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Polluting the EPA's Long Tradition of Economic Analysis

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POLLUTING THE EPA’S LONG TRADITION OF ECONOMIC ANALYSIS

Michael A. Livermore[†]

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INTRODUCTION

At its best, the system of agency decision-making in the U.S. administrative-law tradition balances two countervailing impulses: democratic accountability and expert decision-making. This balance has largely been achieved over the past several decades through the construction of a set of guardrails that give a limited scope to political influence, while keeping that influence within acceptable bounds.¹

One of the most important of these guardrails, which has been in place since 1981, is the requirement that administrative agencies conduct cost-benefit analyses of major rulemakings.² Cost-benefit analysis creates a formal process for the simple idea that agencies ought to do their best to anticipate and evaluate the consequences of their decisions and seek out rules with the largest possible benefits at the lowest possible cost. The use of cost-benefit analysis to evaluate environmental regulations has a long history in the United States and

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1. Michael A. Livermore & Daniel Richardson, *Administrative Law in an Era of Partisan Volatility*, 69 EMORY L. J. 1, 72-73 (2019).
2. Exec. Order No. 12,291, 46 Fed. Reg. 13,193 (Feb. 19, 1981).

has been embraced by administration of both political parties for decades.³

Over the years, this guardrail has become particularly important as agencies have developed a set of consistent methodologies for carrying out cost-benefit analyses. The peer-reviewed *Guidelines for Preparing Economic Analyses*, created by the Environmental Protection Agency (EPA), contains a set of best practices that have been painstakingly developed over the years.⁴ Another important touchstone for conducting economic analysis that applies more generally is *Circular A-4*, which was developed by the Office of Management and Budget (OMB) during George W. Bush's administration.⁵

A value of these best practices is in maintaining consistency across agency decisions. One major critique leveled against the practice of cost-benefit analysis is that it is vulnerable to manipulation by agencies that want to create ad hoc rationalizations for policy choices that are based on political expediency.⁶ Well-established best practices reduce this threat because they create a clear standard that can be used to hold agencies accountable: if an agency departs from established methods, that raises a red flag, alerting the public to the possibility of manipulation. The larger the departure from established practice, the stronger the reason the agency should be able to provide.

Cost-benefit analyses help protect expert decision-making from undue political influence in two ways. First, it creates the general principle that agencies should examine the positive and negative effects of regulatory proposals and seek out the ones with the greatest net benefits. Agencies' decisions can be held up to that standard in light of the information that is collected and disclosed in their required regulatory-impact statements. Second, consistent methodologies provide a means for the public to understand when politics might be playing too large of a role in an agency's decision-making. When an agency feels the need to depart from standard practices without a very strong justification, the public is alerted to the risk that political considerations may be intruding too far into how an agency is conducting its business.

Although some at the EPA initially resisted the move to cost-benefit analysis, the Agency soon realized that it was better to learn

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3. RICHARD L. REVESZ & MICHAEL A. LIVERMORE, RETAKING RATIONALITY: HOW COST-BENEFIT ANALYSIS CAN BETTER PROTECT THE ENVIRONMENT AND OUR HEALTH 31-32 (2008).
 4. *See generally* EPA, GUIDELINES FOR PREPARING ECONOMIC ANALYSES (2010).
 5. *See generally* OFFICE OF MGMT. & BUDGET, CIRCULAR A-4: REGULATORY ANALYSIS (2003).
 6. *See generally* FRANK ACKERMAN & LISA HEINZERLING, PRICELESS: ON KNOWING THE PRICE OF EVERYTHING AND THE VALUE OF NOTHING (2004).

how to conduct strong assessments of its proposals than to try to resist the practice.⁷ As a consequence, significant resources at the Agency were devoted to building out a world-class environmental economics team and developing methods that would be able to rigorously analyze environmental rules.⁸ In particular, the EPA's rules often protect values that are not directly traded on markets, such as public health and ecosystems. Over the years, the Agency, under administrations of both political parties, has had considerable success in developing techniques to value these non-market benefits.⁹

Part of the reason that cost-benefit analysis works well at the EPA is that there is a clear economic justification for environmental protections. Many of the activities regulated by the Agency generate externalities that are not well-accounted for in markets. Pollution creates costs that are borne by the public, which means that private parties will not appropriately take them into account. The EPA's rules help correct for this market failure. Over the years, the EPA has adopted rules that have truly staggering net benefits for the public—many billions of dollars of value in terms of public health, protected ecosystems, and fuel savings due to energy-efficiency measures. Of course, these benefits come at a cost because companies have to devote resources to pollution control. But the benefits of the EPA's rules frequently swamp the costs, sometimes by orders of magnitude.

But the Agency's tradition of conducting cost-benefit analyses and delivering massive net benefits to the public cannot be taken for granted. Unfortunately, the Trump Administration has taken a number of steps that represent a radical break with the methodological practices used by past administrations of both political parties. This break does not merely raise a red flag for a single rule—it broadcasts that cost-benefit analysis is no longer playing its traditional role of protecting the Agency from inappropriate political influence.

This Article focuses on one example of this trend. In 2011, the Obama Administration adopted a rule to reduce mercury and other air toxics emitted by the electricity-generating sector.¹⁰ This rule is known as the Mercury and Air Toxics Standard (MATS). When the EPA published that rule, its economic analysis—which used long established methods—projected \$9.6 billion per year in compliance costs and

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7. Michael A. Livermore, *Cost-Benefit Analysis and Agency Independence*, 81 U. CHI. L. REV. 609, 687–88 (2014).
 8. *Id.* at 624–28.
 9. EPA, *supra* note 4, at 7–21.
 10. National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units, 77 Fed. Reg. 9303 (Feb. 16, 2012) (to be codified at 40 C.F.R. pts. 60 & 63).

between \$37 billion and \$90 billion per year in quantifiable benefits, in addition to substantial unquantified health and environmental benefits.¹¹ Under the Trump Administration, however, the EPA has reversed course and issued a proposal to undo its earlier finding that controlling these air pollutants was “appropriate and necessary.”¹² If successful, this move would undermine the legal support for the MATS rule. In its explanation for why it seeks to revoke its earlier appropriate-and-necessary determination, the Trump EPA contradicts the relevant guidance and decades of practice by previous administrations (of both political parties) by functionally ignoring the largest class of benefits associated with the MATS Rule: saving thousands of Americans’ lives.¹³ The result is a biased and misleading estimate that creates the false impression that the MATS rule was not justified in cost–benefit terms.

The grounds that the EPA provides for functionally ignoring these benefits is that they are indirect co-benefits resulting from reduced exposure to particulate matter. These particulate-matter benefits occur as a result of the pollution-control technologies used by firms to comply with the MATS rule. But the OMB’s *Circular A-4* and the EPA’s own peer-reviewed guidance on conducting cost-benefit analyses direct the Agency to analyze both indirect costs and benefits.¹⁴ Since President Reagan, the EPA has counted co-benefits in many regulatory contexts, including clean-air rules.¹⁵

The Agency fails to provide any adequate reason for this extraordinary and abnormal treatment of co-benefits. Nothing in either the relevant case law or the relevant statute requires the Agency to functionally ignore tens of billions of dollars’ worth of regulatory benefits. If anything, the relevant case—*Michigan v. EPA*¹⁶—interpreted the statute to require the Agency to engage in a broad analysis of the costs and benefits of the rule, exactly the opposite of what the Agency is proposing to do.¹⁷ If finalized and adopted, the EPA’s proposal would not only undermine a socially desirable environmental policy, it would create a dangerous precedent of an agency departing from established methods when it is convenient to do so.

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11. EPA, REGULATORY IMPACT ANALYSIS FOR THE FINAL MERCURY AND AIR TOXICS STANDARDS (2011).
 12. National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units—Reconsideration of Supplemental Finding and Residual Risk and Technology Review, 84 Fed. Reg. 2670, 2670 (Feb. 7, 2019) (to be codified at 40 C.F.R. pt. 63).
 13. *See id.*
 14. *See infra* Part II.
 15. *See infra* Part II.
 16. 135 S. Ct. 2699 (2015).
 17. *Id.* at 2711.

Cost-benefit analysis has survived as long as it has because administrations of both political parties were willing to play by the rules. An analogy might be drawn to the prisoners' dilemma, in which two strategic actors are collectively better off cooperating than defecting but short-term incentives push each individual actor towards defecting. By defecting from the long-term agreement to carry out cost-benefit analyses within the range of accepted norms, the Trump Administration has destabilized what was a very beneficial cooperative equilibrium. In doing so, it runs the risk of initiating a downward spiral of norm violations that renders economic analysis incapable of serving its traditional role of pushing back against overly intrusive political influence.

The balance of this Article proceeds as follows. Part I provides a brief overview of the role cost-benefit analysis plays in the regulatory process. Part II describes the procedural history of the MATS rule and the EPA's appropriate-and necessary-determination regarding that rule. Part III describes the role of co-benefits in prior EPA rulemakings as well as in the MATS rule. Part IV discusses the Trump EPA's radical departure from prior practice in its proposal to revoke the previous MATS appropriate-and necessary-determination. And Part V offers some concluding thoughts that contextualize the treatment of co-benefits in the MATS rule within a larger trend of the Trump Administration rejecting long-standing norms governing the role of cost-benefit analysis in agencies' decision-making.

I. COST-BENEFIT ANALYSIS AND REGULATION

The use of cost-benefit analysis to evaluate environmental regulations has a long history in the United States. Although there are important precursors,¹⁸ the central place of cost-benefit analysis in federal regulatory decision-making can be traced to Executive Order 12,291, signed by President Ronald Reagan shortly after taking office in 1981.¹⁹ Under that order, agencies were required to conduct a regulatory-impact analysis of proposed rules with significant economic consequences and to submit those analyses to the White House's Office of Information and Regulatory Affairs (OIRA) for review.²⁰ The Reagan order's purported goals were to "increase agency accountability for regulatory actions" and "insure well-reasoned regulations."²¹ Order

18. Jim Tozzi, *OIRA's Formative Years: The Historical Record of Centralized Regulatory Review Preceding OIRA's Founding*, 63 ADMIN. L. REV. (SPECIAL EDITION) 37, 40-62 (2011) (giving a historical overview of cost-benefit-type review before the Reagan administration).

19. Exec. Order No. 12,291, 46 Fed. Reg. 13,193 (Feb. 19, 1981).

20. *Id.*

21. *Id.*

12,291 established general guidelines for conducting Regulatory Impact Analysis, requiring each analysis to contain the following:

- (1) A description of the potential benefits of the rule, including any beneficial effects that cannot be quantified in monetary terms . . . ;
- (2) A description of the potential costs of the rule, including any adverse effects that cannot be quantified in monetary terms . . . ; [and]
- (3) A determination of the potential net benefits of the rule, including an evaluation of effects that cannot be quantified in monetary terms²²

In 1993, President Bill Clinton issued an updated version of Reagan's order that left intact the basic architecture of regulatory impact assessment and OIRA review.²³ Among the regulatory principles embraced by the Clinton order is a directive to agencies to "assess both the costs and the benefits of the intended regulation and, recognizing that some costs and benefits are difficult to quantify, propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs."²⁴ Subsequent Presidents have proceeded under the Clinton order, continuing the tradition of cost-benefit analysis and regulatory review for nearly four decades.²⁵

The requirement to perform a cost-benefit analysis creates a formal process for a simple idea: agencies ought to do their best to anticipate and evaluate the consequences of their decisions. The cost-benefit standard pushes agencies toward decisions that maximize net benefits by seeking out rules with the largest possible benefits at the lowest possible cost.

But although the idea of a cost-benefit analysis might be straightforward, accurately estimating and valuing the wide range of effects

22. *Id.* § 3(d).

23. *See* Exec. Order No. 12,866, 58 Fed. Reg. 51,735 (Oct. 4, 1993).

24. *Id.* § 1(b)(6).

25. President George W. Bush made only minor changes to the Clinton Order at the end of his term. *See* Exec. Order No. 13,422, 72 Fed. Reg. 2763, 2673 (Jan. 23, 2007). President Obama's executive order on regulatory review explicitly adopts the framework of the Clinton order. *See* Exec. Order No. 13,563, 76 Fed. Reg. 3821, 3821 (Jan. 21, 2011). The Trump administration purports to operate under Executive Order 12,866 as well. *See* OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, M-17-21, GUIDANCE IMPLEMENTING EXECUTIVE ORDER 13771, TITLED "REDUCING REGULATION AND CONTROLLING REGULATORY COSTS" (2017).

from major rules is no easy task.²⁶ Over the four decades of cost-benefit-analysis practice, agencies have developed a number of methods and approaches for conducting Regulatory Impact Analyses. These best practices have been collected in relevant guidance documents, such as *Circular A-4*,²⁷ published by the Office of Management and Budget during the George W. Bush administration, and the EPA's peer-reviewed *Guidelines for Preparing Economic Analyses*.²⁸

Best practices for cost-benefit analyses serve several roles. Most obviously, they conserve agency resources by providing a set of standardized approaches that can be applied in many different regulatory contexts. But they also serve a second purpose of maintaining consistency across an agency's decisions. One major critique leveled against the practice of cost-benefit analysis is that its technical nature makes it vulnerable to manipulation. Were an agency to decide on a regulatory course of action on other grounds—such as political expediency—the concern is that the agency could construct a plausible-seeming cost-benefit justification for its decision that would be difficult for non-experts to evaluate. Well-established methodological best practices mitigate this threat by creating a relatively clear standard that can be used to hold agencies accountable: if an agency departs from established methods, it raises a red flag, alerting the public and oversight officials to the possibility of manipulation. The larger the departure from established practice, the stronger the reason the agency should be able to provide for that departure.

Over the years, cost-benefit analysis has been used to evaluate and improve a host of regulatory decisions, including the EPA's. That agency especially has made substantial investments to improve its capacity to carry out cost-benefit analyses of environmental regulations, and the professional career staff at the Agency has considerable experience with and expertise for this demanding task.²⁹

II. THE APPROPRIATE-AND-NECESSARY DETERMINATION AND THE MATS RULE

Regulation of hazardous air pollutants (HAPs) under the Clean Air Act has a long and somewhat tortured history. The original version of the relevant statutory provision—§ 112—led to an ineffective

26. There is uncertainty associated with estimates of both costs and benefits and agencies often make conservative assumptions in light of that uncertainty.

27. OFFICE OF MGMT. & BUDGET, *supra* note 5.

28. EPA, *supra* note 4.

29. Livermore, *supra* note 7, at 630–32.

regulatory scheme that addressed only a handful of pollutants.³⁰ These disappointing results led Congress to revisit HAPs in the 1990 Clean Air Amendments, and to adopt the current version of § 112.³¹ The basic structure of the contemporary § 112 process begins with a list of HAPs and then requires the EPA to publish a list of categories of sources that emit HAPs in significant quantities.³² The EPA must then set emissions standards for those categories.³³

Section 112(n), however, creates a special process for electric-generating units (EGUs). Under this special process, the EPA must first study the public health hazards of HAP emissions from EGUs, and then proceed with regulation only upon a finding that “such regulation is appropriate and necessary after considering the results of the study.”³⁴

This special process has its own lengthy regulatory history. In 2000, the Clinton-era EPA found, on the basis of its public health study, that it was appropriate and necessary to regulate HAP emissions from EGUs because those emissions “present[] significant hazards to public health and the environment.”³⁵ Later, the George W. Bush administration attempted to substitute an alternative cap-and-trade regulatory approach under § 111(d) of the Act for the technology-based approach of § 112; and in its Clean Air Mercury Rule (CAMR) purported to remove EGUs from the § 112 list. This decision was ultimately invalidated by the D.C. Circuit.³⁶

Under President Obama, the EPA returned to the question of HAP emissions from EGUs. After conducting an extensive review of the public-health science on the effects of HAP emissions, the Agency again made an appropriate-and-necessary determination and, accordingly, issued the MATS rule setting emissions standards.³⁷ Although the D.C.

30. Alan J. Goldberg, *Toward Sensible Regulation of Hazardous Air Pollutants under Section 112 of the Clean Air Act*, 63 N.Y.U. L. REV. 612, 613–14 (1988).

31. *See* Clean Air Act 42 U.S.C. § 7412 (2012).

32. *Id.* § 7412(c)(1). Major sources are those that emit or have the potential to emit at least ten tons of any HAP per year or at least twenty-five tons of any combination of HAPs per year. *Id.* § 7412(a)(1). Area sources are all other stationary sources of HAPs. *Id.* § 7412(a)(2).

33. *Id.* § 7412(d)(1).

34. *Id.* § 7412(n).

35. Notice of Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units, 65 Fed. Reg. 79,825, 79,826–30 (Dec. 20, 2000).

36. *New Jersey v. EPA*, 517 F.3d 574, 582–83 (D.C. Cir. 2008).

37. *See* National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam

Circuit upheld both the EPA's finding and the emissions standards,³⁸ the Supreme Court subsequently remanded the appropriate-and-necessary finding on the grounds that the EPA failed to consider costs before making it.³⁹

In response to the Court's ruling, the EPA reassessed its appropriate-and-necessary finding in 2016 ("2016 Finding"). Taking costs into account—as required under *Michigan v. EPA*—the Agency decided to reaffirm its prior decision.⁴⁰ The 2016 Finding examined the costs of regulating EGUs under § 112 according to an overall-reasonableness standard based on compliance costs relative to the size of the industry and the cost-benefit information contained in the Regulatory Impact Analysis of the MATS rule.⁴¹ As noted above, that analysis projected that the MATS rule would impose \$9.6 billion per year in compliance costs, but yield between \$37 billion and \$90 billion per year in quantifiable benefits, in addition to many other positive health and environmental effects that were not quantified.

The largest category of quantified benefits from the MATS rule arises from the reduction of mortality risk. The EPA anticipated that between 4,200 and 11,000 premature deaths would be avoided per year. Other anticipated health benefits of the rule included fewer nonfatal heart attacks and hospitalizations for respiratory and cardiovascular disease, as well as reductions in the incidence of a range of harmful neurological conditions, including IQ loss and developmental delays. In addition, there were considerable environmental benefits, including reductions in damage to ecosystems, enhanced visibility, and improvements in recreational and commercial fishing, agricultural yields, and forest productivity. The rule's anticipated costs were primarily associated with capital upgrades to pollution-control technology.

The Trump administration has now proposed to rescind the 2016 Finding.

Generating Units, 77 Fed. Reg. 9304 (Feb. 16, 2012) (to be codified at 40 C.F.R. pts. 60 & 63).

38. *White Stallion Energy Ctr., LLC v. EPA*, 748 F.3d 1222, 1231–33 (D.C. Cir. 2014).

39. *Michigan v. EPA*, 136 S. Ct 2699, 2711 (2015) (noting that the EPA had conducted a regulatory-impact analysis of the MATS Rule, not the appropriate-and-necessary finding).

40. Supplemental Finding That It Is Appropriate and Necessary to Regulate Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units, 81 Fed. Reg. 24,420, 24,420 (Apr. 25, 2016) (to be codified at 40 C.F.R. pt. 63).

41. *Id.* at 24,422–23.

III. INDIRECT COSTS AND BENEFITS

In the preamble to the MATS rule, the EPA noted that the “great majority” of the quantified benefits of the rule were “attributable to co-benefits from reductions in [particulate matter]-related mortality.”⁴² In the 2016 Finding, the Agency explained the relationship between the HAP emissions regulation and particulate matter:

[I]nstalling control technologies and implementing the compliance strategies necessary to reduce the HAP emissions directly regulated by the MATS rule also results in concomitant (co-benefit) reductions in the emissions of other pollutants such as directly emitted [particulate matter] PM_{2.5} and [sulfur dioxide] SO₂. While reductions of PM_{2.5} and SO₂ are not the objective of the MATS rule, these emission reductions are a direct consequence of regulating the HAP emissions from EGUs.⁴³

There is nothing unusual about indirect costs and benefits, which are a normal and anticipated element of regulating in a complex world. In an influential book published two decades ago that helped call attention to the importance of indirect regulatory effects, John D. Graham (who went on to serve as OIRA Administrator under George W. Bush) and Jonathan B. Wiener collect dozens of examples to make that point that inefficient regulations can result from ignoring indirect effects.⁴⁴ Given the nature of the problems that regulators often face, and the complex economic, behavioral, environmental, and biological systems involved, it is hardly surprising that the consequences of major government actions would flow beyond the narrow confines of direct effects. Rather, a reasonable regulator should acknowledge and attempt to anticipate a cascade of possible effects, as both people and environmental systems respond and adapt to direct regulatory effects.

In recognition of their importance, indirect effects are explicitly mentioned in the relevant guidance documents, which expressly call regulators’ attention to this class of regulatory consequences. The OMB’s *Circular A-4* states, “[t]he same standards of information and analysis quality that apply to direct benefits and costs should be applied to ancillary benefits and countervailing risks.”⁴⁵ The EPA’s *Guidelines*

42. National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units, 77 Fed. Reg. 9304, 9305 (Feb. 16, 2012) (to be codified at 40 C.F.R. pts. 60 & 63).

43. Supplemental Finding That It Is Appropriate and Necessary to Regulate Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units, 81 Fed. Reg. at 24,438.

44. John D. Graham & Jonathan Baert Wiener, *Preface* to RISK VS. RISK: TRADEOFFS IN PROTECTING HEALTH AND THE ENVIRONMENT, at xii (John D. Graham & Jonathan Baert Wiener eds., 1997).

45. OFFICE OF MGMT. & BUDGET, *supra* note 5, at 26.

for *Preparing Economic Analyses* likewise explicitly direct the Agency to consider “ancillary (or co-) benefits and costs.”⁴⁶

The need to analyze indirect costs and benefits flows naturally from the purpose of cost–benefit analysis.⁴⁷ If the goal is to anticipate and evaluate the consequences of a regulatory decision, there is no reason to make a distinction between direct and indirect effects; they are both equally real to the people who are affected by them. Indeed, the primary value of the concept of indirect regulatory effects is to call agencies’ attention to this class of consequences, thus expanding the scope of agencies’ analyses so that they are more comprehensive. As noted by Graham and Weiner, the OMB’s *Circular A-4*, and the EPA’s *Guidelines*, problems arise when an agency’s focus is too narrow, not too wide. In instances where agencies have failed to heed the relevant guidance and insisted on departing from standard practice by ignoring indirect regulatory effects, courts have found their decisions to be irrational.⁴⁸

In keeping with the relevant guidance and case law, agencies often consider the indirect effects of their regulatory decisions. Even when considering only the EPA, indirect benefits, and Clean Air Act regulations, examples abound:

- Reagan Administration: The regulation of toxic emissions from municipal waste combustors took into account co-benefit reductions of criteria pollutants.⁴⁹

46. EPA, *supra* note 4, at 11-2. An earlier version of the guidelines also directs the Agency to consider indirect costs and benefits. See Kimberly M. Castle & Richard L. Revesz, *Environmental Standards, Thresholds, and the Next Battleground of Climate Change Regulations*, 103 MINN. L. REV. 1349, 1428–29 (2019).

47. INST. FOR POL’Y INTEGRITY, STRENGTHENING REGULATORY REVIEW: RECOMMENDATIONS FOR THE TRUMP ADMINISTRATION FROM FORMER OIRA LEADERS 6 (2016) (“[T]he goal of cost-benefit analysis is to maximize net benefits for society, which requires . . . consideration of all reasonable regulatory alternatives and all significant social welfare effects, including any indirect or difficult-to-quantify costs or benefits.”).

48. See, e.g., *Competitive Enter. Inst. v. Nat’l Highway Traffic Safety Admin.*, 956 F.2d 321, 326–27 (D.C. Cir. 1992) (striking down a NHTSA fuel-efficiency rule for failing to consider the indirect costs of vehicle-safety risks); *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201, 1225–26 (5th Cir. 1991) (remanding the EPA’s ban on asbestos-containing brakes under the Toxic Substances Control Act for failure to consider the indirect safety harms that would accompany non-asbestos brakes).

49. See *Assessment of Municipal Waste Combustor Emissions Under the Clean Air Act*, 52 Fed. Reg. 25,399, 25,406 (July 7, 1987) (to be codified at 40 C.F.R. pt. 60).

- George H. W. Bush Administration: The performance standards for landfill gases took into account co-benefits of reduced global loadings of methane.⁵⁰
- Clinton Administration: The HAP standards from pulp and paper producers took into account co-benefit reductions in volatile organic compounds, particulate matter, and carbon monoxide.⁵¹
- George W. Bush Administration: The Clean Air interstate rule to control particulate matter and ozone took into account co-benefit reductions in mercury emissions.⁵²
- Obama Administration: The HAP standards for combustion engines took into account indirect benefits from carbon monoxide, volatile organic compounds, and nitrogen oxides.⁵³

Economic theory, the relevant guidance documents, decades of bipartisan agency practice, and simple common sense all indicate that agencies should consider indirect costs and benefits when making regulatory decisions. Departing from this well-established norm requires a very good reason.

IV. EXTRAORDINARY AND UNJUSTIFIED DEPARTURE FROM ESTABLISHED PRACTICE

In its latest HAP proposal, the EPA seeks to reverse its 2016 Finding.⁵⁴ In doing so, it functionally ignores the substantial quantified benefits of the MATS rule on the grounds that they are not direct benefits. The EPA suggests that focusing “primarily” on HAP benefits—as opposed to particulate matter co-benefits—may be the

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50. Standards of Performance for New Stationary Sources and Guidelines for Control of Existing Sources: Municipal Solid Waste Landfills, 56 Fed. Reg. 24,468, 24,469 (May 30, 1991) (to be codified at 40 C.F.R. pts. 51–52, 60).
 51. See National Emission Standard for Hazardous Air Pollutants for Source Category, 63 Fed. Reg. 18,504, 18,585–86 (Apr. 15, 1998) (to be codified at 40 C.F.R. pts 63, 261, 430).
 52. See Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone, 70 Fed. Reg. 25,162, 25,170 (May 12, 2005) (to be codified at 40 C.F.R. pts. 51, 72–74, 77–78, 96); EPA, R-05-002, REGULATORY IMPACT ANALYSIS FOR THE FINAL CLEAN AIR INTERSTATE RULE 1-10 (2005).
 53. National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines, 75 Fed. Reg. 51,570, 51,578 (Aug. 20, 2010) (to be codified at 40 C.F.R. pt. 63).
 54. National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units, 84 Fed. Reg. 2670, 2674 (proposed Feb. 7, 2019) (to be codified at 40 C.F.R. pt. 63).

“only permissible approach” under § 112(n).⁵⁵ Alternatively, the EPA argues that its decision not to consider co-benefits is a “reasonable approach . . . to considering costs in response to *Michigan*.”⁵⁶ On either grounds, the Agency puts aside the overwhelming evidence that the MATS rule generates massive net benefits and instead “proposes to conclude that it is not appropriate and necessary to regulate HAP from EGUs . . . because the costs of such regulation grossly outweigh the HAP benefits.”⁵⁷

As discussed above, guidance documents and prior practices provide a baseline against which agencies’ analytic choices in individual rule-making processes can be judged. Where an agency’s methods depart from the standard practice, it raises a legitimate concern that cost–benefit analysis is being manipulated to justify a regulatory decision based on political expediency or other grounds. The larger the departure, the greater the burden on the agency to provide a reasoned explanation for its unusual course of action.

In its 2019 HAP proposal, the EPA’s reasoning entirely fails to justify the extraordinary step of functionally ignoring many billions of dollars’ worth of regulatory benefits. First, there is nothing in the language of § 112(n) that indicates that the Agency should limit the terms of its analysis to direct effects. The provision simply states that the Administrator is to “regulate electric utility steam generating units under [§ 112], if the Administrator finds such regulation is appropriate and necessary after considering the results of the study required by this subparagraph.”⁵⁸ If Congress had intended to limit the EPA’s analysis to direct regulatory effects, it could simply have said so. It did not, and it did not do so in the face of an already substantial practice by agencies of considering indirect costs and benefits. It borders on outlandish to construe statutory silence in this context to prohibit consideration of indirect effects. Even the claim that statutory silence *permits* the agency to ignore indirect effects is highly implausible.

In addition, the Court’s guidance in *Michigan v. EPA* on the appropriate interpretation of § 112(n) runs entirely counter to the EPA’s approach in the proposal. According to the Court, “‘appropriate’ is ‘the classic broad and all-encompassing term that naturally and traditionally includes consideration of all the relevant factors.’”⁵⁹ The Court also recognized the relevance of “established administrative practice,” which includes many decades of considering indirect costs

55. *Id.* at 2676.

56. *Id.* at 2674–76.

57. *Id.* at 2676.

58. Clean Air Act § 112(n)(1)(A), 42 U.S.C. § 7412(n)(1)(A) (2012).

59. *Michigan v. EPA*, 135 S. Ct. 2699, 2707 (2015) (quoting *White Stallion Energy Ctr., LLC v. EPA*, 748 F.3d 1222, 1266 (D.C. Cir. 2014) (Kavanaugh, J., dissenting)).

and benefits, in interpreting the phrase “appropriate and necessary” in § 112(n).⁶⁰ The Court characterized the Agency’s practice as follows: “reasonable regulation ordinarily requires paying attention to the advantages and the disadvantages of agency decisions.”⁶¹ There is no hint that the “advantages” and “disadvantages” discussed by the Court are limited to only the *direct* advantages or disadvantages.⁶²

The Agency’s argument from statutory structure is also extremely weak, and, indeed, is very similar to the argument it offered and the Court rejected in *Michigan v. EPA*. The EPA claimed that since the statute directs the Agency to conduct a study of the public health effects of HAP emissions prior to regulating, it should accordingly exclude co-benefits from its appropriate-and-necessary analysis. In *Michigan v. EPA*, the Court heard a similar argument that the Agency should not consider costs in making its appropriate-and-necessary finding because the study mandated by § 112(n)(1)(A) focuses exclusively on public health and does not mention costs.⁶³ The primary holding of *Michigan v. EPA* rejects that argument in favor of an expansive interpretation of § 112(n) that requires the Agency to examine the whole range of consequences from regulating HAPs, not merely HAP-related public health effects.

The Court does mention co-benefits in *Michigan v. EPA*, but only when expressly decline to address the issue of whether and how co-benefits should be weighed against costs.⁶⁴ The EPA’s new proposal’s claim that *Michigan v. EPA* prohibits consideration of co-benefits is flatly contradicted by the majority opinion, which made it absolutely clear that it did not decide the question of how co-benefits should be treated. Where courts *have* addressed the issue of co-benefits under

60. *Id.* at 2708.

61. *Id.* at 2707 (emphasis omitted).

62. *Id.* Indeed, the Court emphasized the importance of indirect costs:

In addition, “cost” includes more than the expense of complying with regulations; any disadvantage could be termed a cost. EPA’s interpretation precludes the Agency from considering any type of cost—including, for instance, harms that regulation might do to human health or the environment. The Government concedes that if the Agency were to find that emissions from power plants do damage to human health, but that the technologies needed to eliminate these emissions do even more damage to human health, it would still deem regulation appropriate. No regulation is “appropriate” if it does significantly more harm than good.

Id. (emphasis omitted) (citation omitted).

63. *Id.* at 2708–09.

64. *Id.* at 2711.

§ 112, they have found that it is entirely appropriate for such benefits to be considered.⁶⁵

The Agency argues in the alternative that it is a reasonable exercise of its discretion to functionally ignore co-benefits when making an appropriate-and-necessary determination. It should be clear from the discussion above that this choice is anything but reasonable: it has no basis in economic theory and it contradicts both the relevant guidance and decades of agency practice. More to the point, it flouts basic principles of rationality to claim that a rule is not cost-benefit justified when it will, in fact, generate tens of billions of dollars of net benefits every year.

Further exacerbating the irrationality of the Agency's decision to functionally ignore indirect benefits is that it *counts indirect costs*. The cost estimate in the 2016 Finding, which the Agency does not revisit in its latest proposal, includes costs “beyond the costs borne by owners of coal- and oil-fired units regulated by MATS.”⁶⁶ This is the definition of indirect costs.⁶⁷ The irrationality of accounting for indirect costs while ignoring indirect benefits should be obvious.⁶⁸ This contradiction arises in part because the terms “benefits” and “costs” are in fact merely labels

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65. *E.g.*, U.S. Sugar Corp. v. EPA, 830 F.3d 579, 625–26 (D.C. Cir. 2016) (“Section 7412(d)(4)’s text does not foreclose the Agency from considering co-benefits and doing so is consistent with the [Clean Air Act]’s purpose—to reduce the health and environmental impacts of hazardous air pollutants.”).
66. Supplemental Finding That It Is Appropriate and Necessary to Regulate Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units, 81 Fed. Reg. 24,420, 24,439–40 (Apr. 25, 2016) (to be codified at 40 C.F.R. pt. 63).
67. *Id.* Direct costs are “those costs that fall directly on regulated entities as the result of the imposition of a regulation.” EPA, *supra* note 4, at 8-7. Indirect costs, meanwhile, are those “incurred in related markets or experienced by consumers or government agencies not under the direct scope of the regulation.” *Id.* at 8-7 to -8.
68. See Natalie Jacewicz & Richard L. Revesz, *EPA Is Rolling Back Protections with Methodology No Respectable Economist Would Endorse*, THE HILL, (Mar. 4, 2019, 12:30 PM), <https://thehill.com/opinion/energy-environment/432471-epa-is-rolling-back-protections-with-methodology-no-respectable> [<https://perma.cc/9H4P-S4SV>] (“It is difficult to imagine a more arbitrary and capricious methodology than a rule under which EPA must take into account the indirect consequences of regulation if they are negative but must ignore them if they are positive.”); Christopher C. DeMuth & Douglas H. Ginsburg, *Rationalism in Regulation*, 108 MICH. L. REV. 877, 888 (2010) (“There appear to be no legal, political, or intellectual . . . impediments to treating ancillary benefits and countervailing risks equally in cost-benefit analysis.”); Samuel J. Rascoff & Richard L. Revesz, *The Biases of Risk Tradeoff Analysis: Towards Parity in Environmental and Health-and-Safety Regulation*, 69 U. CHI. L. REV. 1763, 1793 (2002) (“Risk tradeoffs and ancillary benefits are simply mirror images of each other.”).

of convenience, and agencies sometimes also refer to benefits as “negative costs.”⁶⁹ Failing to account for indirect benefits is, by definition, the failure to account for indirect negative costs. The Agency provides no reason why some indirect costs are accounted for and others are not.

Where agencies have engaged in similar behavior in the past by “put[ting] a thumb on the scale by undervaluing the benefits and overvaluing the costs,”⁷⁰ or “inconsistently and opportunistically fram[ing]” a rule’s advantages and disadvantages,⁷¹ courts have rejected this clear violation of norms of rationality. The EPA’S HAP proposal departs from decades of practice, relevant guidance, and common sense. The EPA provides no reason to believe that Congress intended the Agency to do so; if anything, the language of § 112 and the Court’s interpretation of that language indicate that the EPA cannot lawfully ignore a massive category of regulatory effects.

V. COST-BENEFIT ANALYSIS IN A DARK TIME

If the treatment of co-benefits in the EPA’s proposal were an isolated incident of departing from standard cost–benefit practices, it would be bad enough. But the reality is that the Trump Administration has taken a host of steps that show its disregard for longstanding norms of good governance and informed regulatory decision making. Almost immediately after taking office, President Trump issued Executive Order 13,771, which directs each agency to repeal at least two existing regulations before issuing a new regulation, and imposes a regulatory budget that sets a cap on additional regulatory costs at zero.⁷² These requirements encourage agencies to focus exclusively on regulatory costs, rather than the traditional goal of maximizing net benefits, and impose a set of direct, formalistic, and inflexible mandates that are highly unlikely to facilitate higher quality regulations or promote the sensible evaluation of existing rules.⁷³ Other moves include attempting to disregard important public health studies, which have informed the Agency’s cost–benefit analyses for decades, under the guise of scientific

69. EPA, EPA-420-D-09-003, DRAFT REGULATORY IMPACT ANALYSIS: PROPOSED RULEMAKING TO ESTABLISH LIGHT-DUTY VEHICLE GREENHOUSE GAS EMISSION STANDARDS AND CORPORATE AVERAGE FUEL ECONOMY STANDARDS, at xiii (2009).

70. *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1198 (9th Cir. 2008).

71. *Bus. Roundtable v. SEC*, 647 F.3d 1144, 1148–49 (D.C. Cir. 2011).

72. Exec. Order No. 13,771, 82 Fed. Reg. 9,339 (Feb. 3, 2017).

73. See Caroline Cecot & Michael A. Livermore, *The One-In, Two-Out Executive Order Is a Zero*, 166 U. PENN. L. REV. ONLINE 1, 2, 9 (2017).

“transparency,”⁷⁴ and abandoning the current best estimate for the social costs of greenhouse gas emissions.⁷⁵

The consequences of these moves for the future of cost-benefit analysis are far from clear. The Trump Administration has had an abysmal record of defending its regulatory decisions in court, in part because of its willingness to ignore longstanding rules of administrative practice, including by failing to engage in rigorous analysis of costs and benefits.⁷⁶ These failures might demonstrate to future administrations that they should hew more closely to established norms. On the other hand, activists, commentators, and some scholars have suggested that, since the Trump Administration has been unwilling to operate within the normal constraints, a future Democratic administration should feel similarly unconstrained.⁷⁷

The prisoners' dilemma provides a rough analogy to the situations facing the parties with respect to cost-benefit analysis, and other norms that govern how politics should interact with agency decision making. In the setup of the prisoners' dilemma, two strategic actors face different payoffs depending on whether they defect from an agreement with a conspirator, and whether the conspirator defects. There is no way for the two conspirators to coordinate with each other. The payoffs are structured so that jointly, the conspirators are better off cooperating; but no matter what the other conspirator does, each

74. Madison E. Condon et al., *Assessing the Rationale for the U.S. EPA's Proposed "Strengthening Transparency in Regulatory Science" Rule*, 14 REV. ENVTL. ECON. & POL'Y 131 (2019).

75. Richard Revesz et al., *Best Cost Estimate of Greenhouse Gases*, 357 SCIENCE 655, 655 (2017).

76. See Connor Raso, *Trump's Deregulatory Efforts Keep Losing in Court—And the Losses Could Make It Harder for Future Administrations to Deregulate*, BROOKINGS (Oct. 25, 2018), <https://www.brookings.edu/research/trumps-deregulatory-efforts-keep-losing-in-court-and-the-losses-could-make-it-harder-for-future-administrations-to-deregulate/> [<https://perma.cc/N7PV-KPW8>].

77. See, e.g., Dylan Matthews, *Can Technocracy Be Saved? An Interview with Cass Sunstein*, VOX (Oct. 22, 2018), <https://www.vox.com/future-perfect/2018/10/22/18001014/cass-sunstein-cost-benefit-analysis-technocracy-liberalism> [<https://perma.cc/B4JE-LJCU>]. Matthews noted a common concern:

I hear that sentiment a lot . . . that liberals and leftists are being hampered by the generosity of their principles, that they need to learn to play dirtier and can't afford to hamstring themselves by, say, subjecting their policies to cost-benefit analysis when faced with a figure like Trump who's not hamstrung by anything.

Id. (emphasis omitted); see also David LaRoss, *CPR Seeks Cost-Benefit Overhaul to Reform Federal Rulemaking Process*, INSIDE EPA (Dec. 30, 2019), <https://insideepa.com/environment-next-news/cpr-seeks-cost-benefit-overhaul-reform-federal-rulemaking-process> [<https://perma.cc/YEV4-9YA9>].

conspirator, individually, is better off defecting. For obvious reasons, this setup makes it difficult to maintain cooperation over time.

There is a well-known experiment by political scientist Robert Axelrod that showed how, especially under uncertainty in repeated game situations, the best strategy in a prisoners' dilemma is "tit-for-tat." That strategy begins with a cooperative move but immediately defects at the first sign of bad faith by the other prisoner.⁷⁸ One of the optimistic interpretations of Axelrod's results is that, under certain conditions, a mutually beneficial equilibrium is at least possible, with a group of tit-for-tat players all engaging in cooperative behavior. The downside is that this equilibrium can be unstable, with a few bad actors driving everyone else toward defection.

The Trump Administration is the non-cooperative actor that might ruin what has been a beneficial cooperative equilibrium for the American public. By defecting from the tacit agreement between administrations of both parties to carry out cost-benefit analyses within the range of accepted norms, the current administration has destabilized a situation that has existed for decades. While it is possible that a future Democrat administration might just ignore this defection and return to the cooperative state of the pre-Trump years, it is also possible that it might continue to follow the Trump Administration's defection strategy, initiating a sequence of events that, in the end, does away with cost-benefit analysis altogether.

78. ROBERT AXELROD, *THE EVOLUTION OF COOPERATION* 31-33, 121-23 (1984).