Economic Policy Institute

# EPI comment re proposed OMB Circular No. A-4, 'Regulatory Analysis'

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**Re: Request for Comments on Proposed OMB Circular No. A-4, "Regulatory Analysis"**
(OMB-2022-0014-001)

On behalf of the Economic Policy Institute (EPI), we submit these comments in response to the Office of Management and Budget's request for comments on the agency's proposed revisions to Circular No. A-4.

The Economic Policy Institute (EPI) is a nonprofit, nonpartisan think tank created in 1986 to include the needs of low- and middle-income workers in economic policy discussions. EPI conducts research and analysis on the economic status of working America, proposes public policies that protect and improve the economic conditions of low- and middle-income workers, and assesses policies with respect to how well they further those goals.

EPI supports the steps proposed by OMB to improve and streamline the current rulemaking process, and to improve and deepen regulatory analysis. Federal regulations provide essential protections to workers, consumers, the environment, our financial system, public health and safety, and more. In addition to providing essential guardrails, regulations can also provide net benefits to the economy and the real economic well-being of people.

Over the last several decades, policymakers have largely pursued a deregulatory agenda, spurred on by the influence of corporate interests and ideological commitment to slashing critical government functions. One of the most frequent attacks on our regulatory system is the idea that regulations are overly costly to implement and enforce. In part, this is due to the way in which cost-benefit analysis is conducted on the

impacts of proposed regulations. In public discourse, the costs of regulatory compliance to industry and to employers tend to take precedence over the quantifiable economic value of the benefits of regulations to people and to society overall.

Our comment will primarily focus on the proposed revisions to Circular A-4 regarding improving cost-benefit analysis, encouraging agencies to incorporate distributional analysis into their impact studies, and changing the threshold for what determines whether a rule is "economically significant" and should thus be subject to the process for OIRA regulatory review. However, we want to note that we also support the changes to the regulatory process proposed to implement section 2(e) of the Modernizing Regulatory Review Executive Order (OMB-2022-0011). We generally support efforts to broaden public participation in the rulemaking process, and to prioritize seeking out participation from communities and groups who have been typically underrepresented or ignored by federal agencies. Improving language access, disability access, and community engagement initiatives around rulemaking can only serve to strengthen the process and to begin rebalancing some power and influence away from the corporate, private -industry-dominated interests or professionalized lobbying and special interest groups that have tended to dominate the engagement and meeting opportunities established by E.O. 12866.

# Proposed reforms to Circular A-4

Circular A4 provides guidance from the Office of Management and Budget (OMB) to federal agencies on best practices in regulatory analysis. The update proposed by the Biden administration in April 2023 contains a number of valuable changes and recommendations that would make future regulatory analyses more informative and valuable.

Some of the key features of the updated Circular A4 guidance that will improve regulatory analyses going forward are:

- Qualitative recommendations for agencies, including:
  - A nuanced discussion reminding agencies that high-quality and evidence-based regulatory analysis does not have to only mean a benefit-cost analysis (BCA) of *monetized* costs and benefits.
  - Explicit recommendations to consider both business cycle dynamics and considerations of market power when assessing the value of regulations.
- Specific quantitative recommendations to yield better estimates of monetized net benefits from regulations, most importantly:
  - An improvement in recommendations regarding what discount rate to use when calculating future benefits and costs.
  - Incorporation of distributional analysis that fixes a clear empirical flaw in much modern BCA: the failure to account for the declining marginal utility of income.

The general qualitative recommendations are valuable. Too often monetized benefit-cost analysis (BCA) is taken as the end-all and be-all of regulatory evaluations. Reminding agencies that rigorous evaluation includes many tools besides monetized BCA is valuable. Further, monetized BCA is easiest to do when ignoring complications like business cycle dynamics and market power, yet ignoring these complications makes any such analysis not just weaker, but actively misleading in many real-world cases.

The specific quantitative recommendations are even more vital for good regulatory evaluation. Very small differences in discount rates or how welfare changes that result from regulations are weighted by evaluators can yield radically different estimates of net benefits. The specific recommendations made by the proposed Circular A4 would greatly improve the accuracy of monetized BCA, and these recommendations are grounded in state-of-the-art theory and evidence around regulatory evaluation.

Below we say a bit more about each of these points.

# Rigorous regulatory analysis does not just mean monetized benefit-cost analysis (BCA)

The pitfalls of excessive reliance on calculations of monetized benefits and costs as the primary criteria for making regulatory decisions have been well documented by now.[1] Monetizing potential benefits of regulatory actions often involves assigning "prices" to these benefits that are not observable in any marketplace. Consider, for example, labor or environmental regulations that reduce the risk of injury or death. There is no market that provides transparent prices for the benefit of a reduced probability of death or grievous illness, so regulations that provide this are hard to value in strict monetized terms.

A large industry of economists and other experts exists to try to estimate these non-market monetary prices for a large range of regulatory outcomes, but the difficulties in doing so are daunting enough that relying exclusively on these estimates to make high-stakes regulatory decisions about health and safety would be folly.

An example might make this clearer. In 2011, the EPA promulgated regulations to reduce emissions of mercury and other heavy metals from coal-fired power plants. The overall Mercury and Air Toxics (MATS) rule showed strongly positive net monetized benefit-cost ratios—but only because of the monetized "co-benefit" of reduced particulate matter. Essentially, the modifications to power plants that would reduce mercury emissions would also capture particulate matter and lower emissions of these. Hence, lower particulate matter emissions were a "co-benefit" of the regulation meant to reduce mercury emissions.

The direct monetized benefit of mercury reductions was estimated at roughly $5 billion, while the co-benefit of reduced particulate matter was estimated to be well over 5 times greater. This difference in the monetized benefit of reduced particulate matter versus

reduced mercury is highly unlikely to be true—instead it is a function of the different state of knowledge available to EPA at the time of the regulatory change regarding the benefits of limiting mercury versus particulate matter emissions. Put simply, the ambient concentration of particulate matter is uniquely easy to measure with great regional detail, so it has been the subject of precise research for decades. Part of why such rich data exists on particulate matter is past regulatory actions—especially the Clean Air Act (CAA) and consequent amendments to it. Enforcing the parts of the CAA targeted at particulate matter emissions required ramping up the surveillance capacity of the EPA, and so a rich dataset of these types of emissions was available by 2011. This dataset in turn was used by researchers to test these emissions' effects on human health.

The ambient concentration of mercury emissions is harder to measure—both intrinsically and because their measurement was never a directive of public policy before. As one indication of how thin the data is on mercury emission measurement, the direct monetized benefits of reduced mercury emissions in the EPA's regulatory impact analysis (RIA) relied on a study of recreational fishermen and the concentration of mercury in their children's blood. To be clear, there is essentially zero doubt among relevant experts that mercury and other heavy metal emissions are deeply damaging to human health and development. But, a thick-enough dataset of mercury emissions to allow fine gradations of the monetized benefit of moving from, say, X parts per million of mercury emissions emitted to Y parts per million was not available, and, hence these health benefits simply could be quantified with the precision necessary to provide a comprehensive measure of the monetized benefit of emissions mitigation.

If for some reason the 2011 MATS rule had not been allowed to count the co-benefit of reduced particulate matter as a monetized benefit, the rule would have shown negative net benefits given the state of knowledge at the time. But in retrospect, this clearly would have been a mistake. In 2021 (ten years after the first promulgation of the MATS rule) a team of scientists at Harvard surveyed a round of subsequent research on the relationship between mercury emissions and human health (some of it made possible by information collected under the aegis of the MATS rule.[2] They wrote, "These and other studies support the conclusion that mercury-related benefits from MATS are more than one hundred times greater than EPA estimated in the 2011 RIA."[3]

Circular A4 admirably begins with a long and nuanced discussion about the uses and the limits of monetized BCA in regulatory analysis. It ends with the following guidance:

> In practice, it is often difficult to quantify and express all of the important effects of a regulation in monetary units. When it is not possible to monetize all of the important benefits and costs, the alternative with the greatest monetized net benefits will not necessarily be the alternative that generates the greatest social welfare. So, while monetized net benefits are an important guide for agencies deciding what course of action to pursue, regulatory analyses should encompass additional relevant factors; in particular, analyses should include any important non-monetized and non-quantified effects. You should consider, as discussed below, how to be as specific as possible in presenting such non-monetized and non-quantified effects.

This frank acknowledgment of the limits of monetized BCA is most useful—particularly placed as it is at the very beginning of this guidance.

# Business cycle dynamics and market power

As the updated Circular A4 notes, "Benefit-cost analysis often excludes consideration of business-cycle fluctuations in economic activity...." It then goes on to note, however, that the costs and benefits of some regulations vary predictably depending on the phase of the business cycle. A key example would be regulations dealing with programs that are often called "automatic stabilizers" (unemployment insurance and food stamps are two such programs).

If a regulation, for example, made it more onerous to access programs like unemployment insurance or food stamps, this could decrease their effectiveness as automatic stabilizers. Given the huge damage that extended recessions and periods of labor market slack do to human welfare, making automatic stabilizers less effective in ending recessions and restoring periods of full employment would carry high costs that should be well-accounted for in BCA.

Similarly, too much BCA is performed using the assumption of competitive markets. In models of competitive markets, regulations are distortions that push economies away from competitive optimums. But many of the most important markets in the economy—markets for labor, health, finance, and energy—are characterized by clear exercise of market power. In many of these cases, regulations that tilt the balance of power closer in markets to a competitive ideal could *increase* economic efficiency. Accounting for this can change BCA enormously.

For example, an extremely detailed meta-analysis of empirical studies of the effect of minimum wage changes on employment shows that these employment effects are indistinguishable from zero.[4] Yet many regulatory analyses of minimum wage changes continue to assume a negative elasticity and hence infer non-trivial employment losses.[5] It is hard to see this as anything but invoking "theory as evidence" and assuming the theory that labor markets are competitive, even as a long research literature has highlighted all of the ways that a monopsony model of labor markets fits empirical realities better.

Circular A4 provides useful discussions about the problems of market power and how they should affect both the diagnosed need for federal regulatory action as well as analyses of the likely effects of regulation.

# Major changes to recommended methods for monetized BCA: Discount rates and distributional analysis

While Circular A4 acknowledges the often stark limits of monetized BCA as a criterion for evaluation of regulatory changes, it also makes two key recommendations that would solve some of the most pressing problems with how calculations of monetized BCA are made today. One of these recommendations concerns *discount rates*, and the other concerns how the costs and benefits of regulatory changes are assumed to be distributed over heterogenous populations.

## Discount rates

Discount rates are parameters that allow analysts to compare monetary values over time. Take the example of a regulatory change that requires an upfront cost—say installing pollution scrubbers on coal-fired power plants. The benefits from this change will not happen right away—instead the benefits will accrue over a long period of time as emissions from the plant are scrubbed of pollutants. Imagine that we can ignore inflation and that the upfront cost of the scrubbers is $1,000,0000 while the monetized value of the abated pollutants is $100,000 per year. Say that the scrubbers last for 20 years.

A naïve assessment might argue that 20 years of abated pollutants worth $100,000 per year implies $2 million worth of benefits (20 years multiplied by $100,000 per year). This could then be compared to the upfront cost of $1,000,000 to yield $1,000,000 in net benefits. But this calculation of benefits assumes that $100,000 in benefits in year 20 is as valuable to society as $100,000 today. If this is not true, we need some parameter—a discount rate—that allows us to account for the fact that benefits today are valued more highly than benefits in the future.

Concretely, the way to discount benefits that are $t$ years away from today to create a present value is to use a discount rate $r$ and calculate: ($ value of the benefit)/(1+$r$)^$t$. In our example above, using a discount rate of 7% implies that 20 years of abated pollution valued at $100,000 per year yields a present value of $1,060,000.

As the discount rate rises, the present value of a future benefit falls. In our example above, using a discount rate of 3% implies a present value of 20 years of abated pollution of $1,500,000. This implies that a higher discount rate hence *reduces* the present value of benefits stemming from regulation that will occur in the future, tilting BCA against undertaking these regulations.

For regulatory changes that incur upfront costs and then provide a stream of future benefits, the choice of discount rate matters enormously for how monetized BCA will turn out. Calculating the correct valuation of future benefits made possible by investments and

regulatory changes undertaken today is at the core of designing smart and effective policy to mitigate greenhouse gas emissions to forestall the most destructive effects of global climate change. Getting the discount rate right—or at least closer to right—is hence literally a matter of global importance.

## *Discount rate changes in the updated Circular A4*

The 2003 version of Circular A4 advised agencies to use discount rates ranging from 3% to 7% to calculate present values of future costs and benefits. The updated 2023 Circular A4 advises agencies to use the rate of return to Treasury Inflation Protected Securities (TIPS), which currently are roughly 1.7%.

Part of this changed recommendation is just an acknowledgement of changed empirical realities. The previous version of Circular A4 reference TIPS as a justification for the 3% lower bound on discount rates. But in the 20 years since the TIPS rate has tended strongly downwards and yet this changed empirical reality was not always mirrored in regulatory analyses.

However, part of the changed recommendation reflects an intellectual advance in determining which sort of market-based interest rate is best to use for monetized BCA. There has long been a debate in economics about whether it is "risk-free" rates like those on Treasury securities or risky rates like those on investments in equity markets that should be used to discount future costs and benefits in regulatory analyses. The current version of Circular A4 emphasizes that it is risk-free rates that should be seen generally as the most appropriate parameters.

Circular A4 notes that much of the wedge between risky investment returns and risk-free rates represents influences that should not be explicitly accounted for by policymakers who are evaluating regulations. In general, the cost being captured by discounting future costs or benefits should be an *opportunity cost* of the resources devoted to meeting the mandates of the regulation. Essentially the question being asked by discounting future costs and benefits in some future year is "how much money would society need today in order to generate equivalent benefits with certainty by that year"? The way that a given amount of money today can be turned into future benefits is simply by undertaking tangible investments (building new plants, equipment or software). In the jargon of economists, the return to this type of tangible investment is *the marginal product of capital* investments (i.e., how much a new increment of tangible capital would yield in terms of additional economic output).

The rate of return to risky investments includes many influences that push it up relative to this marginal product of capital. One example is monopoly power. If much of the return gained from equity investments is the capitalized return to product market power, this will push up returns relative to the underlying marginal product of capital.

But, from the perspective of a policymaker evaluating regulation, this return to monopoly power is not replicable with certainty, so it should not be included in a discount rate that generates present values of future costs and benefits. For example, say that one wanted

to know how much money was needed today in order to guarantee $1,000,000 in income 10 years from now could be generated. It would be highly reckless to use Amazon's stock price growth over the past 10 years as a discount rate, as it would imply a very small amount of money today could guarantee $1,000,000 in income ten years from now. There's nothing in markets today that lets one lock-in with certainty a sharp growth in monopoly power of the companies whose shares one will own over the next 10 years. Given this, the discount rate used for social evaluation of regulatory changes should be a rate that is definitely replicable in coming years—and the marginal product of capital is the only definitely replicable rate.

Another influence that might push up the rate of return to risky investments relative to risk-free rates could be *individual* risk profiles. If economy-wide shocks to income (recessions, for example) are concentrated on relatively small groups (say job-losers) then individuals might have much greater risk aversion in terms of required rates of return to investments than would be inferred by looking only at aggregate values. This means that returns to risky investments must be substantially higher just to entice risk-averse individuals into holding the underlying assets.[6]

But, again, policymakers evaluating regulatory changes are not doing so on behalf of risk-averse *individuals* who must worry that their own income growth might severely lag the average. Instead, policymakers are evaluating these changes on behalf of society writ large. This means that any "equity premium" driven by the concentration of individual risks has no real bearing on the correct discount rates that should be used for social evaluation of regulatory changes.

## *Would discount rate calculation be improved by abandoning any market-based returns?*

Adopting the TIPS rate as the default discount rate for regulatory analysis is a clear improvement over previous recommendations that have been made to federal agencies. It allows the discount rate to move with empirical changes in the economy and it properly rules out influences (like monopoly power or individual risk considerations) that should not affect policymakers' calculation of present values but do affect some market-based rates of return.

Moreover, Circular A4 also provides an option for agencies to calculate their own discount rates using more sophisticated models—with a specific suggestion of using a "Ramsey model."[7] In the Ramsey model, the social rate of time preference (which can be used as a discount rate) can be expressed as follows:

$$d = c\gamma + \rho$$

Where $d$ = discount rate, $c$ = growth rate of per capita consumption, $\gamma$ = elasticity of marginal utility with respect to income, and $\rho$ = pure rate of time preference.

The pure rate of time preference simply reflects that people are impatient and would

prefer consumption today rather than consumption tomorrow, all else equal. For instances of evaluating regulatory actions that might benefit future generations, many have argued that this pure rate of time preference should be set to zero—that there is no ethical basis for devaluing the welfare of future generations relative to the present. In the famous Stern Review on the Economics of Climate Change (2006), the pure rate of time preference was set to 0.1, reflecting only the possibility of extinction of future generations (and avoiding some mathematical difficulties of setting it strictly to zero).[8]

Besides the pure rate of time preference, a Ramsey-derived discount rate also accounts for the fact that as the economy grows over time, future generations will be richer than present generations. If one believes that the marginal utility of income declines (an important point in the next section on distributional analysis), then benefits accruing to a richer future generation should be seen as less valuable than benefits accruing to a poorer present generation. This influence is represented by the growth rate of per capita consumption and a measure of the elasticity of marginal utility with respect to income. This last measure parameterizes how quickly utility declines for each additional $1 of income provided.

If one uses this expression of the discount rate derived from Ramsey models and plugs in parameters estimated from empirical research on the values of *d* and g, one actually gets quite close to the 1.7% discount rate that today's TIPS rate would yield. For example, using this formulation and assuming a g of 1, the Stern Review obtained a discount rate of 1.4% (based on assumed 1.4% growth in per capita consumption globally, and a near-zero rate of pure time preference). In empirical studies reviewed by Circular A4 for the distributional analysis, values of g closer to 1.4 are recommended. Plugging this into more updated estimates of the growth rate of per capita consumption values between 1.2% and 1.8% are obtained (depending on which value on uses for the projected future growth of per capita consumption).

If one sees a low discount rate as a virtue in the effort to ensure that a wider range of aggressive action to mitigate climate change is undertaken, the use of 1.4 instead of 1 as the elasticity of marginal utility with respect to income might seem like a problem. However, we should be clear what this parameter is measuring—it is measuring the difference in utility generated by an extra increment of income for a poor or moderate-income person as compared to a rich person. The higher this elasticity, the greater the value we are giving to redistribution from rich to poor households on utilitarian grounds. The next section will go into some detail about what a difference between 1 and 1.4 means for this elasticity, but, we should be clear that while a lower value for this measure would lower discount rates and potentially provide more scope for some projects to show net positive monetized benefits, a lower value for this measure would also mean that projects that strongly benefit poor and moderate-income people are given less value.

All in all, today's TIPS rates are quite close to what Ramsey-derived discount rates would indicate, even based on a zero rate of pure time preference and a realistic value of the elasticity of marginal utility with respect to income.

## *What if the TIPS rate begins to rise?*

Despite the fact that today's TIPS rate look quite close to what one would calculate based on empirical estimates of the determinants of the Ramsey equation for discount rates that assume no pure rate of time preference, one potential concern could be that the TIPS rate could begin rising, pushing up discount rates and reducing the calculated value of future benefits.

Given that the pure rate of time preference and the elasticity of marginal utility with respect to income are estimated parameters, the only changing variable in the Ramsey equation over time is the growth rate of per capita consumption.

In essence, we should only be concerned about a rising TIPS rate biasing the proper value of the discount rate if this occurs with no increase in our estimate of the growth rate of per capita consumption. If this estimate of per capita consumption rises, this means future generations will be even richer relative to current generations than we initially thought, and, this means the discount rate should rise and the value of future benefits should be slightly reduced. In this case, a rising TIPS rate is not a problem for generating the proper discount rate, it is reflecting fundamental reasons why the discount rate should increase. In the long-run, this type of relationship whereby faster economic growth is associated with higher rates of return (including to risk-free assets like TIPS) should generally be expected.[9]

If the TIPS rate began rising without any increase in estimates of the growth rate of per capita consumption, this could in theory be a problem. But a long period that saw estimates of growth unchanged but interest rates rising would be quite rare. One scenario that could see this happen is that unchanged growth that saw a rise in investment demand relative to savings could push up interest rates. However, even this might not be bad news from the perspective of transitioning to a greener economy—it is hard to imagine big increases in investment demand in the next decade that are not being driven largely by climate change mitigation efforts. If this big push on climate investment raised TIPS without leading to faster projected rates of overall economic growth, the net result would still be a large increase in climate mitigation projects with positive net benefits being undertaken.

## *Is there any argument for a lower discount rate—particularly for assessing climate policy?*

The updated guidance in the proposed Circular A4 for discount rates is a clear improvement. However, there certainly remain arguments that the discount rate relevant for assessing the net benefits of measures meant to mitigate global climate change should be lower.

One reason concerns an argument emphasized by Weitzman (2009)—the benefits of policies meant to mitigate climate change include a strong "insurance" benefit stemming from their contribution to reducing climate catastrophes.[10] This insurance value is not accounted for by simply discounting future benefits from climate change mitigation

policies by a discount rate based on currently trade Treasury securities.

Another issue with overestimation of discount rates has been identified by Rezai, Foley and Taylor (2012).[11] Cost-benefit analyses generally take the discount rate as an exogenous variable—meaning that it will be the same regardless of whether or not the policy being evaluated is implemented or not. For policies relevant to mitigating climate change, this assumption of exogeneity is violated—climate change has the potential to meaningfully affect macroeconomic growth and hence variables like the TIPS rate.

Take one example from the Ramsey-derived rate presented previously. Recall that this discount rate depended upon estimates of the future growth rate of per capita consumption. But climate change itself could have powerful effects on the future growth rate of per capita consumption—and so policies that meaningfully mitigate climate change could have powerful effects on the future growth rate of per capita consumption. So, which projection for future per capita consumption should be used in calculating the discount rate—the one that assumes the mitigation policy is passed or the one that assumes it is not passed?

It is hence important that Circular A4 provides a section on why considerations of climate change might justify an even lower discount rate than what is inferred from TIPS.

## *How important is a discount rate change from 3–7% to 1.7%?*

As a practical matter, a movement in the discount rate from 3–7% to 1.7% would result in profound changes in regulatory actions that yield positive monetized net benefits. Take just one example from the economic analysis of climate change: the Stern Review. In this review, adopting a discount rate of 1.4% yielded a recommendation that 2–3% of world gross domestic product (or 10% of global investment) be redirected to climate change mitigation. In a review of the Stern report, Nordhaus (2007) used a discount rate of just over 4%, and his model's recommendation was for global climate change mitigation efforts that were almost 90% smaller (between 0.25–0.5% of global GDP).[12] Essentially the entire difference between the Stern and Nordhaus recommendations could be explained by the lower discount rate used by Stern.

In short, the recommended change in the discount rate forwarded by Circular A4 is not just better-grounded empirically, it is highly important for identifying regulatory changes that will have positive net monetized benefit outcomes.

Being extremely pragmatic about this given the current state of U.S. discourse on climate change, the movement of the discount rate to 1.7% essentially guarantees that a finding in regulatory analyses of negative net monetized benefits will not be the constraint on more-aggressive action in mitigating greenhouse gas emissions, given how positive the future benefits of these efforts are at any reasonable discount rate. This discount rate values future benefits of aggressive action to mitigate greenhouse gas emissions highly enough that many policy proposals that will run afoul of other political chokepoints are likely to register strongly positive net monetary benefits in regulatory impact analyses.

# Improved distributional weighting

Besides the significant changes to recommendations regarding discount rates, the other large change to recommendations affecting monetized BCA concerns the introduction of *distributional weights*. These weights are meant to reflect the fact that society's assessment of the value of costs and benefits accompanying regulatory changes might well change depending on who bears the cost and/or reaps the benefits. To be very clear about this, for good or bad, the recommendations on distributional weighting in Circular A4 do not constitute ideological judgements that the welfare of poorer households should be prioritized over richer households. Instead, these recommendations aim to correct a clear analytical and empirical error made in too much BCA today—the failure to account for the declining marginal utility of income.

## *The importance of accounting for a declining marginal utility of income*

The intuition of the declining marginal utility of income is easy to understand: $500 given to a desperately poor family provides far more utility (relief from economic stress, for example) than $500 given to a billionaire. This fact, that the same increment of money provides less utility to richer families, reflects the declining marginal utility of income.

This effect of utility rising more slowly as each marginal increment of income is received is not just intuition. It has been confirmed in numerous empirical studies. The parameter that measures how rapidly marginal utility declines as income rises—the elasticity of marginal utility with respect to income—is quite precisely measured as being in the range being 1 and 1.5.[13]

Despite this solid empirical backing, most current monetized BCA does not account for a declining marginal utility of income. In these BCAs the costs and benefits of regulations are simply added up regardless of where they fall in the income distribution. This is implicitly arguing that a given increment of income—$500—is worth the same to every single actor in the economy. It turns out that this approach to BCA is implicitly assuming that the elasticity of the marginal utility of income is zero.

## *The new Circular A4 recommendations for distributional weighting*

A huge advance in the proposed Circular A4 draft is to improve distributional weighting of costs and benefits to clearly account for the declining marginal utility of income. A commonly-used measure of the elasticity of the marginal utility of income is 1 (recall that we noted earlier that this was the value used in the *Stern Review of the Economics of Climate Change* [2006]). This value implies that a given X% change in a person's income yields the same change in utility regardless of income level. So, for example, a $100 increase in income for a person with an income of $10,000 (or a 1% increase) provides the same amount of utility as a $1,000 increase in income for a person with an income of $100,000 (also a 1% increase).

In the proposed Circular A-4 draft, it is recommended to apply the following weight to a cost or benefit affecting a given person:

$$\left(\frac{w}{w_{median}}\right)^{-\gamma}$$

This weight takes their income (*w*) and divides it by the median income in the United States. It then raises the resulting quotient to the power of the elasticity of marginal utility with respect to income ($\gamma$) multiplied by negative one. Currently, this elasticity is implicitly zero, so every *person* is given an identical weight: 1. So in this case, the status quo distributional weighting scheme would say $500 accruing in benefits to a billionaire is given the same weight (1) as $500 accruing to somebody living under the Federal poverty line.

This is actually a modestly important point. The recommendation to account for the declining marginal utility of income that Circular A4 makes is not a recommendation to *introduce* distributional weighting into regulatory analysis. Every method of calculating benefits and costs and aggregating them *inescapably also specifies a weight for each observation*. The status quo of BCA assigns a weight of 1 to each observation. Changing this value for one better-supported by empirical research is not introducing a new parameter, it is refining one's estimate of it.

If one takes the ratio of an individual's income to the economy-wide median and then raises the resulting quotient to the power of an elasticity of marginal utility with respect to income of 1, then the resulting weight implicitly values each % change in income with equal utility.

When the ratio of individual to economywide median is raised to the power of 1.4 (the recommendation that Circular A4 makes for the elasticity of marginal utility with respect to income) then benefits (or costs) falling on persons with incomes below the median are valued even more highly, with a given 1% increase in income for a family at the median delivering a relative increase in utility of greater than 1% when compared to a higher-income family. Again, at the margin, this would strike most as reasonable—a 10% boost to income for a family at the median almost surely increases their opportunities and utility more than a 10% boost to income for a high-income family. Part of the proof of this is simply the much higher savings rates of higher-income families.[14] If current consumption among the very rich is not constrained by income, it is quite hard to argue that boosting this income provides enormous gains to utility. [15]

## *How much does the new distributional weighting recommendations matter?*

It is hard to provide a very firm intuitive grasp of what the recommended distributional weights would do for monetized BCA, but an example might help. Standard BCA would argue that $1 in benefits accruing to a person at the 99th percentile of income (roughly $447,000) provides the same utility as $1 in benefits accruing to somebody at the 90th percentile of income (roughly $140,000) and also the same as to somebody earning the

median income (roughly $68,000).[16]

Using the distributional weighting recommendation of the new Circular A4 draft and an elasticity of marginal utility with respect to income of 1 implies that each $1 in benefits accruing to a person at the median income generates twice as much utility as it does for somebody at the 90th percentile of income, and, generates 7 times as much utility as it does for somebody at the 99th percentile of income.

Using the distributional weighting recommendation of the new Circular A4 draft and an elasticity of marginal utility with respect to income of 1.4 implies that each $1 in benefits accruing to a person at the median income generates 2.75 times as much utility as it does for somebody at the 90th income percentile, and 14 times as much utility as it does for somebody at the 99th percentile of income.

Part of what drives this extreme difference in utility levels is, of course, the extremity of income inequality in the U.S. economy. Once one applies any weighting system that accounts for actual levels of inequality, very different results from the *status quo* will emerge. But, this inequality exists and a mountain of empirical evidence documents that it has profound effects on the marginal utility of income. It would be regulatory malpractice to not account for it.

As these examples highlight, the recommendations on distributional weighting in the new Circular A4 would vastly expand the universe of regulatory actions concentrating benefits on moderate-income people and costs on higher income that would show positive net benefits. One obvious example includes wage standards (like the federal minimum wage) that boost earnings for low-wage workers and which are financed by either reduced business profits or across-the-board income declines caused by price increases. In standard BCA, these types of wage standards would show a negative monetized BCA, but with the distributional weighting recommended by the proposed Circular A4, the net benefits would almost certainly be positive and large.

# Changing the definition of ‘economically significant’ rules

EPI also supports OMB’s proposed change to redefine the threshold for what regulations are considered economically significant, and hence which regulations are subject to regulatory review at OIRA. Under the proposed change, the threshold established in section 3(f)(1) of Executive Order 12866 would increase from $100 million to $200 million. This update is reasonable in large part simply because the $100 million threshold, established in 1993, has never been updated for inflation. Further, an economic impact of $100 million is simply not all that significant, relative to its share of the total dollar value of U.S. economic activity. Limiting the number of regulations that are forced to be subject to additional layers of review could significantly improve the efficiency of the rulemaking process, freeing more regulations from the requirement of getting bogged down in OIRA review. In particular, prolonged OIRA review increases the potential for outside political

influence to interfere with and delay the rulemaking process.

# Closing

Thank you for issuing these proposed updates to Circular A-4 and for taking these important steps to improve the regulatory process. A fair, responsive, well-researched regulatory process is critical for protecting workers and families. Historically, the regulatory process has often failed to appropriately account for benefits for future generations or to appropriately evaluate the cost of inaction; to address disproportionate negative impacts on marginalized or vulnerable populations; and to incorporate economic analysis that adequately considers imbalances of market power.

Sincerely,

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Chief Economist
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# Notes

1. The most comprehensive evaluation of these shortcomings is probably Ackerman, Frank and Lisa Heinzerling. 2005. *Priceless: On Knowing the Price of Everything and the Value of Nothing*. New Press.

2. This study is: Sunderland, Elsie, Charles Driscoll, Kathy Fallon Lambert, Ben Geyman, Colin Thackray, David Evers, and Shaun Goho. 2021. *Mercury Science and the Benefits of Mercury Regulation*. White paper, Chan School of Public Health, Department of Environmental Health.

3. Ibid, page 10.

4. See Dube, Arin. 2019. *Impacts of Minimum Wages: Review of the International Evidence*. White paper commissioned by the United Kingdom Low Pay Commission.

5. See, for example, the assessment of the effect of higher federal minimum wages undertaken by the Congressional Budget Office: Congressional Budget Office (CBO). 2019. *The Effects on Employment and Family Income of Increasing the Federal Minimum Wage*. July.

6. For a discussion of how various sources of the "equity premium" should condition how we think about using market returns for stocks in assessments of public investments and regulations, see Grant, Simon and John Quiggin. 2003. *Public Investment and the Risk Premium for Equity*. Economica. Volume 70, pp. 1–18.

7. Frank Ramsey was an economist who in 1928 specified mathematical conditions for optimal savings rates for individuals over time, essentially inventing the practicing of discounting future income streams.

8. Stern, Nicholas. 2006. *The Economics of Climate Change: The Stern Review*. Independent review from HM Treasury, United Kingdom.

9. See Baker, Dean, Brad DeLong and Paul Krugman. 2005. *Asset Returns and Economic Growth*. Brookings Papers on Economic Activity, Volume I.

10. Weitzman, Martin. 2009. "On Modeling and Interpreting the Economics of Catastrophic Climate Change." *Review of Economics and Statistics* 91, no. 1 (2009): 1–19.

11. Rezai, Armon, Duncan Foley, and Lance Taylor. 2012. "Global Warming and Economic Externalities." *Economic Theory* 49, no. 2 (2012): 329–351.

12. Nordhaus, William. 2007. *A Review of the Stern Review of the Economics of Climate Change*. Journal of Economic Literature. Volume 45(3), pp. 686–702.

13. See Layard, Richard, Guy Mayraz, and Stephen Nickell. 2008. *The Marginal Utility of Income*. Journal of Public Economics. Volume 92, pp. 1846–1857.

14. On the higher savings rates of rich families, see Banerjee, Asha and Josh Bivens. 2022. *Inequality's Drag on Aggregate Demand: The Macroeconomic and Fiscal Effects of Rising Income Shares of the Rich*. Economic Policy Institute.

15. Ibid.

16. Numbers for the median and 99th percentile income are from the Congressional Budget Office. 2022. *The Distribution of Household Income, 2019*. The median and the 99th percentile threshold have been divided by the square root of the average household size in the middle fifth and for the top 1 percent in order to generate size-equivalent (per-person) incomes.