually no experts advocated for preserving use of the 7% discount rate. With a return under the Trump Administration to the 3% and 7% rates, the upper-bound 7% rate will once again become a threshold that all rules implicitly must clear—even though 7% is a discount rate that almost nobody supports. The result will be less accurate and less informative regulatory analyses based on outdated guidance, reducing the usefulness of analysis for both decisionmakers and the public. In short: nobody wants this.

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