

ARTICLE

Be Brief, Be Consistent, Be Neutral: Comments on US Draft Circular A-4, “Regulatory Analysis”

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Abstract

Ex ante, my primary concerns were about implementation across the wide expanse of federal applications, supporting the supplemental use of distributional weighting, trying to find a supportable middle ground on discounting using the expected value of bounds and a more consistent scope of analysis. Ex post, I felt heard if not followed, perhaps not uncommon for reviewers.

Prologue

I found the structure of the charge questions awkward. Consequently, my comments are first summarized for each topic followed by responses to the charge questions. I had hopes that original work within the discounting topic on the expected value of limits might have opened the door for a compromise by the Office of Management and Budget (OMB). While that did not happen, the expected value concept presented here has been significantly extended in Solow and Farrow (2024).

Solow, A. R. and S. Farrow. 2024. “Li and Pizer in the Short Run: A Comment on Discounting.” *Journal of Environmental Economics and Management*, 127(September). <https://doi.org/10.1016/j.jeem.2024.103039>

Individual Peer Reviewer Comments: Scott Farrow

Introduction

My understanding of principles and purpose underlying the A-4 guidance.

Analytical level and audience

Guidance is for an acceptable lower bound of Regulatory Impact Analysis (RIA) quality done by advanced practitioners. The academic doing frontier research is not your audience

nor are they economic neophytes. The target analytical level is a minimum acceptable level for regulations submitted to the Office of Information and Regulatory Affairs (OIRA), with perhaps aspirational quality levels identified for some items.

Be brief, be consistent, be neutral

Be brief: Extensive discussion as written lets in ambiguity or a sense of trying to convince the audience.

Be consistent: Inconsistency across documents (for instance with A-94 discount guidance) creates confusion. Inconsistency within the document (e.g. in regard to the use or non-use of the Ramsey formula) creates the appearance of biased selection.

Be neutral. You are reinforcing professional standards for practitioners. Selectiveness could briefly distort decisions. Selectiveness can lead to a backlash – as this document is doing with the prior administration’s efforts to restrict analysis to primary effects.

If in doubt, be professionally conservative, but zero is not necessarily conservative

There are gray areas in the standard practice of professionals, among them the specific value of some parameters such as “the” discount rate and “the” elasticity of the marginal utility of income. The challenge is to identify a value, or guidance, that improves upon zero or an existing default (Farrow, 2012). Agencies are always free to go beyond the guidance.

Farrow, S. 2012. “A Missing Error Term in Benefit–Cost Analysis.” *Environmental Science and Technology*, 46, no. 5: 2523–28.

Topics identified in charge to reviewers:

1. distributional analysis;
2. discount rate;
3. scope of analysis, including geographic scope;
4. development of analytic baselines;
5. unquantified impacts;
6. uncertainty; and
7. other

Comments are organized by topic, with a general summary of each followed by charge questions.

A.1 Distributional analysis: general summary of comments and recommendations

1. Background points:

- 1.1 Choosing a value for the elasticity of the marginal utility of income has analytical implications if the Ramsey rule is considered for the social discount rate – as it is currently discussed in the discounting text (Gollier, 2013; Acland and Greenberg, 2023). The income elasticity would also be a new application in regulatory practice and subject to concerns about applying across individuals. In contrast, the existing policy decision of a constant Value of a Statistical Life (VSL) implies that a weighting decision has already been made and hence breaks no new policy ground if VSL elasticity weights are applied (Viscusi and

Kniesner, 2023; Farrow, 2021). Whatever value is chosen for the weighting parameter, having an identified parameter for weighting in a sensitivity analysis would, in my view, be useful.

- 1.2 Transfers only net to zero generally under $\epsilon = 0$. Transfers can have differential impacts under a different assumption for ϵ . Note: Many regulations that are currently excluded as “transfer rules” could (should) come under OIRA review once distributional effects are expected as part of a regulatory analysis.
- 1.3 As income is often a common denominator among distributional categories (e.g. see Council on Environmental Quality (CEQ), 2022), a “chain rule” type of estimation is possible as illustrated in Viscusi and Kniesner (2023).
- 1.4 Distribution and cost: Suppose cost in a regulation is paid by the federal government or there is a change in government revenues. Regarding distribution, OMB might consider identifying the income quintile of the dollar averaged taxpayer for distributional analysis. For example, it is not inconceivable that the average dollar of taxes comes from the Xth (e.g. say 4th) quintile in which case down-weighting might occur in a weighted distributional analysis. [I note the issue of Cost of Public Funds (with $\epsilon = 0$) in A-4 and A-94 seems to be treated differently in each draft, see also Boardman et al., 2020.]
2. Recommendations
 - 2.1 Reconsider the document wide implications (such as discounting) of using a weighting parameter based on the elasticity of the marginal utility of income or alternatively consider weights based on the income elasticity of the VSL as already being in regular and policy approved use.
 - 2.2 Continue the assumption for the base case that the elasticity of the marginal utility of income (ϵ) is zero for continuity and its implication for transfer rules. In other words, distributional weighting should NOT be a primary analysis.
 - 2.3 If use of the elasticity of the marginal utility of income is retained as the weighting approach, then transfers should be a subsection in the larger distributional analysis.
 - 2.4 Distributional impact analysis via the income channel should be expected as an important sensitivity analysis if distributional impacts are shown to exist. This can be done with a type of chain rule of causation as demonstrated in Viscusi and Kniesner (2023). Ideally using income net of transfers but if that is not possible, use another income measure.
 - 2.5 Recommend calculation of a break-even ϵ : if such elasticity can be computed, it could be compared to a rough lower bound of $\epsilon_{\text{VSL}} = .5$ implied by current policy choices of a policy constant VSL; and the $\epsilon_{\gamma} = 1.4$ as exists in the draft guidelines.

A.2 Specific charge questions: distribution

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).

The distributional weight of 1.4 based on the elasticity of the marginal utility of income is not supported in the A-4 draft but stated as “OMB has determined.” While this could be ok as the preamble discusses it, but the support in the preamble depends on a very extended footnote (footnote 27) discussing various estimates. This suggests to me that the value and use of the parameter is not yet standard (i.e. a lower bound of quality for which OIRA is providing guidance).

Further, implications of elasticity of the marginal utility of income and Ramsey formula are investigated along with a meta-analysis of the relevant elasticity literature in Acland and Greenberg (2023).

Acland, Daniel and David H. Greenberg, “The Elasticity of Marginal Utility of Income for Distributional Weighting and Social Discounting: A Meta-Analysis (June 18, 2023).” *Journal of Benefit-Cost Analysis*, Available at SSRN: <https://ssrn.com/abstract=4483436>.

Potential use of elasticity of VSL weighting:

- a) Kniesner, T., and W. Viscusi. 2023. “Promoting Equity through Equitable Risk Tradeoffs.” *Journal of Benefit–Cost Analysis*, 14, no. 1: 8–34. doi:10.1017/bca.2023.4
- b) Farrow, R. Scott. 2021. *On Balance: When All Lives Matter Equally: Equity Weights for BCA by Combining the Economics of VSL and US Policy* (memberclicks.net)

Marginal excess burden of taxation: Boardman, A., D. Greenberg, A. Vining, and D. Weimer. 2020. “Efficiency without Apology: Consideration of the Marginal Excess Tax Burden and Distributional Impacts in Benefit–Cost Analysis.” *Journal of Benefit–Cost Analysis*, 11, no. 3: 457–78. doi:10.1017/bca.2020.18

CEQ environmental justice area definitions: CEQ, 2022. *Climate and Economic Justice Screening Tool, 1.0*. Available at: [About – Climate & Economic Justice Screening Tool \(geoplatform.gov\)](#).

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.

Is elasticity of zero supported in the empirical literature? Not to my knowledge. It has been (and remains) a useful anchoring point because it is explainable as a default parameter (Farrow and Rose, 2018; Section 2, consumer welfare metrics and aggregation). Farrow, S. and A. Rose. 2018. “Welfare Economics: Bridging the Partial and General Equilibrium Gap.” *Journal of Benefit-Cost Analysis, Spring*.

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)?

Distributional analysis based on sorting by income before transfers and taxes ignores the existing redistribution by governments. While gross income could be informative, the Congressional Budget Office (CBO) publishes a regular report with net of transfer income by quintile: example for 2019 is [The Distribution of Household Income, 2019 | Congressional Budget Office \(cbo.gov\)](#).

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?

No comment

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

Currently appropriate for distributional effects, though long.

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

Particularly if the final draft maintains use of the Marginal Elasticity of Income, transfers should be a subset of the distributional section, with income elasticity equal to zero for standard zero net value transfers. Then, the second section can discuss relaxing this assumption in ways that OIRA ultimately chooses.

7. Should the guidance include suggestions of broadly useful datasets? If so, which datasets 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)?

In general no, though for distribution, the annual CBO report on income net of transfers may be useful in a footnote as a type and source of net income information.

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.

From the summary above: Recommendations

1. Reconsider the document wide implications (such as discounting) of using a weighting parameter based on the elasticity of the marginal utility of income, or alternatively consider weights based on the income elasticity of the VSL.
2. Continue the base-case assumption that the elasticity of the marginal utility of income (ϵ) is zero for continuity and its implication for transfer rules. In other words, distributional weighting should NOT be a primary analysis.
3. If use of the elasticity of the marginal utility of income is retained as the weighting approach, then transfers should be a subsection in the larger distributional analysis.
4. Distributional impact analysis via the income channel should be expected as an important sensitivity analysis if distributional impacts are shown to exist. This can be done with a type of chain rule of causation as demonstrated in Viscusi and Kniesner (2023). Ideally using income net of transfers but if that is not possible, use another income measure.
5. Recommend calculation of a break-even ϵ : if such can be computed, it could be compared to a lower bound of $\epsilon_{VSL} = .5$ implied by current policy choices of a policy constant VSL, and the $\epsilon_Y = 1.4$ as exists in the draft guidelines.

B.1 Discount rate: general summary of comments and recommendations

1. Background points

- a. I find the discount literature a morass of competing approaches. Some of these approaches alter other aspects of the analysis, such as using a pure consumption rate after converting to consumption units by applying a shadow price for capital. In my view this reduces transparency and communicability to decision-makers and introduces uncertain parameters without a clear gain in accuracy.
- b. Draft use of more recent 10-year Treasury rate is a move toward a prescriptive policy parameter instead of a descriptive (positive) parameter. Recent decades highlight the role of Treasury intervention to alter dramatically the 10-year bond rate, whether driving it effectively to zero or recent changes that sharply increased the rate.
- c. OIRA/OMB should balance multiple issues to define “the” discount rate, which will never be exactly true. Gollier (2013) and Li and Pizer (2021) clearly illustrate the role of the term structure of discount rates; even potentially negative (which would cause no end of consternation) while risk adds further complications.

2. Observation: Li and Pizer (2021) build on a historical literature of a weighted average of consumption and investment return, as well as the legacy OMB interest rates of 3 and 7% (real). Implicit in their Figure 2, based on equation 16, are calculations that suggest the mean (using an uninformed prior) of the dynamic consumption and private capital rates quickly converges to essentially 3% (the consumption rate) – much earlier than the long term on which they focus. In fact, for either shadow price of capital (v ; based on OMB’s ratio or a Ramsey estimate), the average discount rate rounds to 3% for a project term starting at 10 years or less (see attached table; if OIRA investigates this, the table should be checked for replication).

3. Recommendations:

- a. That the default recommendation for any length of project is 3% real, justified as expected value with uninformed prior of existing term structure bounds over relevant forecast periods.
- b. Encourage sensitivity testing at such other discount rates as analyst can justify.

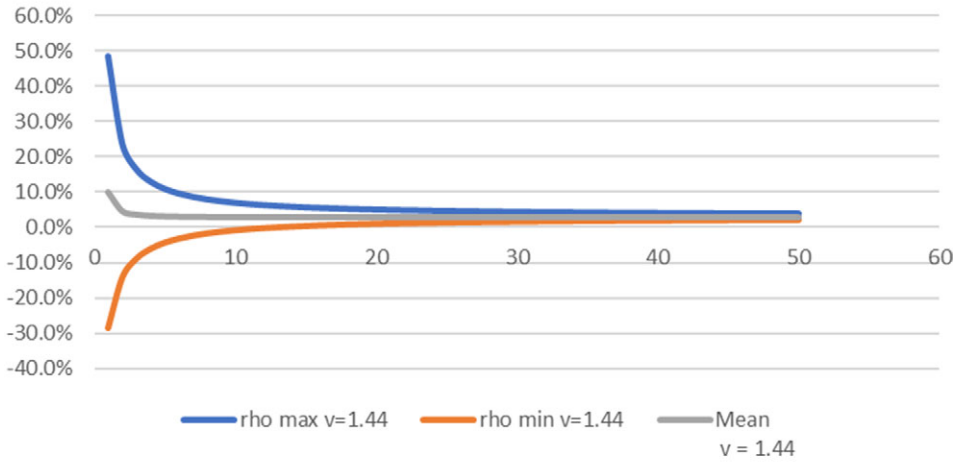
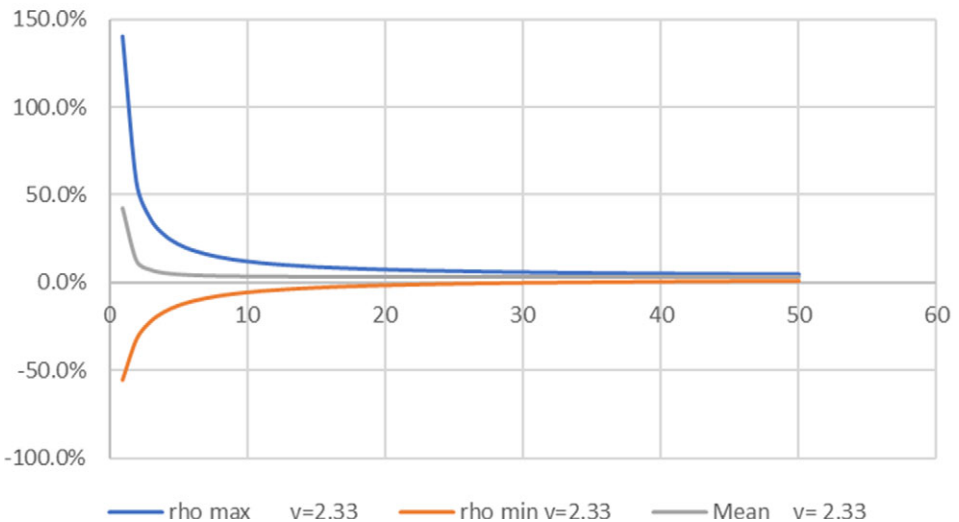
4. Reasoning:

- a. Maintains prior 3 and 7% as underpinnings but explicitly weights them considering term structure.
- b. A consistent way to set the default discount rate based on expected value.
- c. Discounting can be done in a way familiar to practitioners.
- d. Avoids guidance on issues such as shadow price of capital to convert to consumption units, and risk of project (embedded in private sector rate of return).

5 Long-term discounting

The draft section does not reach a conclusion and so the guidance is unclear. The recommendation above would effectively use the consumption rate as the default long-term rate in any event.

6. Replication of data behind Figure 2: Li and Pizer, 2021.

Replication: Li and Pizer $v=1.44$ Replication: Li and Pizer: $v = 2.33$ **B.2 Specific charge questions: Discounting**

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).

Li and Pizer (2021) is cited but I feel a useful implication may have been missed as noted in the recommendation. Various pieces by Gollier are cited, mainly about discounting for climate change, but in my view, Gollier (2013) has a better integration,

including the use of the Ramsey formula (with higher discount rates) prior to concerns about risk which are later incorporated as well.

Gollier, Christian. 2013. *Pricing the Planet's Future: The Economics of Discounting in an Uncertain World*. Princeton: Princeton University Press. <https://doi.org/10.1515/9781400845408>

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.

The choice of 10-year bonds has always been, in my mind, a convenient compromise. Its continued use in the face of dramatic interventions does not seem well supported in the literature. I suggest the alternative discussed above of not changing the bounds in Li and Pizer but using an expected value based on an uninformed prior of the bounds for typical duration. The mean is implied, in my view, in the Li and Pizer (2021) article.

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)?

I do not think the current discount rate guidance accounts for potential challenges to implementation by suggesting the consumption rate of interest following adjustments using the shadow price of capital. While the latter certainly exists in the literature, it adds complexity to each agency's analysis. The same discount rate, consumption rate of interest, could be used by considering it the uninformed prior (average) of the existing bounds (see discussion above). This would maintain current methodologies for discounting without adjustment for shadow prices (which agencies would be free to do in going beyond the minimum guidance provided in A-4.)

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?

From above:

Recommendations:

- a. That the default recommendation for any length of project is 3% real, justified as expected value with uninformed prior of existing term structure bounds over relevant forecast periods.
 - b. Encourage sensitivity testing at such other values as analysts can justify.
5. What practices might be identified in the guidance to encourage accounting for non-monetized (possibly also non-quantified) effects?

Not applicable.

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

See recommendation in 4 above.

7. Should the guidance include suggestions of broadly useful datasets? If so, which datasets 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)?

In general no.

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.

Not on this topic.

C.1 Scope of the analysis: general summary of comments and recommendations

1. Standing (Whittington and MacRae, 1990; Farrow, 2023): The existing discussion begins with geographic scope and proceeds to temporal. Geography and time are not the most obvious elements of standing that previously in A-4 was based on a legal definition of standing—citizens, and legal residents. You may or may not have a way to push the concept of standing to foreigners (there is always the potential for evidence that US citizens have a valuation for foreign impacts); geography (in the USA, outside the USA, etc.), time (discounting gives standing to impacts on people in out-years), and there may be other legal dimensions to the definition of standing such as existing US law or US international treaties. All the dimensions follow from having to justify standing for a particular analysis (Farrow, 2023), but this guidance should provide the required minimum.
2. International scope: A particular regulation, say affecting climate change, might have a US legal basis (in treaties, which gives standing to others), or perhaps a US empathy basis (we are willing to pay to reduce not only our own impacts but others, Farrow, 2023, for VSL for “foreigners.”). I do not find the existing “strategic interest” discussion very compelling unless an existing US legal justification exists although standing, as a policy determined issue, could be based on decision-maker interest.
 - a. If both domestic and international impacts are assessed, they should be presented both separately and together so as not to obscure results likely informative to decision-makers in an aggregate. In some ways, this is a distributional analysis, with the dimension being USA or foreign as the distributional impact.
3. Legal scope: Consideration should be given to the legal scope of standing as this was the previous basis for scope to include “citizens and residents.” Legal linkage may occur through US law or international treaties. For instance, where regulations are legally linked, the impacts of such linkage should be explored. As stated in a recent Environmental Protection Agency (EPA) Scientific Advisory Board (SAB) report (EPA, 2021) “A ‘linkage’ in rules exists when changes in one regulation automatically induces changes in the normal operation and implementation of other regulatory requirements. The linkage may be present in legislation, regulation, or guidance. Where rules are linked by law, regulation, or guidance, an RIA should include significant effects (benefits and costs) from changes in the normal operation of linked local, state, federal, and international regulatory programs. Those impacts may seem

indirect, but they may be as certain to occur as some of the direct compliance costs of a regulatory change.”

4. Recommendation: Start the section with a short discussion of standing in benefit–cost analysis and then proceed to guidance on your appropriate sections such as legal, geographic, and temporal.

C.2 Scope of the Analysis: Specific charge questions

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).

Citations on standing from above:

Whittington, D. and D. MacRae, Jr. 1990. “Judgments about Who Has Standing in Cost–Benefit Analysis.” *Journal of Policy Analysis and Management*, 9, no. 4: 536–47.

Farrow, S. 2023. “The Net Benefits and Residual Cost from U.S. Border Management of the Initially Inadmissible.” *Journal of Benefit–Cost Analysis*, 14, no. 1: 163–89. doi:[10.1017/bca.2023.2](https://doi.org/10.1017/bca.2023.2)

Citation on legal linkage across regulations:

EPA Scientific Advisory Board, Report SAB-2021-002, [SAB Peer Review of the EPA’s Revised Guidelines for Preparing Economic Analysis \(PDF\)](#)

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.

Standing is generally viewed as a policy choice (see Whittington and Macrae) on scope of analysis but one should be able to justify the assumption based on law, analytical capability, or decision-maker interest.

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)?

Reasonably, noting that international impacts inevitably add complexity and should only occur where the extra cost has the potential to change a decision.

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?

From above:

Recommendation: Start the section with a short discussion of standing in benefit–cost analysis and then proceed to guidance on your appropriate sections such as legal, geographic, and temporal.

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

Not applicable.

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

See recommendation in 4 above and discussion regarding role of standing.

7. Should the guidance include suggestions of broadly useful datasets? If so, which datasets 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)?

In general no.

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.

Not on this topic.

D.1 Analytic baseline: general summary and recommendations

1. Compliance is called out as a bullet in this section (p. 12, line 495), but the only mention is the last of a paragraph on p. 13 (line 533). Seems to need at least its own short paragraph even if reader is referred to a later section (section number would also be useful in reference to section 8b, p. 53). Analyzing compliance not only is useful for net benefit estimation but also opens an alternative policy channel of communication and enforcement to affect net benefits.
2. Identification of legal linkages in standing should also be a part of the baseline. See comment on legal scope in section C (scope).
3. Recommendation: Include some discussion of compliance in this section as it sets up a further dimension of regulatory implementation – those actions that might affect compliance.
4. Recommendation: Include a discussion of legally linked regulations as potentially part of the baseline.

D.2. Charge Questions

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).

No comment

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.

No comment

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)?

Line 516: while this paragraph has a good discussion of potential future regulations, what is missing to me is that some existing legally linked regulations may change effects and have impacts within the date of implementation of the initiating regulation. For instance, regulations defining maximum water contaminant levels may have immediate effect on clean-up levels under CERCLA via Applicable and Relevant or Appropriate Requirements.

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?

From above:

Recommendation: Include a discussion of legally linked regulations as potentially part of the baseline.

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

Not applicable.

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

From above:

Recommendation: Include some discussion of compliance in this section as it sets up a further dimension of regulatory implementation – those actions that might affect compliance.

7. Should the guidance include suggestions of broadly useful datasets? If so, which datasets 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)?

In general no.

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.

Not on this topic.

E. Uncertainty

Major observations: No comments other than the section are long and the distinction could be made earlier about parameter uncertainty in modeling compared with risk-based, behavioral valuations with uncertainty.

F.1. Ancillary/secondary/general equilibrium impacts section 8 h (about pp. 40–43)

General summary and recommendations

1. I am supportive of using general equilibrium models when warranted (Farrow and Rose, 2018), but the section as written starts out too basic and ends up with too much detail.
2. A major change in this draft is the movement from considering ancillary benefits or costs (that I always interpreted as more a multi-market or external effect) to a multi-page discussion of potential general equilibrium analysis. At the same time, I do not find much definitive guidance. The explicit assumption in the companion draft A-94 on multipliers assumes full employment in which secondary effects of expanded economic activity are assumed to be a transfer with zero effect (when $\epsilon = 0$). See A-94 (1982 and current draft). OMB should be consistent.
3. I would be surprised if OMB would countenance an assumption of less than full employment over an extended period of time although briefer periods of time or regulations designed to address negative shocks may warrant such an assumption.
4. Recommendation: Clarify assumption about macro employment in Computable General Equilibrium (CGE) modeling, which could refer to OMB's forecasts in the budget for out years.

Farrow, S. and A. Rose. 2018. "Welfare Economics: Bridging the Partial and General Equilibrium Gap." *Journal of Benefit-Cost Analysis*, Spring.

F.2. Charge question 6

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

Recommendation: Clarify assumption about macro employment in CGE modeling, which could refer to OMB's forecasts in the budget for out years.

G. Unquantified benefits

No comment except that it is long.