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VIA REGULATIONS.GOV
Richard L. Revesz,
Administrator, Office of Information and Regulatory Affairs
Office of Management and Budget
725 17th St NW
Washington, DC 20503

RE: Request for Comments on Proposed OMB Circular No. A-4, "Regulatory Analysis", 88 FR 20915 (Apr. 7, 2023), Docket OMB-2022-0014

Dear Mr. Revesz,

I am an attorney employed by the Competitive Enterprise Institute. I respectfully submit the following comments in response to Office of Management and Budget's proposed update to Circular A-4 on regulatory analysis. Founded in 1984, the Competitive Enterprise Institute is a non-profit research and advocacy organization that focuses on regulatory policy from a pro-market perspective.

There are many problems with the proposed updates to Circular A-4. This comment will focus on the problems in Chapter 10 on "Distributional Effects" and Chapter 11 on "Treatment of Uncertainty." Other colleagues at CEI will submit comments discussing the problems with different parts of the proposed draft.

The primary problems in these two chapters are:

(1) They fail to properly consider the distribution of opinions concerning tradeoffs rather than just groups (such as by income, race, sex, or gender).
(2) They fail to make the differences of the distribution of opinion concerning tradeoffs mandatory, which it should be to accurately evaluate tradeoffs.
(3) They improperly endorse regulating with a lack of knowledge concerning the subject matter.
(4) They fail to require that the uncertainty in known statistical variation in measurements be explicitly expressed.
(5) They fail to require that there be at least 95% certainty that the proposed regulation will be beneficial.

I. Circular A-4 Should Require the Distributive Effects of Different Tradeoff Values

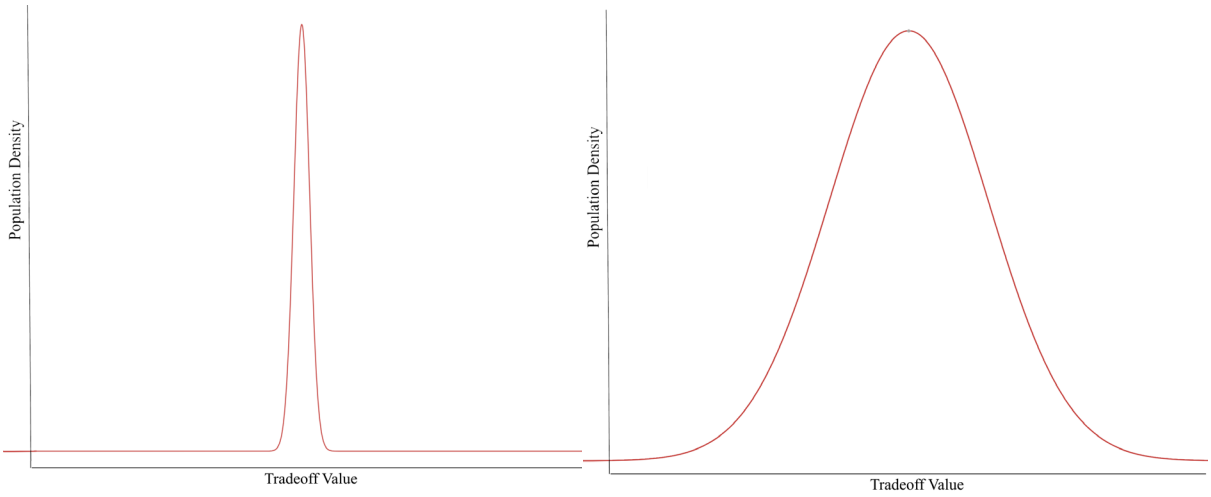
Chapter 10 of the draft Circular-A4 concerns how regulations may impact different groups of people differently. This topic is important to consider, as many of the people or organizations requesting regulations are likely not those most severely impacted. Even if the regulation is a net benefit, it could cause severe and devastating harms to a disadvantaged minority. Those disadvantaged minorities are likely to be poor and unable to effectively express the harm done to them to the agency.

While the agency should consider distributive effects, the proposed draft fails to consider an essential aspect of the problem. The proposed draft Circular A4 has a focus on "divid[ing] up [the population] in various ways (e.g., income groups, race or ethnicity, sex, gender, sexual orientation, disability, occupation, or geography; or relevant categories for firms, including firm size and industrial sector)." p. 61. However, the proposal fails to consider the distributive effects of those with tradeoff values further away from the average or value selected by the agency. Additionally, it fails to make consideration of the distribution of tradeoff values mandatory.

Many regulation decisions come down to evaluating potential tradeoffs values between various valuable values. For instance, safety regulations often trade off possible health and safety values against cost, efficiency, and speed benefits. What tradeoff is made often determines whether the regulation is a net benefit.

Members of the public do not all share the same views. Nonetheless, many agencies today use an "average" value of such tradeoffs of the public as if that were the only tradeoff value of the public, but this is incorrect. This decision often occurs in cost-benefit analysis when the agency converts safety or other non-monetary benefits to specific monetary benefits. Instead, the agencies should establish a distribution for every evaluation of the public opinion of such tradeoffs.

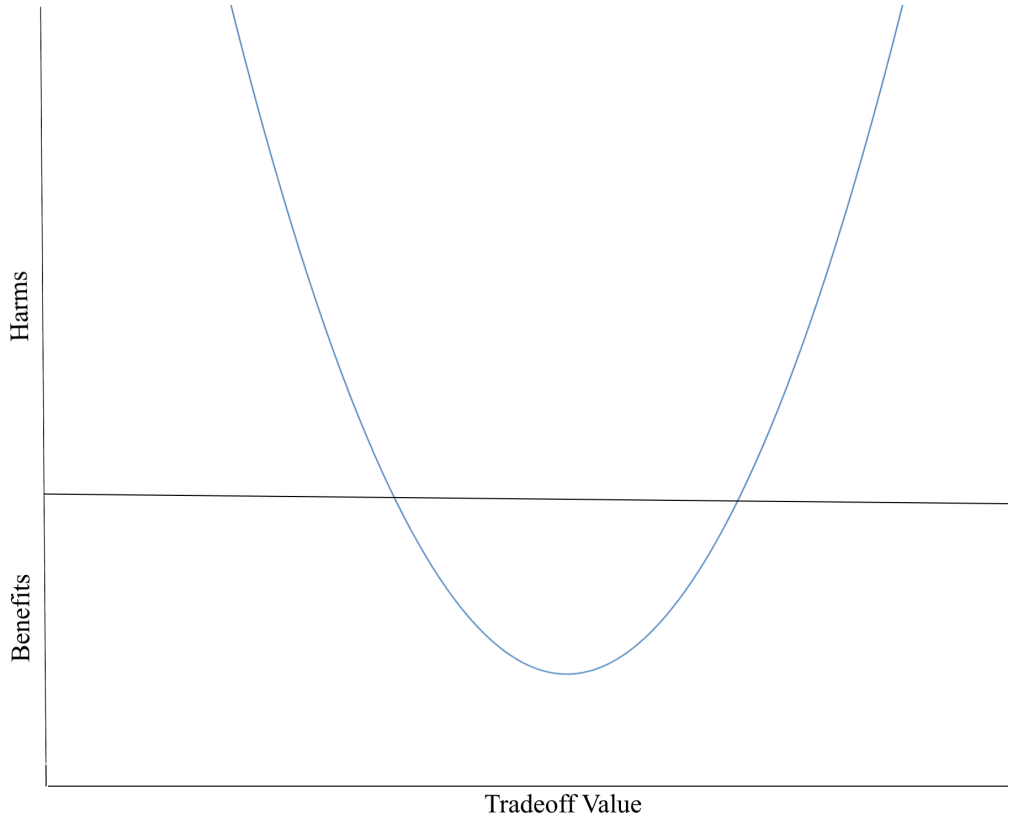
These two distributions of public opinions on tradeoff values are very different even though they have the same average tradeoff value and are currently treated the same by agencies:



The density of that distribution has enormous effects on the harm that regulations will cause. Most cost/benefit calculations of regulations issued by agencies today almost always fix a specific tradeoff value for the public. At the same time, the population has a variety of opinions as to the proper tradeoff value.

Those members of the public close to the tradeoff value selected by the agency may not be harmed much, but those much further away from the tradeoff value chosen by the agency are often harmed substantially more by the agency's actions of choosing a single tradeoff value.

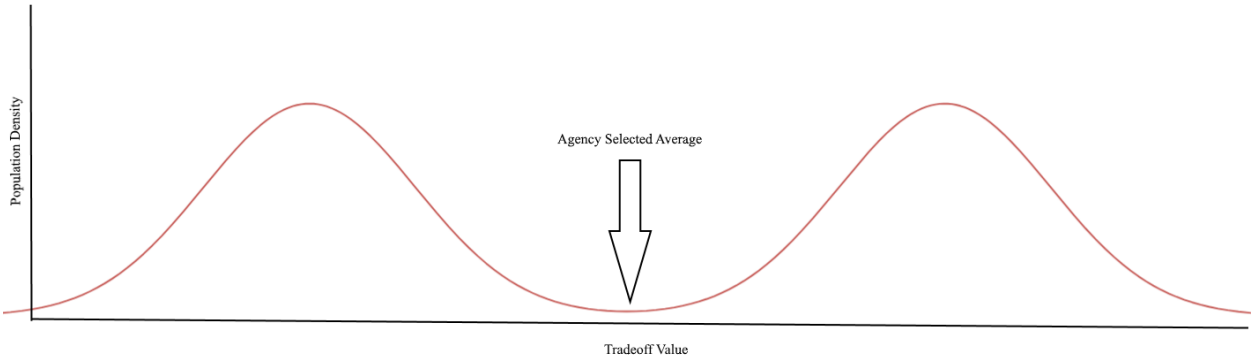
The ultimate harms and benefits may end up looking more like this, depending on the tradeoff value of the individual compared to the one selected by the agency (with maximum benefits of those with tradeoff values closest to the agency):



Only by multiplying the benefits/harms to the individual with a given tradeoff value by the amount of population with that tradeoff value can the total net societal benefits be calculated.

When agencies select a single one-size-fits-all tradeoff value, there are harm to those with a lower tradeoff value and those with a higher tradeoff value. Those harms increase the further they are from the value selected by the agency.

In the worst-case scenario, very few individuals may hold a tradeoff value anywhere close to what the agency selects based on the "average." This is an example of such a situation:



In such a circumstance, the agency is choosing that which no one likes. Failure to consider such a circumstance could cause tremendous additional harm compared to the alternatives the agency failed to consider. This is why its critical that the agency consider the distributional effects of tradeoff values.

This worst-case scenario is becoming more likely in modern times with the increased polarization in American society. The right and left portions of the American population are moving further apart in their views. As this happens, there may be a valley between the opinions of those two groups in which very few people support the average tradeoff value selected by the agency.

The market economy can often solve these problems in ways that are far superior to agency regulation and should be accounted for in the agency's analysis. Rather than having a single tradeoff value, the market can allow different groups of people to select different tradeoff values.

For instance, rather than having a single type of car with a fixed tradeoff between safety and price, there are many cars in the marketplace where individuals can choose the tradeoff value that best suits them. When the agency properly considers such alternatives, it can see the benefits of multiple tradeoff values applied to different groups of people. But that only works if the evaluation takes those different views into account.

Federalism also presents opportunities to have different tradeoff values for different groups of people where it may not be customized to the individual. Imagine different drivers on the same road. They may each have a different tradeoff value for safety on that road, but it may be impossible to customize the tradeoff values to the specific individual. Rather than having a single nationwide tradeoff value selected by the National Highway Traffic Safety Administration, each state or local government can select a different one that is more appropriate for the population in that state and locality.

While federalism is not as good as the individualized selection of tradeoff values, it can result in far less harm to society as a whole than a single tradeoff value selected for the entire country. A certain amount of individualized selection can occur in people's ability to move

between jurisdictions. This makes it statistically more likely that the local jurisdiction shares similar tradeoff values with an individual living there than a randomly selected one.

Properly evaluating the distributional impacts of regulations is important. The draft Circular-A4 should be revised to require the distributional effects of those with different tradeoff values.

II. Uncertainty

The principle that should underlie the discussion of uncertainty is that government should not cause harm. Although government-caused harm may never be completely eliminated , it's very important to minimize the harm done by the government. For instance, our criminal justice system is based on the principle that "it is better that ten guilty persons escape than that one innocent suffer." *Coffin v. United States*, 156 U.S. 432, 456 (1895). This principle should apply whenever government considers uncertainty.

A. Government Should Not Regulate Based on Lack of Knowledge.

The draft describes statistical variation and lack of knowledge "uncertainty," which is improper. p. 67 n. 117 ("Throughout this discussion, we use the term 'uncertainty' to refer to both concepts."). Statistical variation and lack of knowledge are very different concepts:their implications should lead to different conclusions and thus should be treated separately, not merged into a single concept of "uncertainty."

If the agency lacks the knowledge to properly evaluate a regulatory decision, it should not act. However, if it has sufficient knowledge to evaluate the facts and make reasoned decisions, the statistical variation within tests should not stop regulatory decisions. Government choosing to regulate in ignorance is likely to violate the principle of not causing harm.

The proposed regulation endorses regulation in ignorance that should instead be prohibited. If government regulators lack knowledge, that should be corrected before any regulation should begin.

B. All Measurements and Conclusions Should Include Its Uncertainty Expressed Mathematically.

As to statistical variation (aleatoric uncertainty), any measurement is inherently uncertain. How to deal with uncertainty is, therefore, of critical importance. While it is good that there is a section in the proposed draft that discusses uncertainty, that section fails to adequately require agencies to determine the mathematical uncertainty of measurements and conclusions and specify how the government should treat the uncertainty after it has been determined. Instead, that section only requires these actions for "important" inputs or the "main" uncertainties, rather than for all of them.

First, agencies should be required to include uncertainty in all measurements. Every test is uncertain to some degree, and those uncertainties should be accounted for mathematically. This analysis includes the measurement of the environment and the measurement of people's opinions. After accounting for the statistical uncertainty of measurement, additional uncertainty

regarding presumptions or systemic bias should be added. No presumption or systemic bias can reduce the uncertainty of measurement. Only additional measurements or more accurate measurements can reduce such uncertainty.

Agencies must be required to statistically calculate the actual uncertainty of every measurement. Currently, agencies often hand-wave uncertainties, acknowledging their existence but not further calculating their amount. This sloppiness is often used to avoid even considering the implications of uncertainty. The proposed draft needs to make the identification and calculation of such uncertainties a requirement.

In evaluating a complex model, not only are each of the inputs uncertain, the model itself may not completely reflect reality and should itself be tested for uncertainty. Each of these has to be tested independently. Statistical analyses can combine the uncertainties of the varied inputs to a combined uncertainty of the output value. But the model itself has to be evaluated and tested to determine its accuracy through predictions of future results.

Given valid inputs, how often is the model correct in determining the model output within the uncertainty due to the uncertainty of the inputs? That will not be 100% with models, and that uncertainty has to be statistically accounted for by agencies. And yet, many agencies today assume their model is correct, or present their proposed model without evaluating how statistically correct it is— how accurate it is at predicting the future—in terms of uncertainty.

Instead of testing the model's uncertainty against real observations, EPA, for example, just took a variety of models—i.e. guesses or hypothesis—and averaged those models. The averaging of a series of guesses is not a scientific way to measure uncertainty. Instead, any agency should determine what it thinks the best model is, then test it against real world data and see if the results match the model. If the agency continues to use the model, it should continue to test it in the future to make sure it continues to match reality (and to ensure that any deviation from reality is accounted for in the uncertainty). The agency should be ready to accept another model if that model better approximates reality in real-world tests than the existing model.

The model evaluation must be future looking. Anyone can design a model that accurately reflects past results, but that does not demonstrate that the model predicts future results well. Only predictions made before testing can be used to determine the model's accuracy.

Not all error is going to be quantifiable, but for all quantifiable error the agency should be required to quantify it. The agency should then approximate the error it believes likely for the nonquantifiable sources of error and add that to the quantifiable sources.

The proposed rule asks agencies to "balance thoroughness with the practical limits on your analytical capabilities and the opportunity cost of more thorough analysis of uncertainty." The current draft practically asks the agencies to only go so far in analyzing their regulations as they think is needed. Instead, any proposed regulation should be required to thoroughly analyze all quantifiable uncertainty, and put forward a best effort to approximate unquantifiable uncertainty as to any regulation issued.

C. Government Should Only Regulate When It Is At Least 95% Sure That It Will Be Beneficial.

The principle that the government should stand by is the same as that of doctors: First, Do No Harm. Other people and natural events in the world will cause harm, but the government should be doing its best not to add to that harm. This principle means that the government should only be regulating if there is substantial evidence that the proposed regulation is going to produce net benefits.

For all uncertainty, after the uncertainty is calculated, the question then becomes how we apply this uncertainty to our actions. Scientifically this starts with the assumption of the null hypothesis, which is that no underlying causal relationship exists. Any measurement that shows otherwise is due to chance alone, not a real causal relationship, until evidence demonstrates otherwise. Government should adopt the null hypothesis as the default and assume that no causal relationship to net benefits exists unless evidence proves otherwise.

Correlation is never sufficient evidence of causation. Likewise, "expert judgment" or Monte Carlo simulations are never evidence of causation. Instead, correlation and expert judgment can help decide what issues are worth the time to examine in an experiment that will provide evidence of causation. Experiments are based on random starting conditions split between those the experimenter believes will cause something to change, predicting the change will happen before it occurs, then examining to see if the expected results match the actual results. That is the only way to provide evidence of causation.

The uncertainty then expresses how much evidence there is that the null hypothesis is wrong. This uncertainty can be converted to a % chance the null hypothesis is wrong. The standard convention in the scientific community is generally two-sigma or 95% confidence that the null hypothesis is wrong.

Unless the evidence demonstrates the uncertainty is so low that there is at least a 95% chance that the government regulation will be a net positive benefit, the government should not regulate.

In some cases, agencies should be encouraged to set a confidence interval more stringent than 95% due to the specialized nature and importance of the scientific work they are examining. For instance, in particle physics, nothing less than a five-sigma effect (99.99994% confidence) is necessary for it to be accepted as valid. In especially politically important and sensitive areas, ensuring an exceptionally high degree of confidence could be critical. In short, sometimes standards that are higher than the 95% convention should be required. In contrast, however, there are really no circumstances that should allow agencies to go below the 95% confidence interval, the generally accepted level of statistical significance, before issuing regulation.

Once there is sufficient evidence to regulate, the question is how much regulation should occur. Again, this should be based on a confidence interval for the agency, which should be no lower than 95%. The agency should assume that the environment is the confidence interval towards the null hypothesis. In such a circumstance, assuming regulation would still be

warranted, the regulation should be based on what the environment would be in that confidence interval towards the null hypothesis. This process ensures that there is at least a 95% chance that the issued regulations are not higher than necessary.

As more evidence is collected, the agency may become more confident that regulation is necessary and that more stringent regulation may be necessary, but it should always ensure that there is at least a 95% chance that the agency is not causing additional harm.

Conclusion

The proposed rule fails to consider several important aspects of the problems it is evaluating. The failure to correct these errors will result in agencies causing substantially more harm than they intend. This includes failing to account for differences between the average tradeoff value and the more comprehensive distribution, regulating with a lack of knowledge concerning the subject matter of the regulation, allowing agencies to ignore the statistical variances that are inherent in any measurement, and failing to ensure that there is a statistical significance demonstrating that the regulation would be an improvement.

The problems identified in this comment should be corrected in the final version of the Circular A4 that OMB will issue.

Respectfully submitted,

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