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The Economic Constitution of the United States

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Suppose that the US Department of Transportation wants to issue a new regulation, one that would require all new motor vehicles in the United States to be equipped with some state-of-the-art safety technology. Will the regulation go forward? The answer might well lie in the hands of the Office of Information and Regulatory Affairs (OIRA), a small office in the Office of Management and Budget. Headed by an administrator who is nominated by the president and confirmed by the Senate, OIRA consists of policy analysts, economists, and lawyers, who will ask whether the benefits of the new regulation would justify the costs. That question is asked not only for motor vehicle safety regulations; it is also asked for climate change regulations, occupational safety regulations, water pollution regulations, immigration regulations, animal welfare regulations, airline safety regulations, and many others as well. But how do agencies assess costs and benefits? Where will they look?

As it turns out, the United States has something like an Economic Constitution, designed to answer those questions. Most Americans, and even most economists, know nothing about it. Its focus is on human welfare, understood essentially in the economic terms of cost-benefit analysis, with occasional doses of political philosophy (emphasizing, for example, obligations to future generations and the

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difficulty of monetizing human dignity). It was developed by the Office of Management and Budget and the Council of Economic Advisers, and after public comment and peer review, was originally issued on September 17, 2003, under the name of OMB Circular A-4 (OMB 2003). The basic goal of Circular A-4 was to systemize existing learning on how to monetize costs and benefits and on what to do in the face of uncertainty. The circular was intended to provide guidance for disparate agencies, which might otherwise be at sea, and might be working on the basis of inconsistent assumptions or make serious economic mistakes. Circular A-4 applies to an extraordinary range of regulatory topics: fuel economy standards, silica in the workplace, greenhouse gas emissions, rearview cameras in automobiles, food safety requirements, and many others (Sunstein 2018).

The requirement to demonstrate that the benefits of regulation justify the costs raises fundamental questions. When is federal regulation a good idea in the first instance (Breyer 1980)? How should agencies assign monetary values to mortality and morbidity reductions (Viscusi 1993)? What is the right discount rate for effects that will occur in a decade or in many decades (Weitzman 1998)? How, if at all, does distribution matter (Adler 2016)? How should agencies handle uncertainty, as in cases in which the goal is to reduce the risk of a financial crisis or a terrorist attack (Sunstein 2021a)? The Economic Constitution seeks to summarize the best available economic thinking on these and other questions.

To understand the origins of the Economic Constitution, we need to back up a bit. The Office of Information and Regulatory Affairs was created by the Paperwork Reduction Act, signed into law by President Jimmy Carter in 1980. The Paperwork Reduction Act responded to a specific problem: the imposition of excessive paperwork burdens, seen as a potential obstacle to economic activity and likely to impose particular harm on the most vulnerable members of society (including people who are elderly or in poor health). OIRA's authority was greatly expanded by President Ronald Reagan, who saw it not only as a check on paperwork burdens, but also and far more broadly as a brake on unjustified regulation and as a repository of expertise with respect to economic analysis. Executive Order 12291, written by both economists and lawyers, was signed by Reagan in 1981. It established OIRA's role in overseeing national regulation. The fundamentals of that Executive Order continue in effect to this day. It set out five general requirements:

1. Administrative decisions shall be based on adequate information concerning the need for and consequences of proposed government action;
2. Regulatory action shall not be undertaken unless the potential benefits to society for the regulation outweigh the potential costs to society;
3. Regulatory objectives shall be chosen to maximize the net benefits to society;
4. Among alternative approaches to any given regulatory objective, the alternative involving the least net cost to society shall be chosen; and
5. Agencies shall set regulatory priorities with the aim of maximizing the aggregate net benefits to society, taking into account the condition of the

> particular industries affected by regulations, the condition of the national economy, and other regulatory actions contemplated for the future.

To implement these requirements, Executive Order 12291 required all executive agencies of the federal government to produce a Regulatory Impact Analysis of major regulations. Among other things, the Regulatory Impact Analysis must include a description of benefits and costs, whether quantifiable or not; a description of the net benefits (or net costs) of the regulation in question; and a description of alternative approaches that could achieve the same regulatory goal at lower cost. Remarkably, these directives have been explicitly ratified or followed by all subsequent presidents, most recently by President Joe Biden (Executive Order 14094 [2023]).

Within the executive branch, the Reagan-Bush-Clinton-Bush-Obama-Trump-Biden consensus (!), as we might call it, rests on a theory: Executive agencies should promote human welfare, and an accounting of costs and benefits is one way to make it more likely that they will do that (Adler and Posner 2006; Sunstein 2018; Sen 2000). The idea of "welfare" can of course be understood in many ways; within the government, the operating consensus has been that if the monetized costs of regulation exceed the monetized benefits, the effects on welfare are not likely to be good (Adler and Posner 2006). To be sure, Clinton also directed agencies to consider "distributive impacts" and "equity" (Executive Order 12866 [1993]), and Obama underlined those directives and also added a reference to "human dignity" (Executive Order 13563 [2011]). In Executive Order 13771 (2017), Trump imposed a "one in, two out" approach to regulation, by which agencies had to eliminate two regulations for every regulation that they issued.

But all the while, Circular A-4, with its focus on cost-benefit analysis as a proxy for human welfare, emerged unscathed. Indeed, it proved remarkably enduring; it stabilized and oriented the development of regulatory analysis for two decades. Until 2023, no president changed a word of it. It follows that when agencies submitted significant rules to the Office of Information and Regulatory Affairs, they were required to accompany those rules with a Regulatory Impact Analysis, which abided by the circular. Agencies made their best efforts to do so, but before rules and accompanying analyses were made public, there were often extended discussions with OIRA about whether they had done an adequate job. Some of those discussions might occur before agencies submit their analyses to OIRA; this might be true for especially challenging issues (consider how to place a value on prevention of prison rape). Economists in the Executive Office of the President (including the Council of Economic Advisers and the National Economic Council) might well have become involved. There was often considerable back-and-forth on technical issues, involving multiple rounds of discussions, with OIRA having the final word on whether the economic analysis was adequate. Members of the public (including economists) might have been involved as well, both through the public comment process, required by law, and through requests for meetings ("12866 meetings," as

they were called). Before rules and analyses were produced, officials might have engaged with academic economists on challenging questions (though this was rare).

On his first day in office, President Biden (2021) took the extraordinary step of explicitly directing the Office of Management and Budget to provide recommendations for "modernizing" the process of regulatory review, prominently through revisions to Circular A-4. Biden specified that the revisions should (1) "reflect new developments in scientific and economic understanding," (2) account for "regulatory benefits that are difficult or impossible to quantify," and (3) ensure against "harmful anti-regulatory or deregulatory efforts." In particular, he emphasized the importance of taking "into account the distributional consequences of regulation."

In early 2023, the Biden administration put forward its long-awaited proposed revision to Circular A-4 for public comment and for peer review (OMB 2023a; OMB 2023b). The proposed revision was much longer and more detailed than the original. It did maintain fundamental continuity with the 2003 document, and in some ways, that may be the biggest news of all. Importantly, the Office of Information and Regulatory Affairs process, as sketched above, was not affected at all; it continues in the same form. But drawing on the last two decades of economic research, the proposed revision also suggested significant changes (see the lengthy preamble, OMB 2023a), and offered elaboration in places where the 2003 document was brief and in some ways cryptic. In late 2023, and after an extensive process of public comment and peer review, the Biden administration finalized a new Circular A-4 (OMB 2023c). The Economic Constitution of the United States was reborn.

Justifications for Regulation: Market Failures and Behavioral Economics

When should the government regulate at all? The original Circular A-4 offers an account of why regulation might be justified and directs federal agencies to accompany their analyses with what they take to be the proper justification. It was evidently influenced by canonical texts (Breyer 1980), in that it gives pride of place to standard economic accounts: externalities, common property resources, public goods, market power, and inadequate or asymmetric information. Interestingly, however, the original Circular A-4 also built on early work in behavioral economics (Kahneman, Slovic, and Tversky 1982; Thaler 1994) to explain the relevance of bounded rationality:

> Even when adequate information is available, people can make mistakes by processing it poorly. Poor information-processing often occurs in cases of low probability, high-consequence events, but it is not limited to such situations. For instance, people sometimes rely on mental rules-of-thumb that produce errors. If they have a clear mental image of an incident which makes it cognitively available, they might overstate the probability that it will occur. Individuals sometimes process information in a biased manner, by being too

optimistic or pessimistic, without taking sufficient account of the fact that the outcome is exceedingly unlikely to occur.

The original Circular A-4 also briefly recognizes certain justifications for regulation that have nothing to do with conventional market failures, including an increase in the efficiency of government, redistribution, protection of privacy, increasing freedom, or promoting "other democratic aspirations."

The new and revised version of Circular A-4 embraces these ideas, but with close reference to more recent economic research, it greatly expands on them. Importantly, it too gives pride of place to the standard market failures, while noting that externalities "can also be associated with positional goods, which can exist if any increase in the relative position of one person lowers the relative position of others (and vice versa)" (Frank 2005). The new circular emphasizes that some regulations might be designed to increase government efficiency and improve public services; consider, for example, the TSA Precheck program that allows travelers to register in advance to move through airport security more quickly, the Global Entry program that facilitates entry into the United States for low-risk travelers, the rise of mobile drivers' licenses that can be displayed on a smartphone, and more generally the reduction of administrative burdens or "sludge" (Sunstein 2021b). The new circular notes that regulation might protect civil rights and civil liberties and advance democratic values. It adds that regulation might promote distributional fairness and advance equity (more on this below).

Going far beyond the brief treatment in 2003 (and this shows a great deal of learning), the new Circular A-4 also offers an extensive discussion of "behavioral biases." It discusses "internalities": "When individuals exhibit imperfect self-control, they make a decision that increases short-term well-being by less than it decreases future well-being (appropriately discounted)." It refers specifically to a number of behavioral biases: availability bias, stemming from the availability heuristic (people often evaluate risks by asking whether a salient example, such as a workplace accident, comes readily to mind and so is cognitively "available"); present bias (people might care much more about the short-term than the long-term, and might apply an indefensibly high discount rate to future benefits or costs); unrealistic optimism (people might think that things are more likely to turn out well than a realistic appraisal suggests); and status quo bias (leading to a preference for inaction) (Samuelson and Zeckhauser 1988). The new Circular A-4 explicitly directs agencies to "consider the degree to which the evidence available to you indicates that behavior reflects rational preferences and the degree to which it indicates that such behavior is the product of a behavioral bias."

In drawing attention to behavioral biases, the discussion in the new circular builds on a great deal of earlier work in behavioral economics; for example, it cites Tversky and Kahneman (1973), Chetty (2015), Thaler (2016), and Gilovich, Griffin, and Kahneman (2002). The analysis is also consistent with the relevant analyses in Gabaix (2019), which suggests that inattention might be an organizing principle for diverse behavioral findings, and in Rabin (2013), which explores paternalism

and the formation or nonformation of healthy habits. We might even see Circular A-4 itself as an attempted corrective to behavioral biases on the part of regulators themselves—as, for example, where availability bias leads officials to exaggerate some risks and downplay others (Sunstein 2018).

Distinguishing among the variety of regulatory tools, the new circular explicitly notes that the best response to behavioral biases might involve information disclosure and "nudges":

> Measures that serve as nudges—such as changing the default or pre-selected options, or changing the manner in which information is presented—can also improve consumer welfare without restricting choice. Such nudges can include simplifying choices through sensible default rules (such as setting automatic enrollment with opt-out versus opt-in); reducing complexity; requiring active choice; increasing the salience of certain factors or variables; and promoting desirable social norms.

Indeed, the new circular specifies that "nudges make most sense when the market failure involves a behavioral bias, although even in such cases, nudges may not be either appropriate or sufficient." It adds that "informational measures or nudges, like other measures, should be evaluated in terms of their benefits and costs." This suggestion, emphasizing the need for a careful analysis of the welfare effects of responses to behavioral biases, is a central theme in the research literature (among others, Viscusi 2022; Thunström 2019; Rabin 2013; Allcott and Kessler 2019). A vexing area that deserves further research is the effect of disclosure requirements. People might change their behavior (by, for example, making healthier food choices), but they might not enjoy their meals as much, and they might not enjoy being nudged; those welfare losses should be counted (Thunström 2019; Sunstein 2020). At the same time, preferences might turn out to be shifting and endogenous to the nudge (consider the potential development of tastes for healthier foods), which raises further complications.

Valuing Life

In the domain of health and safety, the monetized benefits of regulations often come largely from reductions in mortality risks, and the original version of Circular A-4 offers a detailed discussion of how to monetize those reductions. With close reference to the economic literature (Viscusi 1993; Viscusi and Aldy 2003), it declares plainly: "The willingness-to-pay approach is the best methodology to use if reductions in fatality risk are monetized." Hence the document calls for use of the "value of statistical life." The basic idea is to infer willingness-to-pay from the actual choices people make; say, to what extent do workers receive additional pay for jobs with higher mortality risk, or to what extent are consumers willing to pay for products that reduce their personal risk. As a back-of-the-envelope illustration,

imagine that a job with a mortality risk that involves one additional death for every 10,000 workers pays $1,000 more per year. The value of a statistical life would then be $10 million—that is, $1000 × 10,000.

The original Circular A-4 notes that "valuation of fatality risk reduction is an evolving area in both results and methodology," and that "literature-based VSL estimates may not be entirely appropriate for the particular risk being evaluated (e.g., the use of occupational risk premia to value reductions in risks from environmental hazards)," which means that agencies should explain "any adjustments of the estimates to reflect the nature of the risk" that is at stake (for discussion, see Viscusi 2010).

The original Circular A-4 also draws the attention of regulatory agencies to the disputed question (Sunstein 2004) whether valuation should vary depending on the context and the affected population—for example, by using the value of a statistical life-year (VSLY), which implies that saving the life of a younger person, with more expected years of life, is worth more than saving the life of an elderly person. Thus, the document notes that some people emphasize "that the value of a statistical life is not a single number relevant for all situations," and that agencies "should consider providing estimates of both VSL and VSLY, while recognizing the developing state of knowledge in this area."

At the same time, and importantly, the original Circular A-4 notes that the existing literature generally suggests a VSL of between $1 million and $10 million. It also points to the continuing "special challenges" in valuing children's lives, in light of the fact that agencies cannot rely on a child's willingness to pay for health improvements, and a parent's willingness to pay, to reduce a risk faced by a child, "may need to be expanded to include a societal interest in child health and safety." Some work does attempt to estimate how much parents would pay to reduce risks to their children (Williams 2013), but even if we could rely on those estimates, they do not include the welfare of children themselves, just as people's willingness to pay to reduce risks to animals does not include the welfare of animals themselves (Carlson et al. 2019). Valuation of the benefits of reducing risks to children remains a singularly vexing issue, on which far more work remains to be done; current understandings are limited (Robinson et al. 2019).

Interestingly, the new Circular A-4 changes almost nothing in the 2003 text. It accepts the theoretical analysis, with all of the relevant cautionary notes. The preamble to the proposed version announces this choice without offering a great deal of explanation: "While recognizing that potential modifications to material on monetizing health and safety benefits and costs and health and safety metrics could be advantageous, OMB believes that continued reliance on this material is generally appropriate at this time. . . . OMB does not intend to substantially revise this material at this time" (OMB 2023a). There is one exception, and it is important. The new circular notes that "agencies utilize central estimates of VSL between $10 million to $12 million as of 2022, and regularly update these values to reflect inflation and real income growth."

It is worthwhile to ask why the new circular did not rethink the earlier treatment in a more fundamental way. One possibility is a judgment that in the last two

decades, economic understanding of how to value statistical lives has not significantly changed, even if there have been many new studies and methodological improvements (in this journal, Lavetti 2023).

As the new circular notes, there are also difficulties in monetizing the benefits that come from reducing morbidity rather than mortality. Here is the text: "Suppose further that baseline evidence indicates 100,000 individuals experience non-fatal health harms—perhaps such that they stay home from work or school—on an average of two days per year, due to the pollution. Two challenging areas for estimating morbidity-related regulatory benefits might be quantifying the regulation's effectiveness at reducing health harm and monetizing the per-day benefit of avoiding the health harm." In principle, one might think that a standard approach is the right one: How much do people pay to eliminate a 1/x risk of (say) a nonfatal heart attack, or how much would they demand to face such a risk? But there is not a great deal of evidence on questions of this kind.

Discount Rates

Suppose that a regulation would impose $800 million in costs, incurred largely over the next two years, but deliver $950 million in benefits, to be enjoyed over a period starting ten years from now. Or suppose that a regulation would impose $2 billion in costs, to be incurred mostly over the next five years, but deliver $4 billion in benefits, to be enjoyed mostly by future generations. How should future benefits be valued? What is the appropriate discount rate? On this question, the original Circular A-4 offers three points (OMB 2003):

1. Resources that are invested will normally earn a positive return, so current consumption is more expensive than future consumption, because you are giving up that expected return on investment when you consume today.
2. Postponed benefits also have a cost because people generally prefer present to future consumption. They are said to have positive time preference.
3. Also, if consumption continues to increase over time, as it has for most of US history, an increment of consumption will be less valuable in the future than it would be today, because the principle of diminishing marginal utility implies that as total consumption increases, the value of a marginal unit of consumption tends to decline.

This general account is broadly in line with some standard accounts in the economic literature (Arrow et al. 2014). But somewhat confusingly, the original Circular A-4 calls for use of two discount rates: 7 percent and 3 percent. The higher figure is meant to capture "the average before-tax rate of return to private capital in the US economy," and "reflects the returns to real estate and small business capital as well as corporate capital." Under the earlier version of Circular A-4, the 7 percent is stated to be the "base-case for regulatory analysis." The lower figure is meant to

recognize that the "effects of regulation do not always fall exclusively or primarily on the allocation of capital." It follows that if "regulation primarily and directly affects private consumption (for example, through higher consumer prices for goods and services), a lower discount rate is appropriate." The 3 percent figure is meant to capture the social rate of time preference. Hence, Circular A-4 stated that agencies "should provide estimates of net benefits using both 3 percent and 7 percent" (OMB 2003).

The intergenerational case presents its own special ethical considerations for choosing a discount rate. The original Circular A-4 noted: "Although most people demonstrate time preference in their own consumption behavior, it may not be appropriate for society to demonstrate a similar preference when deciding between the well-being of current and future generations. Future citizens who are affected by such choices cannot take part in making them, and today's society must act with some consideration of their interest." At the same time, the circular insists that "it would still be correct to discount future costs and consumption benefits generally (perhaps at a lower rate than for intragenerational analysis), due to the expectation that future generations will be wealthier and thus will value a marginal dollar of benefits or costs by less than those alive today."

The original Circular A-4 also drew attention to "increased uncertainty about the appropriate value of the discount rate, the longer the horizon for the analysis." It added: "As explained by Weitzman (1998), in the limit for the deep future, the properly averaged certainty-equivalent discount factor (i.e., $1/[1 + r]t$) corresponds to the minimum discount rate having any substantial positive probability." With these points in mind, Circular A-4 authorized agencies to use a lower discount rate, as part of a sensitivity analysis, for rules having significant intergenerational benefits or costs.

The new version of the circular adopts a broadly similar analytic framework, but also a significantly different number, based on the social rate of time preference. It notes that a standard "approach assumes that the real (inflation-adjusted) rate of return on long-term US government debt provides a fair approximation" of that rate. The new circular states that over the last 30 years, the rate has averaged 2.0 percent in real terms, before taxes. It suggests that agencies use that number as that "default rate." (Interestingly, the proposed revision offered a more detailed discussion of alternatives, including the Ramsey framework; the final version of the new circular does not include that discussion.) A reduction of the discount rate from 7 percent and 3 percent to 2 percent will inevitably have a real effect on projected costs and benefits, perhaps especially in cases in which health and safety benefits (say, from clean air regulations) are expected in the not-immediate future.

This analysis is meant to apply "for all effects from the present through thirty years into the future." As a practical matter, the vast majority of rules that agencies promulgate, and that OIRA reviews, are modeled as having their principal effects within that period. Whether we are speaking of fuel economy regulations, automobile safety regulations, occupational health regulations, or cybersecurity regulations, a 30-year period (or less) is generally taken to be reasonable.

What about the more distant future? That question is relevant for some regulations, above all those involving climate change. On that question, the new circular is broadly in line with the 2003 document. Referring to a principle of intergenerational neutrality (Cowen and Parfit 1992), it notes (and perhaps can be taken to endorse) the view that "government should treat all generations equally." For those who do endorse that view, what should be discounted is future money, not future welfare; that is, the welfare of a person born in 2040 is not worth less than that of a person born in 1990. Building on work by Weitzman (1998) and many others (Arrow et al. 2014), the new circular adds: "Because future changes in the social rate of time preference are uncertain but correlated over time, the certainty-equivalent discount rate will have a declining schedule." The new circular has an appendix with relevant numbers—for example, 1.7 percent from 2106 to 2115 (OMB 2023d). This analysis obviously bears on the problem of climate change, though the new circular does not discuss the social cost of carbon, which is being handled separately (EPA 2023).

It is predictable that there will be continuing theoretical and empirical discussion of whether the 2.0 percent rate is appropriate one; there is a substantial literature on discount rates, some of it raising fundamental questions on the theoretical and empirical levels (Caplin and Leahy 2004; Nordhaus 2007; Weitzman 1994; Heal 2007; Millner and Heal 2023). Is a principle of intergenerational neutrality the right one? (Probably.) But would future generations prefer that we spend money on preventing harms at a 2 percent or 1.7 percent discount rate? Or would they prefer that we sought out higher-return investments (on, say, the education, health, and welfare of children)? Would a somewhat higher, or somewhat lower, discount rate improve the welfare of those who will follow us?

Distribution

Suppose that a regulation would impose $800 million in annual costs and deliver $700 million in annual benefits, but that the costs would be imposed mostly on wealthy consumers (who would perhaps have to pay more for a luxury good) and that the benefits would be enjoyed mostly by poor workers (who would have higher income). What then? Do distributional effects matter? Here is an intuitive way to think about it (with a long and contested history in economic thought): If a rich person gets $10,000, the effect on that person's welfare will be much less than if a poor person gets $10,000. If the intuition is correct, then regulators should see a monetary gain to poor people as producing more welfare than an equivalent gain to rich people (Adler 2019).

The original Circular A-4 focused on adding up (appropriate discounted) costs and benefits, and thus offers only a brief discussion of distributional effects. It does ask agencies to "provide a separate description of distributional effects (i.e., how both benefits and costs are distributed among sub-populations of particular concern) so that decision makers can properly consider them along with the effects on economic

efficiency." It also states that when distributive effects are believed to be important, "the effects of various regulatory alternatives should be described quantitatively to the extent possible, including the magnitude, likelihood, and severity of impacts on particular groups." There was of course an extensive economic literature on this issue even at the time, with which the circular (somewhat puzzlingly) did not much engage, and which urged that those involved in law and regulation should expand the size of the pie, and leave redistribution to the tax system (Kaplow and Shavell 2002). On that view, regulatory decisions should not be based on distributional issues and should not consider who is helped and who is hurt; instead, maximizing net benefits is the goal. The original Circular A-4 did not embrace that approach, though particular regulatory decisions, under both Democratic and Republican administrations, generally did not engage the distributional questions.

The new circular is continuous with the 2003 document in principle, but it offers much more detail. It emphasizes that an analysis of who is helped and who is hurt might help agencies to "identify alternative regulatory options or impacts that can be mitigated through other regulatory or non-regulatory decisions." The new circular adds that "it may be useful to analyze the incidence of regulatory effects on each group of interest, or combinations of those groups." Which groups should be counted? The new circular draws particular attention to "income groups." It also states that "other economic and demographic categories such as those based on race and ethnicity, sex, gender, geography, wealth, disability, sexual orientation, religion, national origin, age or birth cohort, family composition, or veteran status—among others—may be relevant to a particular regulation." That is obviously a long list, and the draft gives agencies discretion to say what would be "relevant."

Importantly, the new circular goes far beyond the original in drawing attention to the possible use of distributional weights, in a way that is meant to account for the diminishing marginal utility of goods as income rises: "Agencies may choose to conduct a benefit-cost analysis that applies weights to the benefits and costs accruing to different groups in order to account for the diminishing marginal utility of goods when aggregating those benefits and costs." Drawing on a long tradition in economic theory that has rarely played a significant role in regulatory policy in the United States (for relevant discussion, see Adler 2019), the new circular states that because of diminishing marginal utility, "an additional unit of a good is more valuable to a person (in welfare terms) if they have fewer total goods than if they have more total goods." Agencies have traditionally not used distributional weights in regulatory impact analyses; doing so can be counted as a significant change. There are also risks of legal challenges: Do regulatory statutes allow agencies to consider distributional issues? Is it "arbitrary," in the legal sense, for them to do so?

There is a great deal of further thinking to do on this question, and a substantial literature on which to draw, some of which could help in the specification of the magnitude of relevant weights (Harberger 1978; Adler 2016; Weisbach 2015; Fleurbaey and Abi-Rafeh 2016; Nurmi and Ahtiainen 2018). The problem of incidence deserves particular attention; regulations that seem to benefit particular groups (such as motor vehicle safety regulations) might also impose costs on them (Hemel

2022). Also deserving particular attention (and not mentioned in the new circular) is the recent interest in "prioritarianism," which emphasizes the importance of focusing on those at the bottom of the welfare ladder (Adler and Norheim 2022). A "prioritarian" social welfare function is different from a utilitarian one, even putting the declining marginal utility of money to one side; it would be useful to engage the potential uses and limits of prioritarianism in the regulatory context.

Citizens and Noncitizens, Residents and Nonresidents

Suppose that a regulation would affect three groups of people: American citizens, residents who are noncitizens, and noncitizens who are nonresidents. Should agencies consider all of those effects? The new Circular A-4 offers a far more detailed discussion than its predecessor. It states that in "many circumstances," the focus should be on citizens and residents of the United States. At the same time, it notes that if a regulation affects foreign entities, it might affect American citizens and residents as well (for example, by increasing prices). With an implicit nod to the problem of climate change, the new circular notes: "Relevant effects also include the effects of a regulation on US strategic interests, including the potential for inducing strategic reciprocity or other policy changes from actors abroad, or effects on US government assets located abroad. Such effects are particularly likely to occur when your regulation bears on a global commons or a global public good." If, for example, a regulation reduces greenhouse gas emissions, the beneficial effects on noncitizens outside the United States might prompt strategic reciprocity, in the form of reductions by other nations that ultimate benefit Americans. There might also be effects on Americans living abroad, and those should be taken in account.

The new circular emphasizes the importance of transparency. If the agency is focusing on global effects (perhaps because international or domestic law requires a global calculation), "it is generally appropriate to produce a separate supplementary analysis of the effects experienced by US citizens and residents, unless you determine that such effects cannot be separated in a practical and reasonably accurate manner." There is room for far more work on these issues, especially on the question whether and when agencies should consider the effects of climate change regulations on the world as a whole (Kotchen 2018).

Uncertainty and What Cannot Be Quantified

One of the most serious challenges for economic analysis of regulations stems from the fact that agencies sometimes know too little to come up with anything like precise numbers (Sunstein 2014). For example, they might not be able to specify the health effects of a reduction in mercury emissions; they might not be able to quantify the benefits from a cybersecurity regulation; they might find it difficult to turn a reduction of prison rapes into monetary equivalents; as noted, they might

struggle to monetize the benefits of a regulation that reduces mortality risks faced mostly by children. With such challenges in mind, the original version of Circular A-4 devotes a great deal of attention to uncertainty. It emphasizes the importance of attempting to offer formal estimates of probabilities: "[Y]our analysis should include two fundamental components: a quantitative analysis characterizing the probabilities of the relevant outcomes and an assignment of economic value to the projected outcomes."

At the same time, the old Circular A-4 acknowledges the reality of gaps in information, making it impossible to quantify the effects of some regulations. For example, it seems difficult to monetize the effects of disclosure requirements (Thunström 2019) or to monetize the benefits of a rule designed to allow people who use wheelchairs to have access to public buildings. Contingent valuation studies might be used ("how much would you be willing to pay to receive information about fuel economy?"), but they are often unreliable as a guide to welfare effects (Sunstein 2020; Williams 2013). In the hardest cases, Circular A-4 calls for a "threshold" or "break-even analysis," in which agencies ask: What is the threshold that benefits would have to meet in order for the regulation to have net benefits?

The revised circular is in the same spirit, but it offers significantly more detail. Its central mandate is relatively clear: agencies "should use appropriate statistical techniques to determine a probability distribution of the relevant outcomes." In some cases, however, it may not be possible to produce such a probability distribution. The new circular emphasizes that nonmonetized benefits and costs might be important, and also pointedly notes: "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." In the face of nonmonetized benefits, the new circular again calls for a break-even analysis, which asks what magnitude those benefits "would need to have for the regulation at issue to yield positive net benefits or to change which regulatory alternative is most net beneficial." Agencies have engaged in break-even analysis on important occasions, as with regulations reducing disability discrimination and targeting prison rape, but much more systematic thinking should be done on that issue, perhaps by directly measuring the subjective experience of those helped and hurt (Sunstein 2018).

There is also a question of whether regulators should assume risk neutrality, risk aversion, or risk-seeking. The new circular says this: "Risk aversion is widespread, and an underlying motivation for insurance and savings behavior." Speaking modestly, it authorizes agencies to "develop an analysis that takes risk aversion into account." But when? The modesty of the circular is justified, because there is a great deal more to say and to learn here. If risk aversion is widespread, so is risk-seeking (as emphasized by prospect theory, see Ruggari et al. 2020). If people are risk-averse, they might be thought to be risk-averse with respect to safety and health; but are they, really? And if people are risk-averse, are they also risk-averse with respect to the risks introduced by regulation—as, for example, when fuel economy regulations risk creating less safe cars, or when expensive regulations introduce social risks simply by virtue of

the fact of their expense (Sunstein 2005)? Some forms of risk-aversion might reflect limited attention or bounded rationality. There is a great deal of thinking to be done about when people are risk-averse and when they are not, and about when and whether regulators should take account of people's risk preferences in imposing, or in failing to impose, regulations.

Welfare Now

The United States Constitution is the oldest surviving constitution in the world—236 years and counting. Circular A-4 cannot claim that degree of longevity, but in light of the rapid movement of relevant political winds and the high stakes, 20 years is a long time for a document that sets out fundamental principles of regulatory analysis. There is ample room for discussion of the new Circular A-4 and economists will be central to the conversation. After all, a constitution establishes general rules, but considerable space remains to argue about how those rules should be interpreted in specific contexts.

A number of topics that deserve additional exploration have been mentioned already. Here, I would emphasize as starting points the work of Gabaix (2019) on behavioral inattention, which may help organize diverse behavioral findings; the work of Adler (2019) on thinking about distributional issues in the regulatory context through the lens of prioritarianism; and the work of Thunström (2019) on the complex effects of disclosure policies, which may affect different people in different ways, and which may even hurt rather than help people with self-control problems. In addition (and this remains a potentially serious gap), no president has yet authorized or directed agencies to focus on subjective welfare, measured by reference to actual experience (as discussed in this journal by Kahneman and Krueger 2006), though the topic has occasionally been discussed at high levels. Finally, the Executive Office of the President itself has drawn attention to an assortment of "frontiers" issues, on which much further work needs to be done (National Science and Technology Council 2023). Those issues include nonfatal health effects, ecosystem services, wildfire and extreme weather effects, and the effects of information provision and transparency requirements. There is a great deal of room for both theoretical and empirical work on those issues.

Existing Regulatory Impact Analyses, both proposed and final, are generally in the public domain, and they might provide the foundation for that work. The Economic Constitution of the United States remains a work in progress.

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