

ARTICLES

Efficiency and Equity in Regulation

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The Biden Administration has signaled an interest in ensuring that regulations appropriately benefit vulnerable and disadvantaged communities. Prior presidential administrations since at least the Reagan Administration have focused on ensuring that regulations are efficient, maximizing the net benefits to society as a whole, without considering who benefits or who loses from these policies. Critics of this process of regulatory review have celebrated President Biden's initiative, hoping that distributional analysis and the pursuit of equity will displace traditional tools and interests such as cost-benefit analysis and the pursuit of efficiency. Meanwhile, supporters of the current

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process are concerned that pursuing equity will come at significant cost to efficiency and ultimately leave everyone worse off.

This framework—efficiency versus equity—is misguided and counterproductive in many cases. As an initial matter, all regulations have distributional consequences, and the traditional arguments for ignoring these consequences are outdated or wrong. Understanding distributional effects and considering equity in regulation is long overdue.

But current agency practice is often far from efficient, and there are opportunities to advance equity by improving the efficiency of regulations. In fact, neutral procedures such as cost-benefit analysis are more likely to benefit disadvantaged groups than is raw politics, whatever the intention, at least based on experience in regulatory policy. Furthermore, cost-benefit analysis and efficiency considerations more generally could help avoid outcomes that are, in their implementation, inequitable.

This Article supports these arguments by drawing on examples from the environmental context, where considerations of equity and efficiency have often been thought to conflict. Importantly, it highlights how thinking about both equity and efficiency can help regulators identify ways to promote both using their existing authorities. And, in particular, it argues that funding and subsidy programs could be deployed in connection with regulatory actions to help realize equitable outcomes. This Article articulates some simple rules of thumb agencies could use to identify these contexts and thoughtfully deploy their resources, and it compares this approach to broader proposals to consider equity in regulation more generally.

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INTRODUCTION

On his first day in office, President Biden directed the Office of Management and Budget to propose ways of ensuring that regulatory initiatives “appropriately benefit and do not inappropriately burden disadvantaged, vulnerable, or marginalized communities.”¹ In a separate order that same day, he required all executive agencies to evaluate whether “new policies, regulations, or guidance documents may be necessary to advance equity in agency actions and programs.”² And within a few months, he rescinded a Trump-era rule focused on the use of cost-benefit analysis (“CBA”) for rulemakings under the Clean Air Act.³ Scholars and commentators, observing these early administration actions, have suggested that “the Biden White House is not going to prioritize cost-benefit analysis as the standard for issuing regulations,” shifting focus from efficiency considerations, embodied in CBA, to equity considerations.⁴ Some went even further, encouraging the Administration to explicitly reject CBA as incompatible with needed progressive action.⁵ But this framework, efficiency versus equity in regulation, is misguided and counterproductive. Both goals are important—and both are inadequately considered in current regulatory policy.

Instead, regulations are often inefficient because they are not based on high-quality CBA and possibly inequitable, too, because distributional consequences are not measured. In fact, pursuing

1. Memorandum on Modernizing Regulatory Review, 2021 DAILY COMP. PRES. DOC. 63 (Jan. 20, 2021).

2. Exec. Order No. 13,985, 86 Fed. Reg. 7009, 7010 (Jan. 20, 2021).

3. Rescinding the Rule on Increasing Consistency and Transparency in Considering Benefits and Costs in the Clean Air Act Rulemaking Process, 86 Fed. Reg. 26406 (May 14, 2021) (to be codified at 40 C.F.R. pt. 83).

4. Dan Farber, *Cost-Benefit Analysis and the Biden EPA*, LEGAL PLANET (May 20, 2021), <https://legal-planet.org/2021/05/20/epa-and-cost-benefit-analysis/> [<https://perma.cc/X689-AJN7>].

5. See James Goodwin, *A Post-Neoliberal Regulatory Analysis for a Post-Neoliberal World*, LAW & POL. ECON. PROJECT: SYMP. ON THE FUTURE OF COST-BENEFIT ANALYSIS (Oct. 14, 2021), <https://lpeproject.org/blog/a-post-neoliberal-regulatory-analysis-for-a-post-neoliberal-world/> [<https://perma.cc/86SJ-VAJK>] (“Building a new regulatory system befitting our vision of a post-neoliberal America requires a formal rejection of prevailing cost-benefit analysis in favor of a radically different approach—one that invites public participation, permits open and fair contestation of competing values at the heart of policy debates, and recognizes and honors our social interdependencies.”); Lisa Heinzerling, *Climate Change, Racial Justice, and Cost-Benefit Analysis*, LAW & POL. ECON. PROJECT: SYMP. ON THE FUTURE OF COST-BENEFIT ANALYSIS (Sept. 28, 2021), <https://lpeproject.org/blog/climate-change-racial-justice-and-cost-benefit-analysis/> [<https://perma.cc/4UFW-BAUN>] (“These twin inclinations—toward acting boldly on climate change and racial justice, and toward judging regulation using cost-benefit analysis—are trains racing toward each other on the same track.”). See generally *Symposia on Cost-Benefit Analysis*, LAW & POL. ECON. PROJECT, <https://lpeproject.org/symposia/cost-benefit-analysis/> (last visited Nov. 19, 2022) [<https://perma.cc/MKA8-KX2V>].

efficiency by committing to a procedure such as CBA is more likely to benefit disadvantaged groups than is raw politics, whatever the intention, at least based on regulatory experience. In other words, even if efficiency-led outcomes—defined as those that seek to maximize social welfare⁶—ignore distribution, I argue that they tend to be better for disadvantaged groups than outcomes that are not informed by transparent and neutral principles and analysis, where the political influence of advantaged groups is likely to play an outsized role. Furthermore, it is possible to enhance the connection of tools such as CBA (and its variants) to social welfare by considering the distribution of outcomes. And, finally, promoting true equity will require appreciation of economic principles, too, to prevent unintended consequences of realities such as the financial constraints of those who bear the costs of regulation. After discussing several examples, the Article identifies shortcuts for considering efficiency and equity, and it offers a modest proposal for agencies to realize win-win scenarios under their current authorities whenever possible.

As an initial matter, some definitions are in order. *CBA* is a decisionmaking tool that, in its most useful form, quantifies and monetizes all important effects—positive and negative, direct and indirect—of a proposed regulatory action, providing information about whether society, in the aggregate, is likely to be better-off from the action on this metric. In this way, CBA helps agencies identify which option among alternative actions would maximize net social benefits (defined as the difference between social benefits and social costs), which is the hallmark of a *welfare-efficient* regulatory action.⁷ More generally, efficiency is characterized by getting the most out of an input or an action, and it is commonly associated with pursuing maximum social welfare and overall economic growth and, more colloquially, considering costs. Meanwhile, *distributional analysis* is the explicit analysis of who gains and who loses from the implementation of a policy, which, in the context of CBA, would entail disaggregating the effects for different groups. The groups of interest for distributional analysis are usually demographic groups or specific sectors of the economy. Conventional CBA does not generally include a distributional analysis; the benefits and costs accruing to different groups are often

6. In other words, I define efficiency in the tradition of welfare economics as the maximization of aggregate social welfare. For a more thorough treatment of the definition of social welfare and ways to approximate it, see MATTHEW D. ADLER, *MEASURING SOCIAL WELFARE: AN INTRODUCTION* 10–11, 47 (2019), identifying ways to measure social welfare; and MATTHEW D. ADLER & ERIC A. POSNER, *NEW FOUNDATIONS OF COST-BENEFIT ANALYSIS* (2006), advocating for the view that the goal of CBA should be to maximize social welfare.

7. See ADLER & POSNER, *supra* note 6.

not separately analyzed.⁸ Finally, the concept of *equity* is concerned with the impact of a proposed regulatory action on groups thought to be disadvantaged under the status quo; whether the action would promote equity requires comparing the regulatory outcome with the baseline conditions of expected winners and losers. In Executive Order 13,985, for example, President Biden associates “opportunities to promote equity” with “address[ing] the historic failure to invest sufficiently, justly, and equally in underserved communities, as well as individuals from those communities.”⁹ Disadvantaged groups are those groups associated with relatively worse average baseline conditions on some metric, often including low-income groups; racial, ethnic, or religious minorities; and those living in rural areas.¹⁰

In the United States, federal executive agencies have been required to conduct CBA for significant regulatory actions for more than four decades.¹¹ The process of CBA and regulatory review more generally, initiated by President Reagan and reaffirmed by all subsequent presidents, including President Biden,¹² has been intended to prompt agencies to undertake regulatory actions with benefits that

8. See, e.g., EPA, EPA-452/R-15-003, REGULATORY IMPACT ANALYSIS FOR THE CLEAN POWER PLAN FINAL RULE, at ES-21–ES-23, 7-3–7-5, 8-1–8-4 (2015), https://www3.epa.gov/ttnecas1/docs/ria/utilities_ria_final-clean-power-plan-existing-units_2015-08.pdf [<https://perma.cc/R66T-SRXV>] (providing an estimate of aggregate net benefits from the Obama Administration’s rule). The Clean Power Plan rulemaking contained a separate analysis that provided demographic information on the communities located within a three-mile radius of affected power plants, but this analysis also did not calculate the benefits and costs from the rulemaking that accrue to different demographic groups. See EPA, EJ SCREENING REPORT FOR THE CLEAN POWER PLAN 10, 107 tbl.1, 108–10 (2015), <https://archive.epa.gov/epa/sites/production/files/2016-04/documents/ejscreencpp.pdf> [<https://perma.cc/6XZA-R5JM>].

9. Exec. Order No. 13,985, 86 Fed. Reg. 7009, 7010 (Jan. 20, 2021).

10. In Executive Order 13,985, the term “underserved communities” refers to “populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life,” including “Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.” *Id.* at 7009. For a list of groups that agencies have at times considered in regulatory policy, see Caroline Cecot & Robert W. Hahn, *Incorporating Equity and Justice Concerns in Regulation*, REGUL. & GOVERNANCE, Dec. 11, 2022, at 1, <https://doi.org/10.1111/rego.12508>.

11. Exec. Order No. 12,291, 46 Fed. Reg. 13193 (Feb. 17, 1981) (applying to “major” rules); Exec. Order No. 12,866, 58 Fed. Reg. 51735 (Sept. 30, 1993) (replacing Executive Order 12,291 and applying to “significant” rules). “Significant” rules (or, previously, “major” rules) are those that “may . . . [h]ave an annual effect on the economy of \$100 million or more,” among other things. *Id.*

12. See Exec. Order No. 12,291, 46 Fed. Reg. 13193 (President Reagan’s order); Exec. Order No. 12,866, 58 Fed. Reg. 51735 (President Clinton’s order, reaffirming the principles of Reagan’s order with slight adjustments); Exec. Order No. 13,563, 76 Fed. Reg. 3821 (Jan. 18, 2011) (President Obama’s order, supplementing the longstanding Clinton order); Memorandum on Modernizing Regulatory Review, *supra* note 1 (reaffirming “the basic principles set forth” in prior orders requiring regulatory review and CBA).

outweigh costs, choosing the regulatory option that maximizes net benefits to society.¹³ But perhaps less known is that the current iteration of the order, Executive Order 12,866, issued by President Clinton, also requires agencies to consider “distributive impacts” and “equity” when deciding to pursue regulatory initiatives.¹⁴ By all accounts, however, this requirement to examine who benefits from regulatory initiatives has not been widely implemented by agencies.¹⁵ The fact that CBA, when it is conducted, has long ignored distributional impacts has contributed to the perception that the pursuit of efficiency in regulations exacerbates inequity—or, more broadly, that the pursuit of efficiency and the pursuit of equity are fundamentally in conflict with each other. In fact, high-profile opposition to efficiency-focused environmental policy, for example, has lately come from the perspective of ensuring equity and environmental justice.¹⁶ This perception has led some commentators to announce that building a new regulatory system that considers the equity of regulations “requires a formal rejection of prevailing cost-benefit analysis” and other hallmarks of economic thinking.¹⁷

It would be wrongheaded for the Biden Administration to promote equity by ignoring long-standing concerns about the efficiency of regulations. CBA and distributional analysis, while distinct tools, are not in conflict with each other,¹⁸ and moreover, the two analytical

13. See, e.g., Exec. Order No. 12,866, 58 Fed. Reg. 51735 (requiring CBA for “significant” rules).

14. *Id.*

15. See generally Lisa A. Robinson, James K. Hammitt & Richard J. Zeckhauser, *Attention to Distribution in U.S. Regulatory Analyses*, 10 REV. ENV'T ECON. & POL'Y 308, 323 (2016) (finding that CBAs “rarely quantify” the distribution of risk reductions by population subgroups); Cecot & Hahn, *supra* note 10, at 18 (looking at a broader sample of CBAs and finding little distributional analysis).

16. The controversy surrounding the extension of California’s cap-and-trade program is a prominent example. See Richard L. Revesz, *Regulation and Distribution*, 93 N.Y.U. L. REV. 1489, 1495–99 (2018) (describing the controversy).

17. Goodwin, *supra* note 5 (“Building a new regulatory system befitting our vision of a post-neoliberal America requires a formal rejection of prevailing cost-benefit analysis in favor of a radically different approach . . .”).

18. In fact, many prominent supporters of CBA have publicly supported President Biden’s interest in incorporating distributional analysis. See, e.g., Cass R. Sunstein, Opinion, *Biden Chooses a Pragmatic Path for Regulation*, BLOOMBERG (Jan. 22, 2021, 6:00 AM) <https://www.bloomberg.com/opinion/articles/2021-01-22/regulation-under-biden-cost-benefit-analysis-with-a-new-twist> [<https://perma.cc/GB5T-6ZS5>] (“Biden’s memorandum sets just the right direction – and establishes just the right tone.”); Richard L. Revesz, *A New Era for Regulatory Review*, THE REGUL. REV. (Feb. 16, 2021), <https://www.theregreview.org/2021/02/16/revesz-new-era-regulatory-review/> [<https://perma.cc/D42G-M6NR>] (Biden’s “memorandum provides an important opportunity for addressing a key shortcoming of agency regulatory analyses and OIRA review.”).

methods work best when used in conjunction to promote efficiency or equity.

This Article supports the increasing chorus of scholars calling for the consideration of distributional consequences of regulations—consequences that are real, unavoidable, and currently unmeasured and ignored. The conventional economic wisdom has been that regulations could safely ignore any distributional consequences.¹⁹ The supporting justifications range from the expectation that disproportionate effects on some groups would cancel out across regulations to the argument that it would be cheaper to address any remaining distributional concerns through progressive taxation rather than on a regulation-by-regulation basis.²⁰ While other scholars have criticized these justifications for the status quo by focusing on the practical infeasibility of “fixing” any undesirable distributional consequences of efficient regulation through taxation,²¹ this Article takes a different approach. While others have assumed that regulations reflect some form of efficiency (typically Kaldor-Hicks efficiency),²² this Article describes the true status quo, where regulations are often neither efficient nor equitable. Setting the record straight here is important because it underscores that the perceived conflict between the two values is often, in practice, a false dichotomy. Furthermore, by stressing that distributional consequences are unavoidable and that multiple distributional outcomes can support an efficient allocation of resources and goods, it rejects the idea that ignoring these consequences and deciding not to evaluate opportunities for alternative distributions is somehow neutral.

19. See, e.g., Louis Kaplow & Steven Shavell, *Why the Legal System Is Less Efficient than the Income Tax in Redistributing Income*, 23 J. LEGAL STUD. 667, 675 (1994) (“[N]ormative economic analysis of legal rules should be primarily concerned with efficiency rather than the distribution of income.”).

20. See *infra* Part I.

21. See, e.g., Revesz, *supra* note 16, at 1500 (describing the “inadequacies of providing compensation for the negative distributional consequences of environmental, health, and safety regulation through the tax system”); Zachary Liscow, *Redistribution for Realists*, 107 IOWA L. REV. 495, 499 (2022) (arguing that the “reigning orthodoxy” fails in practice).

22. See, e.g., Liscow, *supra* note 21, at 504, 510, 529 (critiquing the potentially perverse distributional consequences of *efficient* regulatory policy, focusing on implications of Kaldor-Hicks efficiency in some contexts). The Kaldor-Hicks criterion is one justification for computing the monetary equivalents of benefits and costs of a policy; if the winners (those who benefit from the policy) can theoretically compensate the losers (those who bear costs), then the policy is said to represent a potential Pareto improvement. A Kaldor-Hicks efficiency policy is one where no more such potential Pareto-improving moves can be made; the winners would not be able to compensate the losers. For a policy to be Kaldor-Hicks efficient, no compensation is actually required. See Nicholas Kaldor, *Speculation and Economic Stability*, 7 REV. ECON. STUD. 1 (1939); J.R. Hicks, *The Foundations of Welfare Economics*, 49 ECON. J. 696 (1939). See generally ADLER & POSNER, *supra* note 6, at 5 (discussing and criticizing the Kaldor-Hicks criterion and arguing for a new justification for CBA).

After highlighting the true status quo, the Article makes two main arguments. First, pursuing efficiency is not necessarily at odds with promoting equity.²³ As an initial matter, formal procedures and tools for maximizing social welfare, such as CBA, are likely to improve efficiency *and equity* over an alternative that is based in raw politics, whatever the intention. This Article highlights some examples and offers an explanation based on interest-group pressures that draws from the public choice literature. Simply put, pursuing efficiency will often combat instincts that hurt disadvantaged demographic groups. Separately, the pursuit of *true* efficiency in maximizing social welfare would further ensure that regulations adequately consider disadvantaged groups. CBA is a tool that helps policymakers maximize social welfare, but the way it is implemented is an imperfect approximation. For example, economists have long argued that there is diminishing marginal utility to additional income.²⁴ This property would mean that the same costs imposed on very poor individuals would have much greater (negative) welfare effects on them than on very rich individuals. Conversely, benefits that accrue to very rich individuals would have only modest (positive) welfare effects compared to welfare effects for very poor individuals. If the goal is to maximize aggregate *welfare*, then the idea that the same costs and benefits may have different effects depending on the baseline welfare of the affected groups matters. Ignoring these distributional effects could make a CBA's conclusions about policies that maximize welfare misleading or wrong. And, from the perspective of equity, it would also seem wrong to impose costs on those who are already disadvantaged or to provide benefits to those who are already advantaged rather than select other regulatory alternatives. In other words, if those burdened by the policy are members of an already disadvantaged or vulnerable group, such as very poor individuals, or if those benefitted by the policy are very rich individuals, the policy might not be worth pursuing on efficiency *or* equity grounds. Promoting efficient regulations using a CBA that better

23. Recently, Jonathan Wiener has highlighted the fundamental similarity in the motivations underlying the pursuits of these values in regulatory policy; both emanate from concerns about institutional “disregard—disregard of impacts on others (externality) and disregard of others (inequity).” Jonathan B. Wiener, *Disregard and Due Regard*, 29 N.Y.U. ENV'T L.J. 437, 447 (2021). By recasting these two goals as two ways of combating socially harmful disregard, it becomes easier to see why they would not necessarily be at odds.

24. See, e.g., Ed Diener, Ed Sandvik, Larry Seidlitz & Marissa Diener, *The Relationship Between Income and Subjective Well-Being: Relative or Absolute?*, 28 SOC. INDICATORS RSCH. 195, 197 (1993) (hypothesizing a “diminishing influence of finances on happiness” above certain income level).

measures social welfare effects would in many cases also promote more equitable outcomes compared to the status quo.²⁵

Second, when the goals of equity and efficiency do appear to conflict, an agency should pursue one value only if necessary and, in those cases, at the lowest cost to the other value. Both values are important, and any trade-offs between the two values should be well considered—otherwise the policies might backfire. One example is the pursuit of (Kaldor-Hicks) efficiency without considering distributional consequences of regulatory actions, which could result in actions that fall well short of equity and efficiency. The flipside is true, too—pursuing equity without considering economic principles, and in particular costs, could result in actions that are inefficient *and inequitable*. Consider a situation in which a policy's benefits to a disadvantaged group are thought to be great. Those pursuing equity through regulation have often rallied around such policies, blaming CBA and cost consideration more generally as roadblocks to achieving these gains.²⁶ But if the costs are not widely distributed and, instead, fall on disadvantaged groups, too, then the policy might not promote equity at all; these groups might end up worse off. In other words, a distributional analysis must consider benefits *and costs* to different groups. This insight might seem obvious. Unfortunately, in the past, the rare times that agencies have conducted distributional analysis at all, they focused on *only* the *benefits* of federal actions to specific demographic groups.²⁷ In fact, since 2003, only one regulation and its repeal were supported by CBAs that calculated *net* benefits (benefits minus costs) of a regulatory action to an identifiable (arguably demographic) group.²⁸ If implemented without cost consideration and without CBA, the pursuit of equity over efficiency could be inefficient and inequitable. Ensuring that distributional analysis occurs alongside CBA could help avoid such lose-lose situations or, at least, highlight the transfers or offsets that would be required for an equity-motivated

25. There are important limits to this argument, as discussed *infra* Part II.

26. See, e.g., Lisa Heinzerling, *Markets for Arsenic*, 90 GEO. L.J. 2311 (2002) (arguing against the agency's CBA that justified setting the stringency of standards regulating arsenic in drinking water at less than the maximum technologically feasible level).

27. See Cecot & Hahn, *supra* note 10, at 2, 9 tbl.2 (identifying two analyses, out of 189, that evaluated the distribution of benefits *and* costs for an arguable demographic group (Tribal lands)).

28. *Id.* at 9 tbl.2. These regulations were the Waste Prevention, Production Subject to Royalties, and Resource Conservation rule issued by the Obama Administration and its repeal, Rescission of Waste Prevention Rule, issued by the Trump Administration. *Id.* These CBAs, issued by the Department of the Interior, calculated the *net* benefits that would accrue to Tribal lands, owned and inhabited by Indigenous and Native American persons, due to regulation-induced changes in oil and gas production in those areas. *Id.* at 8. One other regulation, by the Department of Transportation, considered net benefits that would accrue to a group, but the identified group was an industry group (motor carriers). *Id.* at 9 tbl.2.

regulation to be in fact equitable, creating potential win-win situations in contexts where this is possible through an agency's other authorities or programs.

Implementing these ideas, the Article provides a general framework for when equity and efficiency considerations might be especially relevant in regulatory policymaking that hinges on the incidence and concentration of benefits and costs on disadvantaged versus advantaged groups. It then offers a proposal consisting of simple rules of thumb for creating win-win scenarios whenever possible. It compares its proposal with other proposals for managing efficiency and equity in regulation that recognize the importance of both values.

In Part I, I describe the typical efficiency-versus-equity framework within the law and economics literature, wherein regulatory policy focused on efficiency is promoted notwithstanding (or ignoring) its distributional outcomes, leaving any distributional adjustments to the tax system. I discuss how dissatisfaction with congressional inaction in the face of increasing inequality has prompted many scholars to reexamine whether regulatory policy should and could be used for distributional purposes or, at least, whether it should consider its contribution to inequitable outcomes. This discussion is not theoretical; President Biden's early actions, and in particular Executive Order 13,985, are arguably a move in this direction.

Part II then argues that the pursuit of efficiency should not be cast away even as agencies start to appreciate the importance of considering equity. First, despite the long-standing practice of CBA, most regulations are actually far from efficient. Reasons for this include statutory constraints, scientific limitations, and siloed regulatory programs. Second, given this inefficient status quo, there are ways to *improve the efficiency* of regulations through improvements to or applications of CBA that would *also* promote equity. In other words, it is possible to pursue and increase both efficiency and equity in many contexts.

Part III then considers situations in which equity and efficiency arguably conflict. It first explains why the pursuit of equity must consider the incidence of *costs* in addition to the incidence of benefits. Oftentimes, proponents of equity have focused solely on the incidence of benefits, but such a narrow focus could push policy into a lose-lose scenario where the outcome is not only inefficient but also actually inequitable. I provide an example from the regulation of drinking water. Part III next explains how efficiency considerations could help in the promotion of equity by identifying potential win-win situations. Here, I highlight the New York City Watershed Protection Program, an innovative solution to avoiding installation of a costly filtration plant

that was motivated by concerns about efficiency and equity. In particular, the solution emerged because stakeholders recognized the importance of both values and prioritized implementing the efficient outcome—but with a more equitable distributional consequence.

Finally, Part IV proposes a framework for identifying when efficiency considerations could inform regulations aimed at pursuing equity that focuses on the incidence and concentration of benefits and costs to advantaged and disadvantaged groups. I propose agencies identify these situations and support equitable outcomes by deploying funding decisions alongside regulatory proposals when possible.

Overall, this Article argues that incorporating equity should not occur without considering efficiency. There are opportunities to improve the efficiency and the equity of regulations in many cases. And, when there is a trade-off between the two, one value should be promoted only if necessary and with the lowest cost to the other value. In particular, efficiency considerations should not be offloaded entirely in the move to promote equity. Efficiency considerations, at the minimum, could limit abuse or misuse of an equity-based system, avoid lose-lose scenarios, and identify win-win scenarios.

I. EFFICIENCY VERSUS EQUITY?

In 1975, economist Arthur Okun contemplated the difficult relationship between two important values, which he called efficiency and equality.²⁹ In his work, he defined pursuing efficiency as “getting the most out of a given input” and pursuing equality as reducing “disparities among families in their maintainable standards of living,” later distinguishing between “equality of income” and “equality of opportunity.”³⁰ In his book, he stressed that both are important. But, recognizing that “[f]requently, society is obliged to trade between efficiency and equality,” he ultimately argued that, when any sacrifice of one for the other occurs, the sacrifice must be justified as a necessary means of obtaining more of the other.³¹ In other words, he advocated for paying attention to whether a sacrifice of one for the other was necessary and, implicitly, for minimizing the size of the sacrifice if possible.

29. ARTHUR M. OKUN, *EQUALITY AND EFFICIENCY: THE BIG TRADEOFF* 2–3 (1975).

30. *Id.* at 2–3, 63, 73–74. Okun’s definition of “equality of opportunity” is especially similar to President Biden’s definition of “equity” in Executive Order 13,985, defined as “the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment.” Exec. Order 13,985, 86 Fed. Reg. 7009 (Jan. 20, 2021).

31. OKUN, *supra* note 29, at 88.

Somewhere along the way, however, this nuanced view was supplanted by a new and simplified conventional wisdom: Regulatory policy should promote efficiency, and tax policy should promote equity. That is, a rough consensus formed that legal rules, targeted at changing behavior, should be focused on efficiency in order to maximize net benefits for society overall (to maximize the size of the available “pie”). Meanwhile, the tax system, targeted at collecting government revenues, should be used to promote more equality (to decide how to divide up the “pie”).³² This dichotomy occurred after scholars considered the comparative advantages of different institutions and types of government action. The key idea is that addressing distributional impacts by redistributing income through the tax system is thought to be associated with less deadweight loss than addressing distributional impacts in each legal rule, one at a time.³³ In this way, socially undesirable collateral effects on equality from promoting efficiency through legal rules, such as reductions in the slice of the pie that systematically go to particular groups as a result of regulations, would be addressed with minimal sacrifice of efficiency, as Okun had advocated.

In the regulatory context, this focus on achieving efficient legal rules has been embodied in the practice of CBA. CBA has its origins in welfare economics, which identifies aggregate social welfare maximization as the goal of public policy. Most economists operationalize individual “welfare” roughly as the ability of individuals to satisfy their own preferences.³⁴ The idea is that an individual, with full information, prefers one outcome, say *A*, to another, say *B*, presumably because *A* leaves her better-off than does *B*; in other words, a policy that would enable this individual to satisfy this preference would improve her welfare. But, as is often the case, imagine that the policy is not costless. The key question, then, is whether it is worth pursuing this policy to improve this individual’s welfare. For this, a

32. See, e.g., Kaplow & Shavell, *supra* note 19, at 667, 675 (“[R]edistribution through legal rules offers no advantage over redistribution through the income tax system and typically is less efficient”; and “normative economic analysis of legal rules should be primarily concerned with efficiency rather than the distribution of income.”). See generally Revesz, *supra* note 16, at 1500–11 (describing these arguments in detail and their influence in law and economics).

33. See, e.g., Kaplow & Shavell, *supra* note 19, at 667.

34. This view of welfare is not uncontroversial. Scholars have argued, for example, that some preferences are distorted in the sense that their satisfaction does not improve a person’s welfare. See Matthew D. Adler & Eric A. Posner, *Implementing Cost-Benefit Analysis When Preferences Are Distorted*, 29 J. LEGAL STUD. 1105, 1107 (2000) (“Actual preferences are not necessarily constitutive of welfare because they can be distorted, in various ways.”). For a more thorough treatment of the concept of welfare, as well as alternative ways of thinking about welfare, see ADLER, *supra* note 6, at 10–11, 47 (presenting the hedonic view, the preference-realization view, and the social welfare function).

regulator would need to know *how much* the individual prefers option *A* to option *B* for improving her well-being and whether that amount is greater than or less than the total social cost of the policy.

Here, economists take advantage of another key insight to simplify the analysis: For the individual that prefers outcome *A*, there is some monetary equivalent (a compensating differential) that, if added to option *B*, would make her just as happy with it as with option *A*. Economists then identify these monetary equivalents for different trade-offs by examining the choices individuals make, oftentimes by observing behavior in real markets; they then use these values to convert changes from the status quo into monetary amounts, whether positive or negative.³⁵ This procedure makes it possible to evaluate whether some policy likely improves aggregate welfare by converting the outcomes, both good and bad, into the monetary-equivalent gains and losses the policy would cause compared to the status quo. If, on net, the policy results in monetary-equivalent gains, the idea is that the policy improves aggregate welfare.

A CBA implements this procedure by identifying the effects, positive and negative, of a proposed policy and its alternatives and converting the effects into monetary values based on studies analyzing how much individuals, on average, value such effects. Notably, CBA as implemented by agencies generally does not differentiate the amount different people or groups are willing to pay for benefits or to avoid costs, instead employing an average value in most cases. To value environmental, health, and safety benefits, economists estimate the average willingness to pay to reduce these risks using various statistical methods.³⁶ For example, imagine a policy that would improve local air quality in some area. CBA would seek to compare the value of the improvements in air quality to those who benefit from them with the costs of the policy to those who are burdened because of its implementation. In this case, the benefits of the improvements would include lower risks to health, reduced mortality, and greater productivity, and these benefits are typically based on direct values or revealed-preference studies, where available.³⁷ The largest component

35. See Caroline Cecot & Michael A. Livermore, *Economics and Environmental Law Scholarship*, in PERSPECTIVES ON ENVIRONMENTAL LAW SCHOLARSHIP: ESSAYS ON PURPOSE, SHAPE, AND DIRECTION 96 (Ole W. Pedersen ed., 2018) (describing the different ways economists measure these values).

36. See Kenneth J. Arrow et al., *Is There a Role for Benefit-Cost Analysis in Environmental, Health, and Safety Regulation?*, 272 SCIENCE 221, 221 (1996) (“[B]enefits are typically defined in terms of the value of having a cleaner environment or a safer workplace.”).

37. When there exists a well-functioning market for some good, the market price will reflect consumers’ value of it. When there is no well-functioning market, such as in the case of most environmental and risk-reduction benefits, economists use statistical tools to *infer* the value

of regulatory benefits tends to be the reduction of mortality risks, and to value these benefits, the Environmental Protection Agency (“EPA”) and other agencies use a “value of a statistical life” (“VSL”) measure.³⁸ VSL is calculated using information about workers’ wage-risk trade-offs in the labor market, and the current estimated VSL based on most recent data is about \$10 million.³⁹ The costs, meanwhile, are typically compliance costs, which proxy for the effects on the economy from implementing the policy, such as price increases for affected goods. By requiring an agency to identify and monetize all important effects of the agency’s decision, to the extent possible, CBA permits the agency to identify policies that are thought to improve social welfare.

The current practice is to identify cost-benefit justified rules by using average valuations for cost and benefits and by ignoring the distribution of costs and benefits. If disadvantaged or vulnerable groups do not share in the gains from whatever rule is ultimately adopted, the issue is left for possible resolution through the tax system to minimize unintended behavioral distortions.

This position, though reasonable in theory, has been challenged because of realities on the ground. In a recent article, Richard Revesz identifies two important shortcomings.⁴⁰ First, he challenges the notion that the tax system is able to adequately compensate for the forfeiture of regulatory benefits such as reductions in premature death.⁴¹ Second, he highlights long-standing congressional gridlock, demonstrating the practical impossibility of dealing dynamically with distributional concerns through congressional action, making the pursuit of equality through the tax system largely unavailable in practice.⁴²

individuals place on such goods through their behaviors in other markets, such as the labor or real-estate market. These studies are referred to as revealed-preference studies. And, finally, where revealed-preference studies cannot be carried out, economists have relied on stated-preference surveys that obtain individuals’ willingness to pay or accept specific changes in, say, environmental quality based on their answers to hypothetical scenarios. See ROBERT CAMERON MITCHELL & RICHARD T. CARSON, USING SURVEYS TO VALUE PUBLIC GOODS: THE CONTINGENT VALUATION METHOD (Samuel Allen ed., 1989) (assessing survey methods for valuing risk scenarios); Cecot & Livermore, *supra* note 35 (describing the different ways economists measure values that individuals place on goods and amenities).

38. See, e.g., W. Kip Viscusi, *The Value of Life: Estimates with Risks by Occupation and Industry*, 42 ECON. INQUIRY 29, 29 (2004) (“For the past two decades, U.S. federal agencies have used labor market estimates of the value of statistical life to assess the benefits of health, safety, and environmental regulations.”).

39. *Id.* at 31. Note that, like most benefits, VSL is typically not differentiated by income or age in the CBAs used by government agencies, despite empirical evidence that VSL varies by income and age. See W. Kip Viscusi, *The Heterogeneity of the Value of Statistical Life: Introduction and Overview*, 40 J. RISK & UNCERTAINTY 1 (2010).

40. Revesz, *supra* note 16, at 1492–93.

41. *Id.* at 1512–18.

42. *Id.* at 1518–25.

Consistent with this claim, there has rarely been enough consensus to address distributional issues through a more progressive tax system despite dramatic increases in inequality over time and low costs of capital, resulting in tax policy that is thought to be insufficiently progressive. As of 2020, “the top 1% of earners in the United States account for about 20% of the country’s total income annually.”⁴³ According to economist Nathaniel Hendren, our current tax code implicitly values an additional dollar to a poor person about one-and-a-half to two times as much as an additional dollar to a rich person.⁴⁴ Empirical work, however, suggests that people place a much higher weight on an additional dollar if they were to be poor versus an additional dollar if they were to be rich.⁴⁵ In a foreword to Arthur Okun’s book, economist Lawrence Summers speculates that Okun himself would have been “disturbed by the rapid growth in incomes at the top of the distribution” and “would have been even more emphatic in urging reform to make taxes more progressive.”⁴⁶

Unlike Congress, however, regulatory agencies have not faced this insurmountable gridlock; agencies issue thousands of regulations, with more than a hundred of them deemed “significant” each year.⁴⁷ As Richard Revesz explains, there is a big difference between statutes passed by Congress and regulations issued by agencies.⁴⁸ Statutes, such

43. Samuel Stebbins & Evan Comen, *How Much Do You Need to Make to Be in the Top 1% in Every State? Here’s the List*, USA TODAY: 24/7 WALL ST. (July 1, 2020, 7:00 AM), <https://www.usatoday.com/story/money/2020/07/01/how-much-you-need-to-make-to-be-in-the-1-in-every-state/112002276/> [<https://perma.cc/R36M-EZMF>].

44. Nathaniel Hendren, *Efficient Welfare Weights 5* (Aug. 2019) (unpublished manuscript), <https://scholar.harvard.edu/files/hendren/files/eww.pdf> [<https://perma.cc/KN8M-E4FM>].

45. See Liscow, *supra* note 21, at 524 (discussing this literature).

46. Lawrence H. Summers, *Foreword to OKUN*, *supra* note 29, at x.

47. The currently applicable order, Executive Order 12,866, applies CBA to “[s]ignificant regulatory action[s],” defined as those that “[h]ave an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy,” among other things. Exec. Order No. 12,866, 58 Fed. Reg. 51735 (Sept. 30, 1993). For historical counts of significant regulatory actions reviewed by the Office of Information and Regulatory Affairs (“OIRA”) under this executive order, see *Historical Reports*, REGINFO.GOV, <https://www.reginfo.gov/public/do/eoHistoricReport> (last visited Sept. 18, 2022) [<https://perma.cc/JRG9-WY6K>]. For this reason, Revesz advocates for implementing distributional objectives in some cases through regulation, as it is the only available option for doing so. Revesz, *supra* note 16. In particular, in cases in which a regulatory initiative results in an “unusually large inequity,” Revesz encourages responses coordinated by OIRA to amend the rule or mitigate the harm. *Id.* at 1571–72. Other legal and economic scholars have also called for a distributional analysis to at least supplement CBA. See, e.g., Cass R. Sunstein, *The Arithmetic of Arsenic*, 90 GEO. L.J. 2255, 2301 (2002) (“The more general suggestion is that whenever an agency is producing a regulatory impact analysis, it should consider a distributional analysis as well. It is important to know who will bear both the benefits and the burdens of regulation.”); H. Spencer Banzhaf, *Regulatory Impact Analyses of Environmental Justice Effects*, 27 J. LAND USE & ENV’T L. 1, 4 (2011) (describing the benefits of “documenting distributional effects in RIAs” for “environmental equity”).

48. Revesz, *supra* note 16.

as those covering any changes to tax policy, require a high degree of consensus to pass, but increased polarization among individuals and their representatives in society makes such consensus unlikely.⁴⁹ Regulatory policy, meanwhile, is implemented within agencies, which tend to be controlled by the President and face fewer procedural and political hurdles by design.⁵⁰

Beyond current institutional frictions, Zachary Liscow offers an additional reason for why relegating the work of redistribution to tax policy, in particular, makes it especially difficult for those interested in advancing distributional equity: work in psychology and behavioral economics has revealed that the public is much more reluctant to redistribute through taxes than through other policy domains.⁵¹ In other words, the public *prefers* to redistribute through nontax means. By limiting explicit redistribution efforts to tax policy, the status quo dichotomy achieves too little redistribution and neglects many kinds of redistributive policies that would have widespread acceptance.⁵² Considering distributional consequences and equity when crafting regulatory policy, in which redistribution efforts, where available, would not be perceived as taxes, could help ameliorate these persistent failures.

That said, this framing still makes the idea of using regulation to advance redistributive goals seem like a radical change from the status quo. It suggests that regulations should *get into* the business of redistribution because it is practically impossible to do enough of it through tax policy. But it is important to note that redistribution through regulation is *already* occurring through the hundreds of regulations each year that are issued without any thought to the distributional consequences; it is simply occurring without analysis and without scrutiny of the individual and cumulative impacts. When they are conducted, very few CBAs consider who benefits or who is burdened by regulatory actions, and almost no CBAs measure net benefits of actions to particular groups.⁵³ Meanwhile, almost every regulation creates some winners and some losers due to the policy change. One way to reframe the idea is to view it as recognizing the need to *measure, understand, and, where possible, address* the unavoidable

49. See *id.* at 1522–24 (pointing to the higher likelihood of divided government, increased polarization between the major political parties and among voters, and the influence of outside cash in politics as reasons for the current level of congressional gridlock).

50. *Id.* at 1555.

51. Liscow, *supra* note 21, at 511.

52. *Id.* at 529. For this reason, Liscow recommends a much broader focus for redistribution, which he calls a “thousand points of equity” approach. *Id.* at 531.

53. Cecot & Hahn, *supra* note 10.

redistribution that occurs through regulatory policy because the theorized “fixes” through tax policy are practically unavailable.

There is another reason to be concerned that the unexamined redistribution that occurs through regulatory policy could systematically benefit or hurt some groups. Agencies enjoy a lot of discretion,⁵⁴ and they can often choose what policies to prioritize and how to implement them.⁵⁵ One common response is to assume that any distributional effects might not be very important, perhaps because they cancel out across groups and regulations.⁵⁶ But, of course, without any distributional analysis (i.e., any measurement of the distributional consequences of regulations),⁵⁷ no one can say with any confidence that this is true. Moreover, it is hardly farfetched to worry that agencies would use their discretion in a way that could result in systematic winners and systematic losers, and that these systematic losers could be disadvantaged or vulnerable groups.

In their famous works on public choice theory, political scientists James Q. Wilson and Michael T. Hayes considered the kinds of policies that legislators are likely to pursue in practice based on their own incentives and the incentives of those subject to legislation and regulation.⁵⁸ In their familiar typology, they highlighted how the perceived concentration of benefits and costs can affect the likelihood and the strength of support as well as opposition and ultimately affect the adoption of policies. I briefly summarize this typology in Table 1.⁵⁹

54. Statutes generally do not require any particular type of agency action, at least not without some agency findings. For an explanation of why efficiency, in particular, does not drive regulatory decisionmaking, see *infra* Part II.A.

55. See, e.g., Sidney A. Shapiro, *Rulemaking Inaction and the Failure of Administrative Law*, 68 DUKE L.J. 1805 (2019) (discussing the robust ability for agencies to choose not to act on some issues).

56. See Louis Kaplow & Steven Shavell, *Should Legal Rules Favor the Poor? Clarifying the Role of Legal Rules and the Income Tax in Redistributing Income*, 29 J. LEGAL STUD. 821, 833–34 (2000) (suspecting that the lack of scholarly attention on understanding and addressing distributional effects of regulations is because “of the belief that [distributional effects] often are not very important”).

57. See Robinson et al., *supra* note 15 (analyzing twenty-four regulations during the Obama Administration); Cecot & Hahn, *supra* note 10 (examining 189 relatively complete CBAs from October 2003 to January 2021); Richard L. Revesz & Samantha P. Yi, *Distributional Consequences and Regulatory Analysis*, 52 ENV'T L. 53 (2022) (analyzing in detail the sparse discussion of distribution in a few regulations).

58. See JAMES Q. WILSON, *POLITICAL ORGANIZATIONS* 327–45 (Princeton Univ. Press 1995) (1974) (analyzing the impact of various organizations on the political process); James Q. Wilson, *The Politics of Regulation*, in *THE POLITICS OF REGULATION* 357 (James Q. Wilson ed., 1980) (“The principal argument of this book is that there is a politics of regulation.”); MICHAEL T. HAYES, *LOBBYISTS AND LEGISLATURES: A THEORY OF POLITICAL MARKETS* (1981) (exploring the interactions between interest groups and Congress).

59. See generally MAXWELL L. STEARNS & TODD J. ZYWICKI, *PUBLIC CHOICE CONCEPTS AND APPLICATIONS IN LAW* 69 (2009) (discussing the model developed by Wilson and Hayes).

TABLE 1. WILSON-HAYES MATRIX, FOUR BOX STATIC MODEL

		Benefits	
		W (widely distributed)	N (narrowly conferred)
Costs	W	Undersupply	Oversupply
	N	Avoid or delegate	Avoid or delegate

Wilson and Hayes speculated that policies with benefits that were narrowly conferred on a particular group and costs that were dispersed throughout society would tend to be oversupplied, even when they are net costly to society overall.⁶⁰ The idea is that the wide dispersal of costs means it is more costly and less worthwhile to organize to oppose the policies, while the narrow concentration of benefits makes it inexpensive and lucrative for the small group of beneficiaries to organize to demand such policies.⁶¹ In contrast, policies with widespread benefits would tend to be undersupplied as the beneficiaries would, similarly, have less incentive to organize to demand them.⁶² This is especially likely when costs are narrowly concentrated. The opposition is likely to be well organized and strong; legislatures will have political incentives to avoid imposing heavy costs on particular groups.⁶³ In fact, Wilson and Hayes predict that legislators would choose to delegate decisionmaking responsibility to agencies or courts in these kinds of scenarios.⁶⁴ The takeaway is that the category of legislation that is traditionally expected and largely supported is the most likely to be undersupplied, while other categories—especially when benefits are narrowly conferred—are likely oversupplied.⁶⁵ Similar dynamics, including interest-group and political pressures, occur in the context of regulation.⁶⁶

60. *Id.* at 69–72.

61. *Id.* at 70–71.

62. *Id.*

63. *Id.*

64. *Id.* at 71.

65. An important thread of the public-choice literature, in fact, seeks to explain the persistence of inefficient laws and regulations as the product of rent-seeking behavior by politically powerful groups, such as industry groups that benefit from reducing the entry of competitors at the expense of the dispersed public. *See, e.g.,* Todd J. Zywicki, *Environmental Externalities and Political Externalities: The Political Economy of Environmental Regulation and Reform*, 73 TUL. L. REV. 845 (1999).

66. *See* STEPHEN BREYER, *BREAKING THE VICIOUS CIRCLE: TOWARD EFFECTIVE RISK REGULATION* 3 (1993) (using “the regulatory effort to reduce exposure to cancer-causing substances” as a case study); George J. Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3 (1971) (describing why some interest groups lobby for government regulation).

But the perceived likelihood of effort and influence of particular groups, especially demographic groups, depends on more than the concentration of expected costs or benefits.⁶⁷ Some groups may have been historically less likely to successfully organize and influence policy even if they stood to disproportionately gain (narrowly conferred benefits) or lose (narrowly conferred costs). In other words, whether a demographic group is advantaged or disadvantaged might separately matter to whether the group can attract or block certain policies, and if resources are scarce or limited, this could lead to systematic effects that benefit some groups over others.⁶⁸ Table 2 provides one possibility of what might occur in practice.

TABLE 2. POTENTIAL REALITY OF POLITICAL INFLUENCE

		Benefits			
		W (widely distributed)	N (narrowly conferred)		
			Advantaged	Disadvantaged	
Costs	W	Undersupply	Oversupply	<i>Might not successfully seek benefits</i>	
	N	A	Avoid or delegate	Avoid or delegate	<i>Might systematically avoid</i>
		D	<i>Might not successfully block imposition of costs</i>	<i>Might systematically enact; oversupply</i>	<i>Might systematically avoid</i>

The idea that government actions systematically benefit advantaged demographic groups over disadvantaged ones has been the focus of scholarship and advocacy, including the environmental justice movement. And much of the data and evidence that is readily available is at least consistent with this possibility. For one, it is well-documented that low-income individuals and persons of color are disproportionately exposed to various environmental harms. These groups are more likely to live near hazardous landfills and experience poor water or air quality, among other things.⁶⁹ But while the differential exposures are well-

67. I discuss examples of empirical work supporting this idea later in this Part.

68. This Article advances a framework that would explicitly consider whether concentrated benefits or costs fall on disadvantaged groups. See *infra* Part IV.

69. See Robert D. Bullard, *Anatomy of Environmental Racism and the Environmental Justice Movement*, in CONFRONTING ENVIRONMENTAL RACISM: VOICES FROM THE GRASSROOTS 15 (Robert D. Bullard ed., 1993) (documenting these findings); U.S. CENSUS BUREAU, H-150/09, AMERICAN HOUSING SURVEY FOR THE UNITED STATES: 2009 (2011) (compiling survey data). Newer reports suggest that these inequities have persisted. See, e.g., AM. LUNG ASS'N, STATE OF THE AIR 2021, at 11 (2021) (finding that “[p]eople of color were 61% more likely than white people to live in a county

documented, the causes of these disparate outcomes and their persistence are not always as clear, with explanations ranging from poverty, racism, political power, and market dynamics.⁷⁰

In cases where the role of the government can be clearly identified, empirical work suggests that beneficiaries of government action are often already advantaged communities and groups and that those who are disadvantaged are often low-income communities and people of color. For example, under the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), the EPA uses dedicated federal funds to clean up contaminated sites.⁷¹ W. Kip Viscusi and James Hamilton found that, among sites with the lowest calculated actual risk levels, the EPA cleaned up contaminated sites located in

with a failing grade for at least one pollutant, and over three times as likely to live in a county with a failing grade for all three pollutants”); Michael Ash & T. Robert Fetter, *Who Lives on the Wrong Side of the Environmental Tracks? Evidence from the EPA’s Risk-Screening Environmental Indicators Model*, 85 SOC. SCI. Q. 441, 442 (2004) (“Across all cities in the contiguous United States, we find that neighborhoods with higher proportions of African Americans tend to experience higher levels of toxicity-adjusted exposure to air pollution.”); Benjamin J. Apelberg, Timothy J. Buckley & Ronald H. White, *Socioeconomic and Racial Disparities in Cancer Risk from Air Toxics in Maryland*, 113 ENV’T HEALTH PERSPS. 693, 698 (2005) (“[T]hese results provide evidence that cancer risk associated with air toxics exposure, particularly from on-road and area sources, disproportionately falls onto socioeconomically disadvantaged and African-American communities.”); Irma N. Ramos, Lora Baker Davis, Qiang He, Marlynn May & Kenneth S. Ramos, *Environmental Risk Factors of Disease in the Cameron Park Colonia, a Hispanic Community Along the Texas-Mexico Border*, 10 J. IMMIGRANT & MINORITY HEALTH 345 (2008); Zhengyan Li, David M. Konisky & Nikolaos Ziogiannis, *Racial, Ethnic, and Income Disparities in Air Pollution: A Study of Excess Emissions in Texas*, PLOS ONE, Aug. 2, 2019, at 1, 3 (“[W]e find that the percentage of Black population and median household income are positively associated with excess emissions.”); LaToria S. Whitehead & Sharunda D. Buchanan, *Childhood Lead Poisoning: A Perpetual Environmental Justice Issue?*, 25 J. PUB. HEALTH MGMT. & PRAC. S115, S115 (2019) (finding that children who experience lead poisoning “tend to live in the poorest neighborhoods and are disproportionately African American and Hispanic”); Daniel J. Hicks, *Census Demographics and Chlorpyrifos Use in California’s Central Valley, 2011–15: A Distributional Environmental Justice Analysis*, 17 INT’L J. ENV’T RSCH. & PUB. HEALTH 2593 (2020) (describing scholarly literature that documents “numerous inequitable distributions of multiple forms of environmental hazards”); Linda M. Robyn, *Environmental Racism: Contaminated Water in Indigenous and Minority Communities*, in INDIGENOUS ENVIRONMENTAL JUSTICE 92, 92 (Karen Jarratt-Snider & Marianne O. Nielsen eds., 2020) (“Water is an element that humans cannot live without, but for people of color . . . this precious life source has become gravely compromised.”); Iris Hui, John Coyle & Abraham Ryzhik, *Spatial Clustering of Hazardous Waste, Water, Air Violations in the US*, 16 ENV’T RSCH. LETTERS 084004 (2021) (describing “hot spots” of environmental violations in Native American territories); Heather A. Moody & Sue C. Grady, *Lead Emissions and Population Vulnerability in the Detroit Metropolitan Area, 2006-2013: Impact of Pollution, Housing Age and Neighborhood Racial Isolation and Poverty on Blood Lead in Children*, 18 INT’L J. ENV’T RSCH. & PUB. HEALTH 2747, 2747 (2021) (finding that “industrial lead emissions [are] significantly higher in black (versus white) segregated neighborhoods, even after controlling for poverty”).

70. For an argument on the importance of understanding market dynamics when alleviating environmental disparities, see Vicki Been, *Locally Undesirable Land Uses in Minority Neighborhoods: Disproportionate Siting or Market Dynamics?*, 103 YALE L.J. 1383 (1994).

71. *Superfund: CERCLA Overview*, EPA, <https://www.epa.gov/superfund/superfund-cercla-overview> (last visited Nov. 20, 2022) [<https://perma.cc/4K3C-Q54E>].

areas in which constituents had more political power as measured by higher voter turnout.⁷² These communities were often high-income and majority White.⁷³ Other work has linked state and federal government actions to adverse outcomes in majority-Black or low-income communities, such as persistent poverty or segregation, the siting of hazardous waste landfills, or disproportionately lower allocations of public funding.⁷⁴ Another example is when state governments compete for businesses to locate within their borders, offering lucrative deals.⁷⁵ Recent scholarship has found not only that these deals are often net costly for residents but also that the counties that benefit are often wealthier than the state's average county.⁷⁶ Moreover, such state spending displaces spending on more efficient and more equitable projects. Scholars identified investments in education for low-income children, for instance, to have the highest returns on investment.⁷⁷ And, separately, there are concerns that low-income groups might disproportionately bear the costs of regulations.⁷⁸ Simply put, the political and regulatory systems are often not easily accessible by disadvantaged groups, which could be less likely to organize and lobby for their interests.⁷⁹ Resulting regulatory interventions that agencies

72. W. Kip Viscusi & James T. Hamilton, *Are Risk Regulators Rational? Evidence from Hazardous Waste Cleanup Decisions*, 89 AM. ECON. REV. 1010 (1999).

73. *See id.* at 1018–19 tbl.1.

74. *See, e.g.*, Anthony Nardone, Kara E. Rudolph, Rachel Morello-Frosch & Joan A. Casey, *Redlines and Greenspace: The Relationship Between Historical Redlining and 2010 Greenspace Across the United States*, 129 ENV'T HEALTH PERSPS. 017006-1 (2021) (linking persistent segregation to the government's creation of the Home Owners' Loan Corporation, which assigned investment risk to neighborhoods based on color categorization).

75. For example, consider Amazon. *See* M.J., *How America's Cities Are Competing for Amazon's Headquarters*, ECONOMIST (Dec. 5, 2017), <https://www.economist.com/the-economist-explains/2017/12/05/how-americas-cities-are-competing-for-amazons-headquarters> [<https://perma.cc/NX9M-DDJN>].

76. Cailin Slattery, *The Political Economy of Subsidy-Giving* (July 7, 2022) (unpublished manuscript), <https://static1.squarespace.com/static/5acd55db36099bfff90bf5d6/t/62cdbffddd92984889757e8b/1657651204642/ThePoliticalEconomyofSubsidyGiving.pdf> [<https://perma.cc/3PAZ-YGYF>].

77. Nathaniel Hendren & Ben Sprung-Keyser, *A Unified Welfare Analysis of Government Policies*, 135 Q.J. ECON. 1209, 1213 (2020).

78. *See, e.g.*, Ian W.H. Parry, Hilary Sigman, Margaret Walls & Roberton C. Williams III, *The Incidence of Pollution Control Policies* (Nat'l Bureau of Econ. Rsch., Working Paper No. 11438, 2005), <https://www.nber.org/papers/w11438> [<https://perma.cc/8BYB-CJL2>].

79. In support of this idea, John Graham, former OIRA Administrator, noted the following: I do not recall a single rulemaking from 2001 to 2006 in which an outside group lobbied OIRA primarily on the grounds that a regulation was good, or bad, for the poor. Yet we were lobbied to advance the interests of virtually every other group in society, including labor unions, consumer advocates, public health associations, medical providers, farmers, manufacturers, electric utilities, title insurers, bankers, realtors, environmental advocacy groups, and academic institutions.

John D. Graham, *Saving Lives Through Administrative Law and Economics*, 157 U. PA. L. REV. 395, 520 (2008).

choose to adopt could reflect biases based on what groups demand benefits and what groups acquiesce to costs.

The Biden Administration has made it a priority to tackle these issues by considering the distributional consequences of regulations,⁸⁰ among other equity-focused policies. But when President Biden signaled this interest in distributional analysis and equity, many characterized it as an implicit *rejection* of CBA and efficiency, despite President Biden's reaffirmation of CBA in the same memorandum. While skeptics of regulation worried about the prospect of equity-led regulatory initiatives taking the place of CBA,⁸¹ progressive proponents of regulation celebrated exactly this potential displacement.⁸²

But such a dramatic overhaul is unnecessary and would likely exacerbate inequities given what is likely to happen under a raw political approach. Transparent procedures such as CBA could reduce inequities that otherwise could occur under political pressure.⁸³ In fact, under the current system, there exist several ways to improve both the efficiency and the equity of regulations by committing to, and improving, CBA.⁸⁴ Furthermore, there are lessons from the pursuit of

80. See Memorandum on Modernizing Regulatory Review, *supra* note 1.

81. See, e.g., David R. Henderson, *Open Season for New Regulations*, HOOVER (Feb. 4, 2021), <https://www.hoover.org/research/open-season-new-regulations> [https://perma.cc/6D2U-R2E9] (arguing that President Biden's memorandum has replaced CBA with "[a] set of criteria than can be used to justify many regulations that would fail a cost[-]benefit test" with "zero mention of cost[-] benefit analysis"); Rebecca Beitsch, *Biden Signals Major Shift on Regulations with First-Day Orders*, THE HILL (Jan. 31, 2021, 8:00 AM) <https://thehill.com/policy/energy-environment/536554-biden-signals-major-shift-on-regulations-with-first-day-orders/> [perma.cc/TG7M-9ZVT] ("While the memorandum explicitly maintains Presidents Clinton and Obama's executive orders requiring analysis of regulatory impacts before issuing rules, it also signals a willingness to override those analyses if they don't support predetermined priorities." (quoting Susan Dudley, former Administrator of the Office of Information and Regulatory Affairs under President George W. Bush)). Though, notably, the Memorandum reaffirmed CBA's role. Memorandum on Modernizing Regulatory Review, *supra* note 1.

82. See, e.g., Beitsch, *supra* note 81 ("I think the point of that [Biden memorandum] is to seriously reconsider the role of OIRA in the regulatory review process and then the role cost-benefit analysis plays in OIRA's regulatory process." (quoting Amit Narang, a regulatory policy advocate with Public Citizen)); *supra* note 5.

83. This is a virtue of any formal analysis and neutral decisionmaking procedure, though my focus is on CBA. Other scholars have argued that other analyses that agencies conduct might better incorporate distributional concerns directly. See, e.g., David M. Driesen, *Distributing the Costs of Environmental, Health and Safety Protection: The Feasibility Principle, Cost-Benefit Analysis, and Regulatory Reform*, 32 B.C. ENV'T AFFS. L. REV. 1 (2005) (examining the distributional advantages of the feasibility principle as compared with CBA in environmental regulation).

84. Okun himself acknowledged that there are opportunities for increasing economic efficiency and equality simultaneously under certain conditions. Okun, *supra* note 29, at 86 (focusing on minimizing unequal opportunities that different groups face). See also Matthew D. Adler & Alex Raskolnikov, *Biden's Regulatory Changes Should Consider Who Benefits from Cost-Benefit Analysis*, THE HILL (Apr. 29, 2021, 12:01 PM), <https://thehill.com/opinion/campaign/550921-bidens-regulatory-changes-should-consider-who->

efficiency that are important even in the quest for equity, which if properly understood, will help avoid lose-lose situations and identify win-win situations. The rest of this Article is devoted to more accurately describing the current baseline and providing a productive proposal for avoiding lose-lose situations.

II. THE PURSUIT OF (EQUITABLE) EFFICIENCY

In an online symposium on the future of CBA hosted by the Law and Political Economy Project, several contributors argued that the use of CBA is responsible for exacerbating current inequities and must be rejected if agencies are to take equity considerations seriously in setting regulatory policy going forward.⁸⁵ Of course, much ink has been spilled about the widespread practice of conducting and considering CBA in rulemaking.⁸⁶ But the narrative that CBA-based regulatory policy is the cause of the inequality crisis is misleading on at least two fronts.

First, it is unlikely that the practice of CBA has contributed much to any perceived increase in inequality.⁸⁷ That is because most regulations are promulgated in pursuit of other, usually less-transparent priorities and without reliance on CBA at all, whether one is conducted or not. There are several reasons for this outcome, including statutory constraints, inaccurate or incomplete estimates of costs and benefits, and inefficient scope of analysis or a siloed regulatory focus. In fact, the use of CBA, and its emphasis on accounting for all effects and avoiding unintended consequences, likely promoted more equitable outcomes in many cases.⁸⁸ Section A outlines

benefits-from-cost-benefit [<https://perma.cc/6GVU-5LER>] (“It has become increasingly clear that many major U.S. regulatory regimes are nowhere close to being efficient.”). But this nuance has been seemingly forgotten as the conversations among economists and legal scholars have focused on the margins, and insights have been misunderstood by advocates and skeptics alike.

85. See sources cited *supra* note 5.

86. See, e.g., CASS R. SUNSTEIN, *THE COST-BENEFIT STATE: THE FUTURE OF REGULATORY PROTECTION* (2002); RICHARD L. REVESZ & MICHAEL A. LIVERMORE, *RETAKING RATIONALITY: HOW COST-BENEFIT ANALYSIS CAN BETTER PROTECT THE ENVIRONMENT AND OUR HEALTH* (2008).

87. In fact, *supra* Part I, I argue that applying a neutral procedure such as CBA could have, in many contexts, reduced inequities that could result from pressures within the political process. In this Part, I focus more specifically on the descriptive fact that CBA—and efficiency—does not drive regulatory policy in many contexts, such as environmental law.

88. It is difficult to prove this statement because the counterfactual—or what would have occurred in the absence of CBA—is difficult to know. But one example is the Reagan Administration’s imposition of a stricter standard for phasing out lead in gasoline based on the results of CBA. See Christopher DeMuth, *Health and Safety Regulation: Christopher DeMuth, in AMERICAN ECONOMIC POLICY IN THE 1980S*, at 504, 508 (Martin Feldstein ed., 1994) (“A very fine piece of analysis persuaded everyone that the health harms of leaded gasoline were far greater than we had thought, and we ended up adopting a much tighter program than the one we had inherited.”). The rule was expected to reduce the blood-lead levels of children (resulting in large reductions in impairment of cognitive abilities), reduce blood pressure related fatalities, and

the different sources of regulatory inefficiency, using the regulation of drinking water as a concrete example throughout the discussion. Overall, there is significant space to vastly improve the efficiency of regulations, and trade-offs between efficiency and equity are not inevitable in many contexts.

Second, there are several ways to improve how CBA approximates social welfare as well as opportunities to increase CBA's application that would improve efficiency and equity. Long-standing proposals that would improve efficiency and equity include accounting for the diminishing marginal utility of income in the analysis or ensuring that risk assessments prioritize current populations at risk. Section B briefly describes some of these proposals.

A. Inefficient Regulations

Simply put, despite the long-standing bipartisan commitment to conducting CBA for significant regulatory actions, most regulations are not driven by CBA calculations. In fact, when examining reports to Congress going back to 2010 from the office responsible for reviewing agency CBAs, it emerges that—on average—forty-six percent of significant (nontransfer) regulations do not monetize any benefits, making it impossible for CBA considerations to drive any policies.⁸⁹ This Section documents the various reasons that current regulatory practice tends to be disconnected from efficiency.

Sometimes, the use of CBA in agency decisionmaking is prohibited by statute. For example, the Clean Air Act, as interpreted by the Supreme Court, prohibits the EPA from relying on costs when setting national air quality standards for criteria pollutants.⁹⁰ In that case, the idea is that Congress has made health and environmental

reduce conventional pollutants, and many of these benefits were expected to accrue to those who lived in cities and near busy roads. See Albert L. Nichols, *Lead in Gasoline*, in *ECONOMIC ANALYSES AT EPA: ASSESSING REGULATORY IMPACT* 49, 49–86 (Richard D. Morgenstern ed., 1997). Although a distributional analysis was not done, I suspect the stricter standard was not only efficient but also equitable.

89. See *OIRA Reports to Congress*, WHITE HOUSE, <https://www.whitehouse.gov/omb/information-regulatory-affairs/reports/> (last visited Oct. 2, 2022) [<https://perma.cc/Z5ED-9E5D>] (authors' calculations). Compare Amy Sinden, *A "Cost-Benefit State"? Reports of Its Birth Have Been Greatly Exaggerated*, 46 ENV'T L. REP. NEWS & ANALYSIS 10933, 10953–56 (2016) (arguing that because CBAs are not often required and, if conducted, are relatively incomplete, agencies should rid of the tool), with Caroline Cecot, *Deregulatory Cost-Benefit Analysis and Regulatory Stability*, 68 DUKE L.J. 1593, 1600 (2019) (acknowledging that CBAs are often incomplete, but advocating for greater efforts to monetize a wide range of impacts).

90. See 42 U.S.C. § 7409(b) (instructing Administrator of the EPA to set National Ambient Air Quality Standards ("NAAQS") for the protection of public health); *Whitman v. Am. Trucking Ass'n*, 531 U.S. 457, 486 (2001) (holding the Administrator of the EPA is not permitted to consider implementation costs when setting NAAQS).

outcomes the exclusive focus of regulatory action under that provision, with zero weight given to cost considerations. By prohibiting an agency from considering a CBA, Congress makes it more likely that the resulting regulatory policy will be inefficient.

Even when a statute requires an agency to conduct CBA, it rarely requires the agency to adhere strictly to the results of the analysis, and agencies often deviate from a CBA's conclusions about optimal policy.⁹¹ To give one example, consider the Safe Drinking Water Act (“SDWA”), a statute in which Congress explicitly created a role for CBA.⁹² In the United States, more than three hundred million people get their drinking water from privately or publicly owned community water systems that obtain and sell water from groundwater or surface water sources.⁹³ The quality of this drinking water is regulated primarily by the SDWA.⁹⁴ Under the Act, the EPA determines whether to regulate a “contaminant” based on its prevalence in drinking water and the associated public health effects.⁹⁵ Once it determines that regulation is warranted, the EPA must establish a maximum contaminant level goal for each contaminant and issue implementing regulations, called National Primary Drinking Water Regulations, that specify a maximum contaminant level.⁹⁶ The maximum contaminant level goal must be set at the level “at which no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety.”⁹⁷ The goal is often set at zero because no

91. See generally Caroline Cecot, *Congress and Cost-Benefit Analysis*, 73 ADMIN. L. REV. 787 (2021) [hereinafter Cecot, *Congress and Cost-Benefit Analysis*] (identifying the set of explicit congressional directives requiring agencies to conduct CBA).

92. Safe Drinking Water Act Amendments of 1996, Pub. L. No. 104-182, § 104(a), 110 Stat. 1613, 1623 (codified at 42 U.S.C. § 300g-1(b)(4)(C)).

93. OFF. OF GROUND WATER & DRINKING WATER, EPA, 817K11001, FISCAL YEAR 2010 DRINKING WATER AND GROUND WATER STATISTICS 4 (2011), http://www.agriculturedefensecoalition.org/sites/default/files/file/texas_449/449E_2011_EPA_Fiscal_Year_2010_Drinking_Water_and_Ground_Water_Statistics_June_2011.pdf [https://perma.cc/S5VS-XCXX] [hereinafter EPA, STATISTICS].

94. *Id.* A community water system must regularly supply drinking water to at least twenty-five year-round residents or fifteen service connections to be regulated under the Act. 42 U.S.C. § 300f(15). In addition, about forty million people get their drinking water from private water wells, which are not regulated by the SDWA. See Tyler D. Johnson, Kenneth Belitz & Melissa A. Lombard, *Domestic Wells in the United States*, USGS (June 24, 2020), <https://ca.water.usgs.gov/projects/USGS-US-domestic-wells.html> [https://perma.cc/FD56-8L85]. Other statutes, such as the Clean Water Act (“CWA”) also play a role in the maintenance of adequate supply and quality of drinking water.

95. 42 U.S.C. § 300g-1(b)(1)(A).

96. *Id.* § 300g-1(b)(1)(E). If a maximum contaminant level (“MCL”) cannot be established, the EPA must identify a “treatment technique” that “would prevent known or anticipated adverse effects on the health of persons to the extent feasible.” *Id.* § 300g-1(b)(7)(A). Lead and copper are two of nine contaminants for which the EPA has required a treatment technique instead of an MCL. See 40 C.F.R. §§ 141.70, 141.111, 141.710-14.

97. 42 U.S.C. § 300g-1(b)(4)(A).

safe threshold is evident in light of scientific uncertainty.⁹⁸ The maximum contaminant level, meanwhile, must be set “as close to the maximum contaminant level goal as is feasible.”⁹⁹ The Act defines “feasible” based on what is achievable with the use of “the best technology, treatment techniques and other means” that are available taking cost into consideration.¹⁰⁰ These technologies are referred to as “best available technologies” (“BATs”) or compliance technologies.¹⁰¹

Responding to concerns about the affordability of the technology-based standards, Congress, in the 1996 amendments to the SDWA, explicitly added a role for CBA. Under the Act, the Administrator must determine whether “the benefits of the maximum contaminant level justify, or do not justify, the costs.”¹⁰² This determination is based on the results of a CBA. If determined that the benefits do not outweigh the costs, the Administrator is allowed to set a less stringent standard.¹⁰³ According to Richard Belzer, only eleven out of seventeen chosen standards have been cost-benefit justified for large systems, based on the EPA’s own assessment of overall costs and benefits.¹⁰⁴ In other words, six standards have been implemented notwithstanding the results of the CBA. In this example, the amendments to the SDWA were explicitly meant to address perceived inefficiency in the standards through greater reliance on CBA,¹⁰⁵ but the agency still uses its discretion to avoid full reliance. Many commentators therefore believe that standards are still inefficient from an aggregate welfare

98. See, e.g., *Nat. Res. Def. Council, Inc. v. EPA*, 824 F.2d 1211, 1213 (D.C. Cir. 1987) (upholding a maximum contaminant level goal of zero for known or probable carcinogens without clear evidence of a threshold-based effect).

99. 42 U.S.C. § 300g-1(b)(4)(B).

100. *Id.* § 300g-1(b)(4)(D).

101. OFF. OF WATER, EPA, 815-R-98-003, VARIANCE TECHNOLOGY FINDINGS FOR CONTAMINANTS REGULATED BEFORE 1996, at 3 (1998), <https://nepis.epa.gov/Exe/ZyPDF.cgi/200021A9.PDF?Dockey=200021A9.PDF> [<https://perma.cc/5F86-EK7F>] [hereinafter EPA, VARIANCE TECHNOLOGY FINDINGS].

102. 42 U.S.C. § 300g-1(b)(4)(C).

103. *Id.* § 300g-1(b)(6)(A).

104. Richard Belzer, *Achieving Economically Feasible Drinking Water Regulation*, 11 J. BENEFIT-COST ANALYSIS 294, 310–11 tbl.1 (2020) (listing the relevant post-SDWA 1996 regulations and reporting whether EPA determined that benefits justified costs). In one of these, the assessment was made on a qualitative basis only.

105. See *Safe Drinking Water Act Amendments of 1996*, Pub. L. No. 104-182, 110 Stat. 1613 (finding that “the requirements of the Safe Drinking Water Act . . . exceed the financial and technical capacity of some public water systems, especially many small public water systems” and that “risk assessment, based on sound and objective science, and benefit-cost analysis are important analytical tools for improving the efficiency and effectiveness of drinking water regulations to protect human health”).

perspective.¹⁰⁶ In addition, the SDWA is thought to limit potential avenues for otherwise increasing efficiency, such as trading schemes.¹⁰⁷

An agency might also choose not to rely on a CBA for perfectly rational reasons, such as gaps in the analysis of categories of benefits or costs. In order for CBA to promote aggregate welfare, it must analyze, quantify, and monetize all impacts of proposed regulatory actions, including direct and indirect effects. That way, a regulator can decide whether to pursue some action based on an apples-to-apples comparison of the value of all important impacts of different regulatory options. To do this well, the agency must examine scientific findings on various effects as well as economic studies on how to value such changes. For example, if a regulation reduces air pollution, the agency will model how much pollution will be reduced from baseline levels because of the action, analyze scientific studies that associate the change in pollution with changes in mortality, and then convert those changes to monetary terms using a measure such as the value of a statistical life.¹⁰⁸ Due to the limits of scientific and economic knowledge as well as agency resource constraints, however, many important impacts are still left unquantified and unmonetized.¹⁰⁹ Although quantification has steadily increased over time,¹¹⁰ in many cases, regulators must still use their judgment to determine whether overall benefits would justify the costs if all impacts were quantified and monetized; the analysis alone does not dictate a clear preferred regulatory option or stringency level.

There is also typically uncertainty about the magnitude of benefits or costs, resulting in a wide range of potential impacts that require regulators to apply their own judgment. To return to the context

106. See Belzer, *supra* note 104. *But see, e.g.*, Sunstein, *supra* note 47, at 2301 (arguing that CBA actually supports a wide range of benefits and costs in the context of regulating arsenic in drinking water, making EPA's decision not unambiguously unjustified).

107. See Sunstein, *supra* note 47, at 2297–99 (“Under the SDWA, however, the EPA lacks the authority to implement a trading system for arsenic. This is a serious gap. The statute should be amended to allow the EPA to permit trading if the evidence justifies that step.”).

108. See, e.g., OFF. OF AIR & RADIATION & OFF. OF AIR QUALITY PLANNING & STANDARDS, EPA, EPA-452/R-15-003, REGULATORY IMPACT ANALYSIS FOR THE CLEAN POWER PLAN FINAL RULE (2015), https://www3.epa.gov/ttn/ecas/docs/ria/utilities_ria_final-clean-power-plan-existing-units_2015-08.pdf [<https://perma.cc/MYP8-2NZ3>] (providing a comprehensive account of the benefits and costs, with supporting data and assumptions, of the Obama Administration's Clean Power Plan for regulating greenhouse gas emissions from existing power plants).

109. See Robert W. Hahn, Jason K. Burnett, Yee-Ho I. Chan, Elizabeth A. Mader & Petrea R. Moyle, *Assessing Regulatory Impact Analyses: The Failure of Agencies to Comply with Executive Order 12,866*, 23 HARV. J.L. & PUB. POL'Y 859, 866–70 (2000) (discussing rates of quantification and monetization of impacts).

110. See Richard L. Revesz, *Quantifying Regulatory Benefits*, 102 CALIF. L. REV. 1423, 1436–50 (2014) (noting improvements in the ability of CBA to quantify previously unquantifiable benefits).

of regulating drinking water, for example, it is sometimes difficult to understand the relationship between contaminants and health outcomes.¹¹¹ It is also difficult to know how to value changes to these actual risks—especially given evidence that individuals tend to overvalue improvements in water quality.¹¹² This means that, in cases where CBA is authorized and the agency intends to rely on the analysis to set policy, the agency must still apply a lot of judgment. In a study of the regulation of arsenic in drinking water, Cass Sunstein shows that the reasonable ranges for the benefits and the costs of regulating arsenic were incredibly wide. (In that case, the agency applied its judgment to determine that its chosen standard was cost-benefit justified, despite the uncertainty.)¹¹³

It is important to get the valuations right, though, because those that are burdened by these policies are not reimbursed. Generally speaking, CBA seeks to identify welfare-improving options. Under the Pareto principle, policies that benefit at least one person while making no other person worse off are identified as clearly welfare-improving.¹¹⁴ But because virtually all policies which could benefit some individuals would harm at least one person, economists have proposed the Kaldor-Hicks principle, which identifies potential Pareto-improving policies, where the winners could theoretically compensate the losers, as an alternative criterion.¹¹⁵ The Kaldor-Hicks efficient policy maximizes the difference between the value of the gains to the winners and the losses to the losers.¹¹⁶ As discussed earlier, CBA in its conventional form implements the Kaldor-Hicks criterion by converting gains and losses onto a monetary scale and attempting to maximize the resulting net benefits. No compensation from winners to losers is required.¹¹⁷ Besides concerns about systematic winners or losers,¹¹⁸ there is an additional

111. See Sunstein, *supra* note 47 (explaining this difficulty in the context of regulating arsenic in drinking water).

112. See W. Kip Viscusi, Joel Huber & Jason Bell, *The Perception and Excessive Valuation of Small, Publicized Drinking Water Risks*, 11 J. BENEFIT-COST ANALYSIS, 221 221–43 (2020) (finding that individuals are willing to pay a lot for small increases in water quality); Heinzerling, *supra* note 5, at 2312 (providing the example of consumer reactions to the presence of benzene in Perrier).

113. See Sunstein, *supra* note 47, at 2302–03 (“The basic message is that even when there is a considerable amount of scientific data, it is possible that CBA will identify only a range of reasonable choices, and often a wide range at that.”).

114. See VILFREDO PARETO, COURS D’ÉCONOMIE POLITIQUE (1897).

115. Nicholas Kaldor, *Speculation and Economic Stability*, 7 REV. ECON. STUD. 1, 17 (1939); Hicks, *supra* note 22, at 696–712. See generally ADLER & POSNER, *supra* note 6, at 5 (discussing and criticizing the Kaldor-Hicks criterion).

116. ADLER & POSNER, *supra* note 6, at 5.

117. See *supra* Part I; Kaplow & Shavell, *supra* note 19.

118. See, e.g., Scott Farrow, *Environmental Equity and Sustainability: Rejecting the Kaldor-Hicks Criteria*, 27 ECOLOGICAL ECON. 183, 184 (1998) [hereinafter Farrow, *Rejecting Kaldor-Hicks*] (raising the concern about lack of compensation to identified subgroups).

danger to not actually requiring winners to compensate losers: the valuations are based on imperfect data and could be incorrect, and incorrect valuations are more likely when people do not actually have to pay for benefits they obtain.¹¹⁹ Thus, the identification of the policy as a potential Pareto improvement is more speculative and subject to error than when outcomes occur freely without government intervention and are presumptively welfare improvements over the status quo.¹²⁰

There are at least two other sources for inefficiency in current regulatory practice that have to do with the scope of regulatory options. The first is a mismatch of the level of the analysis. Even if CBA is authorized by the statute, the agency relies on the analysis, and the analysis is complete and conclusive, statutory constraints might prevent the agency from adopting the most efficient solution. For example, federal regulations that follow CBA often set standards on a national level, not on a local level. The regulation is pursued because it is net beneficial for the society overall, but in some areas, more stringent regulations could have maximized net benefits, and in others, less stringent ones. This is because different areas have different costs of environmental and other harms and different benefits; they have different resources and different alternative investments that could, perhaps, better promote environmental, health, and safety objectives. A more tailored approach would be more net beneficial and, therefore, more efficient. Some scholars invoke these arguments in the context of federalism, animating debates about which level of government should adopt solutions in different contexts.¹²¹

In the context of regulating drinking water, the national standards are set based on the costs and benefits that accrue to larger systems. Again, the maximum contaminant level must be set “as close to the maximum contaminant level goal as is feasible” with the use of BATs.¹²² Historically, the feasibility determinations and the resulting BATs have been based on impacts to large community water systems,

119. *E.g.*, Karl S. Coplan, *The Missing Element of Environmental Cost-Benefit Analysis: Compensation for the Loss of Regulatory Benefits*, 30 GEO. ENV'T L. REV. 281, 292–93 (2018).

120. In other words, even accepting the Kaldor-Hicks principle, the way it is implemented (without compensation) could exacerbate potential valuation errors. For other criticisms of the Kaldor-Hicks principle (such as whether it approximates welfare-improving policies), see generally ADLER & POSNER, *supra* note 6.

121. *See, e.g.*, David B. Spence, *Federalism, Regulatory Lags, and the Political Economy of Energy Production*, 161 U. PA. L. REV. 431 (2013) (considering which level of government ought to regulate shale gas); Richard L. Revesz, *Federalism and Interstate Environmental Externalities*, 144 U. PA. L. REV. 2341, 2414–16 (1996).

122. Revesz, *supra* note 121, at 2414–16; 42 U.S.C. § 300g-1(b)(4)(B).

typically those serving at least fifty thousand people.¹²³ Small community water systems, which cannot take advantage of economies of scale that help lower costs for larger systems, must then comply with standards at a significantly higher expected cost per household for the same benefit.¹²⁴ For example, when establishing a maximum contaminant level for arsenic, EPA calculated that the chosen level would cost, on average, an additional \$0.86 annually for households in the largest water systems (serving more than one million people) and \$326.82 annually for households in the smallest water systems (serving less than one hundred people).¹²⁵ Such a significant difference in compliance costs means that maximum contaminant levels, even if they are cost-benefit justified for large systems, might not be cost-benefit justified for small systems.¹²⁶

The second kind of scope-based inefficiency stems from an overly siloed regulatory focus. An agency maximizing net benefits acting through one statute could have achieved higher net benefits by taking a larger view of the problem beyond a particular statute's focus or constraints. This problem becomes more pronounced if agencies (or courts) take a narrow view of the relevant statutory scope that would omit many important categories of costs or benefits.¹²⁷ For example, in

123. EPA, VARIANCE TECHNOLOGY FINDINGS, *supra* note 101, at 4 (acknowledging this reference point).

124. *Id.* at 40. For other work documenting this occurrence, see Belzer, *supra* note 104, at 304; Banzhaf, *supra* note 47, at 19–20; Sunstein, *supra* note 45; and Robert S. Raucher, Scott J. Rubin, Douglas Crawford-Brown & Megan M. Lawson, *Benefit-Cost Analysis for Drinking Water Standards: Efficiency, Equity, and Affordability Considerations in Small Communities*, 2 J. BENEFIT-COST ANALYSIS 1, 2 (2011).

125. See, e.g., EPA, ARSENIC IN DRINKING WATER RULE ECONOMIC ANALYSIS 6-35 exhibit 6-17 (2000) [hereinafter EPA, ARSENIC RIA] (for the MCL of 10 µg/L). The cost breakdowns were as follows: \$326.82 for water systems serving less than 100 people, \$162.50 for 101 to 500 people, \$70.72 for 501 to 1,000 people, and \$58.24 for 1,001 to 3,300 people. *Id.* EPA does not consider the costs of triggering regulation under other statutes, which means costs can be higher than estimated for all systems. See *Waukesha v. EPA*, 320 F.3d 228, 243 (D.C. Cir. 2003).

126. See Sunstein, *supra* note 47, at 2289–90 (arguing that the arsenic regulations were, at least, less likely to be net beneficial for households served by smaller systems); Belzer, *supra* note 104, at 313 (arguing that most standards for drinking water are not cost-benefit justified based on the agency's own analysis); Sharon A. Jones & Nicole Joy, *The Inequity of the Revised Arsenic Rule for Very Small Community Drinking Water Systems*, 9 ENV'T SCI. POL'Y 555, 555, 558, 561 (2006) (arguing that “the tangible costs of the revised arsenic regulation far outweigh the expected health benefits and do not meet EPA's affordability criteria” after conducting a CBA on the effects of the standard on fourteen Tribal communities in Arizona).

127. There is a robust discussion about whether the statutory scope should limit the consideration of some costs or benefits in a CBA. From the perspective of efficiency and, frankly, rational decisionmaking, including all important effects ensures that regulators base their risk management decisions on an accurate picture of the actual effects of regulatory action. For this reason, agency guidelines have instructed regulators to assess indirect effects. See OFF. OF MGMT. & BUDGET, CIRCULAR A-4, at 26 (2003); EPA, GUIDELINES FOR PREPARING ECONOMIC ANALYSIS 11–12 (May 2014).

the context of drinking water, the SDWA is the primary statute that regulates the quality of drinking water, and it focuses on standards achieved using treatment technologies and techniques. But the surface or ground waters that serve as drinking water sources are sometimes polluted through outside actors that might have lower costs of reducing pollution. While the SDWA does not provide for general authority to regulate these other actors,¹²⁸ other statutes, such as the Clean Water Act, might allow regulators to take a more big-picture view and identify more cost-effective options for improving drinking water quality. Hence, opportunities for improving efficiency might be missed if the focus is on promoting efficiency within a single statute and its constraints; efficiency could be improved by looking across statutory authorities.

B. Inefficient Cost-Benefit Analysis

Promoting equity means paying attention to changes from baseline conditions for different groups when deciding whether to issue a regulation and ensuring that, at least, the regulation does not worsen outcomes for disadvantaged or vulnerable groups. But baseline conditions can matter for efficiency, too, from the perspective of maximizing aggregate welfare. This Section discusses three ideas to improve CBA as a tool for identifying welfare-improving policies that would also promote equity in some cases: (1) accounting for the diminishing marginal utility of income in the analysis; (2) ensuring that risk calculations appreciate current populations at risk; and (3) improving quantification and monetization of impacts. These ideas to improve the ability of CBA to identify efficient, welfare-improving policies are not new, but in some cases, their potential to improve equity has been less valued.

First, scholars have proposed adjusting CBA so that it better identifies *welfare* improvements by strengthening the connection between additional money and resulting improvements in welfare. As an initial matter, there is a long literature in welfare economics (and philosophy) about the meaning of “welfare” and whether conventional CBA appropriately identifies improvements in “welfare.”¹²⁹ CBA adopts a preference-realization view and takes advantage of monetary

128. The SDWA does contain a provision that tries to encourage a broader view of the sources of contamination in drinking water. See 42 U.S.C. § 300j-14(a) (allowing states to establish programs under which community water systems may petition a state to establish source water quality protection partnerships among likely stakeholders).

129. For an accessible summary, see ADLER & POSNER, *supra* note 6, at 124–53, discussing the shortcomings of the preference-realization view of welfare that is associated with conventional CBA.

compensating differentials for accepting (or avoiding) different policies to estimate benefits and costs. Theoretically, then, a CBA would calculate the benefits and costs using income-based valuations for expected winners and losers. But, of course, how much money someone would accept (or pay) is not only related to his preferences but also related to his income. Thus, as many have pointed out, this approach would have the effect of creating a bias toward more societal investment in avoiding risks to high-income individuals.¹³⁰

On top of that, a commonly cited criticism is that a policy that essentially transfers some amount of money to a poor person actually results in a greater *welfare* improvement for that individual than does a policy that transfers the same amount of money to a rich person.¹³¹ The reasoning is that an additional dollar has a greater effect on the welfare of a poor person than a rich person, referred to as the declining marginal utility of income.¹³² But a conventional CBA would treat such policies as the same. And in doing so, it risks identifying policies that not only are inequitable but also *systematically deviate* from efficiency, defined as maximizing welfare. In order to address this criticism, economists have evaluated the possibility of directly accounting for the declining marginal utility of income within CBA that uses differentiated willingness-to-pay values.¹³³ Adding income-based adjustments to CBA would identify some policies as efficient and welfare-enhancing because of changes in the *distribution* of benefits and costs among groups with different income levels.¹³⁴ And the

130. See, e.g., ADLER & POSNER, *supra* note 6; Daniel J. Acland & David H. Greenberg, *Principles and Practices for Distributional Weighting: A New Approach* (Goldman Sch. of Pub. Pol'y, Working Paper, 2022), <https://gspp.berkeley.edu/research-and-impact/working-papers/principles-and-practices-for-distributional-weighting-a-new-approach> [<https://perma.cc/Y58S-AVVE>].

131. See, e.g., Acland & Greenberg, *supra* note 130; Sarah B. Lawsky, *On the Edge: Declining Marginal Utility and Tax Policy*, 95 MINN. L. REV. 904 (2011) (evaluating the evidence for the intuition behind declining marginal utility of income).

132. Sarah B. Lawsky, *supra* note 131, at 904; see also Acland & Greenberg, *supra* note 130, at 5–6 (similarly defining “diminishing marginal utility of income”).

133. See, e.g., Acland & Greenberg, *supra* note 130; Väinö Nurmi & Heini Ahtiainen, *Distributional Weights in Environmental Valuation and Cost-Benefit Analysis: Theory and Practice*, 150 ECOLOGICAL ECON. 217 (2018); David A. Weisbach, *Distributionally Weighted Cost-Benefit Analysis: Welfare Economics Meets Organizational Design*, 7 J. LEGAL ANALYSIS 151 (2015); Herbert Hovenkamp, *Marginal Utility and the Coase Theorem*, 75 CORNELL L. REV. 783, 798–800 (1990); Richard S. Markovits, *Duncan’s Do Nots: Cost-Benefit Analysis and the Determination of Legal Entitlements*, 36 STAN. L. REV. 1169, 1178 (1984).

134. In this discussion, I focus only on changing CBA to account for the diminishing marginal utility of income with the use of income-adjusted values so that it better approximates welfare. I do not here include proposals to weigh welfare impacts to some groups more than impacts to other groups, which I refer to as a “prioritarianism” approach. See Acland & Greenberg, *supra* note 130 (discussing this difference and its importance, though referring to the “prioritarianism” approaches as “equity-weighted” CBA); Matthew D. Adler & Ole F. Norheim, *Introduction*:

argument is that such weighted CBA would better approximate welfare.

While CBA as implemented by government agencies does not account for the diminishing marginal utility of income, it sidesteps some of the inequitable implications by also using an average willingness-to-pay value to calculate benefits and costs.¹³⁵ But this “solution” is thought to be an imperfect one, without a clear justification in welfare theory. Daniel Hemel explores the practical implications of applying weights consistently to benefits and costs versus using what he calls a “status quo” CBA (which uses an average VSL) by examining a 2014 rule promulgated by the National Highway Traffic Safety Administration.¹³⁶ The rule requires vehicles to have rearview cameras to reduce the risk of crashes when a vehicle is backing up.¹³⁷ Hemel finds that, when the estimate of mortality-risk reduction benefits is adjusted for income, the rule is expected to generate net costs for lower-income individuals; without the adjustment, it was expected to yield net benefits for such individuals.¹³⁸ The change occurs because, although the regulation is predicted to save more lives from this group, the cost borne by this group in exchange for these risk-reduction benefits would be relatively high, more than low-income individuals would be willing to pay.

Hemel ultimately concludes that status quo CBA is better than weighted CBA for practical reasons.¹³⁹ He evaluates several of these reasons, including informational burdens and institutional constraints.¹⁴⁰ But there is value in understanding the true welfare implications of regulations, especially if they lead to net costs. As Hemel himself put it, “low-income individuals and high-income individuals make different dollars-for-lives trade-offs—not because low-income people value their lives less[,] but because they value their dollars more.”¹⁴¹ Conducting a weighted CBA in addition to the typical CBA

Prioritarianism in Practice, in PRIORITARIANISM IN PRACTICE 1–2 (Matthew D. Adler & Ole F. Norheim eds., 2022). For more information about using distributional weights more generally in CBA, see Matthew D. Adler, *Benefit–Cost Analysis and Distributional Weights: An Overview*, 10 REV. ENV'T ECON. & POL'Y 264 (2016); Weisbach, *supra* note 133; and Olof Johansson-Stenman, *Distributional Weights in Cost-Benefit Analysis: Should We Forget About Them?*, 81 LAND ECON. 337 (2005). I discuss other proposals *infra* Part IV.

135. See generally discussion *supra* Part I (describing the use of an average VSL to calculate fatality risk reductions, which form the largest component of regulatory benefits).

136. Daniel J. Hemel, *Regulation and Redistribution with Lives in the Balance*, 89 U. CHI. L. REV. 649, 679 (2022).

137. Hemel, *supra* note 136, at 657.

138. *Id.* at 695–700.

139. *Id.* at 658–60.

140. *Id.* at 709–30.

141. *Id.* at 655.

used by agencies could alert the agency to situations where low-income individuals bear costs greater than *their* value of the benefits, given their income constraints. Such a finding should not be used to avoid regulatory investment, however. Instead, I argue it could highlight a situation where appropriate funding support might be required so that low-income individuals can truly benefit from the regulatory improvement.¹⁴²

Second, CBA—and, in particular, the risk assessments that are used as inputs in the analysis—can be adjusted to improve efficiency and equity by accounting for the size of populations that are currently exposed to risk. In many contexts, the conventional practice is to focus on a hypothetical maximally exposed individual and ignore the size of the population actually exposed to a risk.¹⁴³ Economist W. Kip Viscusi, recounting his effort to get the EPA to consider the size of exposed populations when evaluating and prioritizing Superfund cleanups,¹⁴⁴ speculated that the agency “believe[s] that providing protections for any single individual exposed to the risk is more protective than accounting for the scope of risk exposures.”¹⁴⁵ But this policy choice actually hurts currently exposed populations. When it comes to Superfund sites, minority communities are more likely to be exposed in close proximity to hazardous sites—often in residential areas where children and adults are exposed to risks daily.¹⁴⁶ When the EPA ignores this reality, it “discounts the benefit value of protecting these disadvantaged groups by equating the importance of protecting large numbers of people actually exposed to the risk with a single hypothetical future individual who may never face real risks.”¹⁴⁷

Third, more effort should be made to quantify and monetize categories of costs and benefits. As discussed previously, many CBAs fail to monetize effects.¹⁴⁸ Scholars have found evidence consistent with the view that unquantified impacts could be used to influence outcomes,¹⁴⁹ and the resulting outcomes could be neither efficient nor

142. This is the proposal this Article makes. *See infra* Part IV.

143. *See, e.g.*, Alon Rosenthal, George M. Gray & John D. Graham, *Legislating Acceptable Cancer Risk from Exposure to Toxic Chemicals*, 19 *ECOLOGY L.Q.* 269 (1992) (discussing typical procedures used at the EPA).

144. W. KIP VISCUSI, *PRICING LIVES: GUIDEPOSTS FOR A SAFER SOCIETY* 154 (2018).

145. *Id.*; *see also* Rosenthal et al., *supra* note 143, at 291 (“Supporters argue that highly exposed people, even if they are few in number, have a right to protection, and that the conservatism in MEI scenarios may be appropriate given the other uncertainties in risk assessment.”).

146. VISCUSI, *supra* note 144, at 156 (summarizing results of his research in this area).

147. *Id.*

148. *See supra* notes 109–110 and accompanying text.

149. Jonathan S. Masur & Eric A. Posner, *Unquantified Benefits and the Problem of Regulation Under Uncertainty*, 102 *CORNELL L. REV.* 87, 92 (2016) (finding that agencies failed to

equitable. This is especially true because actually monetizing an impact has sometimes revealed that it is more valuable to individuals than previously assumed. One example is when the Reagan Administration adopted a much stricter standard for phasing out leaded gasoline than either it or the previous administration initially thought warranted after it conducted a CBA using then-available scientific evidence on the adverse effects of lead in children and adults.¹⁵⁰ If EPA were to revisit that decision, a modern CBA would likely have justified an even faster phasedown; more recent studies suggest that the benefits of phasing out lead in gasoline were substantially higher than initially estimated.¹⁵¹ Other examples include the use of the value of a statistical life to monetize mortality-risk reductions in CBA¹⁵² and the inefficient stringency of the National Ambient Air Quality Standards that are set without reference to CBA.¹⁵³ Because disadvantaged groups are more likely to be exposed to risks, additional efforts to understand their harms ensure that the value of mitigating these risks is not discounted.¹⁵⁴

These are just a few ways in which improving CBA's ability to identify efficient, welfare-improving policies could also promote equity. But admittedly, improvements to CBA alone will not be enough, as even efficient policies could systematically harm disadvantaged groups. For example, Zachary Liscow points to the Department of Transportation's use of CBA in deciding how to spend funds appropriated to the agency.¹⁵⁵ He explains that CBA "encourages spending funds on the rich instead of the poor because saving time for the rich through transportation improvements is more valuable than equivalent time

monetize the costs and benefits of regulations when in most cases they could have monetized or partially monetized those costs and benefits).

150. See DeMuth, *supra* note 88, at 508 ("A very fine piece of analysis persuaded everyone that the health harms of leaded gasoline were far greater than we had thought, and we ended up adopting a much tighter program than the one we had inherited."). For more information about that CBA and the resulting standard, see Nichols, *supra* note 88.

151. See, e.g., Joel Schwartz, *Societal Benefits of Reducing Lead Exposure*, 66 ENV'T RSCH. 105, 119 (1994) (estimating net benefits of \$17.2 billion per year for each microgram of reduction in average blood-lead concentrations); Debra J. Brody, James L. Pirkle, Rachel A. Kramer, Katherine M. Flegal, Thomas D. Matte, Elaine W. Gunter & Daniel C. Paschal, *Blood Lead Levels in the US Population*, 272 JAMA 277, 281 (1994) (estimating a ten microgram decline in average blood-lead levels in children due in large part to the lead phasedown).

152. See, e.g., Viscusi et al., *supra* note 112, at 239 (comparing the use of the value of a statistical life to the prior torts-based method, which severely undervalued life-saving regulations).

153. See, e.g., Michael A. Livermore & Richard L. Revesz, *Rethinking Health-Based Environmental Standards*, 89 N.Y.U. L. REV. 1184, 1185–86 (2014).

154. See generally Caroline Cecot, *The Data Gap: Promoting Analysis of Exposure-Related Harms*, 69 DEPAUL L. REV. 297 (2020) [hereinafter Cecot, *The Data Gap*] (discussing the challenges associated with getting causal information on the risks associated with different exposures and proposing some solutions).

155. Liscow, *supra* note 21, at 532.

savings for the poor.”¹⁵⁶ Even after accounting for the diminishing marginal utility of income, such a policy might be efficient given the greater willingness to pay of higher-income individuals for these improvements.¹⁵⁷ This is especially problematic in the context of a funding decision because benefits in such situations tend to be concentrated but the costs tend to be widely dispersed, which suggests that higher-income groups would win (accrue net benefits) and lower-income groups would lose (suffer net costs).¹⁵⁸ Intuitively, it does not make sense for an agency to prioritize using dispersed societal resources to benefit high-income groups over low-income groups for the reason that, if they had to pay for these benefits, the high-income groups would have been willing to pay more. Many might think that, instead, society should prioritize improvements in welfare for poorer individuals over richer ones.¹⁵⁹ The effort to improve CBA to be more efficient and connected to welfare is limited in addressing equity concerns because at least some foundational concepts (even well-intentioned ones such as not imposing net costs on the low-income individuals) could in some cases replicate societal inequities.

III. THE PURSUIT OF (EFFICIENT) EQUITY

Pursuit of greater efficiency will sometimes result in more equitable outcomes, too. But this is not always the case. While many low-hanging, high-impact welfare improvements can be found in benefitting (or burdening less) lower-income and other disadvantaged groups that are currently exposed to the highest risks, not all interventions will fit this schema. In some cases, the efficient outcome will not feel equitable from a rights-based perspective of minimum access or when considering the availability of goods or protections. In these cases, agencies may choose to prioritize an improvement in equity over further improvement in efficiency. This Part focuses on situations where there are such perceived trade-offs.

Section A focuses on the importance of understanding the full net benefits (considering *costs* in addition to benefits) when deciding whether an action improves equity, even when the fundamental equity concern is rights based. This ensures that the pursuit of equity does not result in more inequitable outcomes that also reduce overall efficiency.

156. *Id.*

157. *Id.* at 529.

158. See Cecot, *Congress and Cost-Benefit Analysis*, *supra* note 91, at 812 (finding several instances of CBA requirements for agency funding decisions).

159. For more on “prioritarianism” approaches, see *supra* note 134 and discussion *infra* Part IV.

I refer to this as avoiding lose-lose scenarios, and I illustrate this concept using a concrete example from drinking water regulation. Section B then discusses how considering both efficiency and equity could highlight potential win-win scenarios. Finally, Section C summarizes the lessons from these examples.

A. Avoiding Lose-Lose Scenarios

Environmental, health, and safety regulations generate important benefits—cleaner air and water, safer workplaces, fuel-efficient appliances—but such regulations are not costless. CBA helps regulators identify the optimal level of these benefits when compared against their costs.¹⁶⁰ Costs and benefits, however, are not typically distributed broadly and evenly throughout the population. For example, cleaning up a specific site provides benefits to those living near the site, while the costs, if cleanup is funded by the EPA, are felt more broadly. But sometimes, such as in the case of regulations aimed at improving drinking water quality, both the benefits and the costs of regulations are concentrated and fall on the same group. In such contexts, the meaning of “equity” can be ambiguous or at least subject to different interpretations. On the one hand, overly costly regulations could be seen to inappropriately burden these groups, resulting in unintended consequences to their welfare. On the other hand, less stringent standards could leave these groups exposed to more risks than those subject to more stringent regulations. In other words, promoting one interpretation of equity has the potential to result in a different kind of inequity. And ignoring efficiency considerations might make the ultimate outcome not only inequitable but also inefficient.¹⁶¹

One concrete example of this dynamic can be found in the context of regulating drinking water. Nearly eighty percent of community water systems are small, each serving less than 3,300 people, and together these systems serve about eight percent of the population that uses community water systems for drinking water.¹⁶² These small water systems tend to be located in rural areas and serve households that make less than the national median income.¹⁶³ In

160. See Cecot, *Congress and Cost-Benefit Analysis*, *supra* note 91, at 795–96.

161. For a related argument on the importance of understanding market dynamics when identifying alleviating environmental disparities, see Been, *supra* note 70, at 1387.

162. EPA, STATISTICS, *supra* note 93, at 8; CLAUDIA COPELAND, CONG. RSCH. SERV., 98-64, RURAL WATER SUPPLY AND SEWER SYSTEMS: BACKGROUND INFORMATION 1 (2014).

163. Raucher et al., *supra* note 124, at 4, 7; EPA, VARIANCE TECHNOLOGY FINDINGS, *supra* note 101, at 43 tbl.5 (calculating a median household income for small systems—serving less than 10,000—as between \$27,000 and \$30,000 in 1995 dollars). The median household income in the United States at that time was about \$34,000. U.S. DEP’T OF COM., MONEY INCOME IN THE UNITED

addition, the vast majority of Tribal water systems are small, serving populations of less than ten thousand people.¹⁶⁴ Per the Biden Administration's definition of promoting equity, improving water quality for small water systems would qualify under several criteria.¹⁶⁵

The costs of any improvements, however, are borne by the households that are served by the water system. And improving the quality of drinking water can be costly; costs depend on the baseline conditions, the type of source water, the type of contaminant, and, importantly, the size of the water system. Small drinking water systems face much higher costs of compliance with water quality regulations than do large systems.¹⁶⁶ This is because small systems cannot take advantage of the economies of scale available to large systems to reduce the costs of investments in infrastructure and compliance technologies because of their small customer and tax base.¹⁶⁷ Small systems also do not have the level of expertise to run these technologies efficiently.¹⁶⁸ Because of this, small systems confront compliance costs that can result in sixteen times higher annual costs

STATES: 1995, at vii, <https://www2.census.gov/prod2/popscan/p60-193.pdf> (last visited Jan 12, 2023) [<https://perma.cc/6MC2-8B8M>].

164. See Otakuye Conroy-Ben & Rain Richard, *Disparities in Water Quality in Indian Country*, 163 J. CONTEMP. WATER RSCH. & EDUC. 31, 40 (2018) (“Of the 1,001 tribal drinking water facilities monitored under [EPA’s compliance database], 97.6% qualified as small treatment systems.”).

165. See Exec. Order No. 13,985, 86 Fed. Reg. 7009 (Jan. 20, 2021) (defining equity as “the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities . . . such as Black, Latino, and Indigenous and Native American persons, . . . persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality”).

166. See, e.g., Belzer, *supra* note 104, at 294–318 (discussing the difficulties small water systems face in affording to come in compliance with water quality regulations); Banzhaf, *supra* note 47, at 15–18 (discussing distributional effects arising from the EPA’s water regulation that results in disproportionate pollution in poor neighborhoods); Sunstein, *supra* note 47, at 2265 (explaining that “[p]oor people often have little ability and hence little willingness to pay” in discussing possible EPA methodology in setting water safety standards). EPA’s own economic analyses sometimes explicitly show this. See, e.g., EPA, ARSENIC RIA, *supra* note 125, at 6-35 exhibit 6-17 (showing significantly higher annual costs for households in smaller systems across all regulatory options). This finding was also part of Congress’s motivation in passing the SDWA Amendments of 1996. Pub. L. No. 104-182, 110 Stat. 1613, 161415 (finding that “the requirements of the Safe Drinking Water Act (42 U.S.C. [§] 300f et seq.) now exceed the financial and technical capacity of some public water systems, especially many small public water systems” and that “compliance with the requirements of the Safe Drinking Water Act continues to be a concern at public water systems experiencing technical and financial limitations”). See also H.R. REP. NO. 104-632, at 130 (1996) (statement of Rep. Tom Coburn) (“At the same time, we know that fully implementing this rule will be extremely costly for public water systems, especially those small systems serving rural areas. For instance, each household in northeastern Oklahoma would have to pay nearly \$200 more a year if we fail to use common sense and move forward with the proposed rule.”).

167. COPELAND, *supra* note 162, at 3. The high fixed costs of improvements cannot be spread across many payers.

168. See *id.* at 1.

for households for the same benefits,¹⁶⁹ and these systems sometimes struggle to raise money to comply.¹⁷⁰

Of course, safe drinking water is extremely important, often considered to be a fundamental right.¹⁷¹ People are willing to spend a lot to have access to clean water, perhaps being willing to spend more than would be justified by the actual risk reduction.¹⁷² But even so, imposing the highest costs on the poorest and often otherwise-disadvantaged households to give them access to the very same benefits could reduce their overall welfare and potentially increase their overall health risks.¹⁷³ In other words, the higher costs of compliance can result in net effects that are inequitable.

In particular, the regulations might not be worthwhile, over other investments, for households in small water systems. For poorer households, any large increases in annual costs diverted to water could mean reductions in expenditures on other goods that might have provided higher returns. For example, one study focusing on a community in Arizona found that higher household water bills due to compliance with the arsenic standard under SDWA were associated with lower household expenditures on health care.¹⁷⁴ A distributional

169. See, e.g., Raucher et al., *supra* note 124, at 3 (calculating that households connected to a very small water system would pay more than sixteen times as much for the same benefit as households connected to a large system).

170. See, e.g., COPELAND, *supra* note 162, at 1 (describing financing challenges and reporting funding needs of \$64.5 billion).

171. See, e.g., *International Decade for Action 'Water for Life' 2005-2015*, UNITED NATIONS WATER, https://www.un.org/waterforlifedecade/human_right_to_water.shtml (last updated May 29, 2014) [<https://perma.cc/DN68-KDMJ>] (describing Resolution 64/292, adopted by the United Nations General Assembly, which explicitly recognized drinking water that is accessible, safe, and affordable as a fundamental human right).

172. See Viscusi et al., *supra* note 112, at 221–43 (finding that individuals are willing to pay a lot for small increases in water quality); Heinzerling, *supra* note 26, at 2326:

It is hard to believe that the average household would even notice an extra expenditure of three cents per day, \$9.40 per year. If a household did notice it, I suspect that the householders would be willing to fork over the extra three cents per day to reduce their exposure to arsenic in drinking water. The amount is truly trivial, by any assumptions or standards one may care to employ.

173. Belzer, *supra* note 104, at 301 (equating the imposition of high compliance costs on the poorest households to “a peculiar regressive tax that, instead of producing government revenue, transfers wealth from the poor to firms in the water treatment industry”); Robert S. Raucher, *Benefit-Cost Analysis and Drinking Water Regulation*, in *DRINKING WATER REGULATION AND HEALTH* 225, 232 (2003) (“This raises a fundamental issue of fairness—should families served by small systems be forced through regulations to pay much higher costs for their risk reduction benefits than do households in larger, more urban settings?”); Sunstein, *supra* note 47, at 2301 (“It is easy to imagine a situation in which water quality regulation is ‘regressive’ in the sense that its costs come down especially hard on poor people.”).

174. See, e.g., Dennis C. Cory & Lester D. Taylor, *On the Distributional Implications of Safe Drinking Water Standards*, 8 *J. BENEFIT-COST ANALYSIS* 49, 87 (2017) (connecting higher household water bills due to compliance with an SDWA standard to lower expenditures on health care).

analysis would show that households served by small water systems would gain the *lowest* net benefits from such regulations over any other group, assuming the regulations are net beneficial for them at all.¹⁷⁵ In other words, vulnerable groups might not appropriately benefit, on net, from them under the Biden Administration's standards.¹⁷⁶

Economists have come up with solutions to this form of inequity by arguing for greater efficiency in regulating drinking water, which would ensure that the regulations are welfare-improving for those served by small systems.¹⁷⁷ One such option is to set the standard at the level that is cost-benefit justified for each system. That way, water quality requirements would vary, but households served by smaller systems would not be forced to pay more for the same expected value of health benefits. The inequality in net benefits and price would disappear. There are a few ways to implement this option. For example, Cass Sunstein proposes explicitly "targeting" regulatory requirements based on the expected costs.¹⁷⁸ Under this proposal, water systems of different sizes would be expected to comply with different standards; the standards would tend to be more stringent for larger water systems where compliance costs tend to be lower. Sunstein acknowledges, however, that this proposal would likely be prohibited under the current SDWA, which requires the EPA to set a national standard, and he advocates for amending the statute.¹⁷⁹

175. See Belzer, *supra* note 104, at 300 ("Because economies of scale in drinking water supply and treatment are so strong, standards that are economically feasible for very large systems are virtually certain to be economically infeasible for small systems . . ."). At the very least, the net benefits would be smallest for households served by small systems.

176. See Memorandum on Modernizing Regulatory Review, *supra* note 1 (directing the Office of Management and Budget to propose ways of ensuring that regulatory initiatives "appropriately benefit and do not inappropriately burden disadvantaged, vulnerable, or marginalized communities").

177. See, e.g., Sunstein, *supra* note 47, at 2297 ("A possible approach would involve . . . imposing regulation on water systems when the cost-benefit ratio is especially good.").

178. *Id.*:

Impose a targeted rule, with a sliding scale of regulations ensuring that the cost-benefit ratio supports the outcome in each area. When, for example, the annual cost of regulation is less than \$50 per household, government might impose a 5 ppb standard; when the annual cost is less than \$150, it might impose a 10 ppb standard; when it is less than \$350, it might impose a 20 ppb standard.

179. *Id.* Sunstein suggests that waivers could achieve the same outcomes, but he finds them less satisfactory because waivers are offered only for short periods of time. *Id.* Sunstein is likely referring to "exemptions" under the SDWA, which allow "eligible systems additional time to achieve and maintain regulatory compliance" with new drinking water standards but do not remove any requirements. See *Drinking Water Requirements for States and Public Water Systems: Variances and Exemptions*, EPA, <https://www.epa.gov/dwreginfo/variances-and-exemptions> (last updated Feb. 9, 2022) [<https://perma.cc/ZWK9-4D4K>] (providing guidance on the EPA's authority to grant variances and exceptions to the SDWA). The SDWA does, however, allow EPA to establish "variance technologies" that are meant to relieve some of the regulatory burdens for smaller systems. See 42 U.S.C. § 300g-1(b)(15)(A) (instructing the EPA Administrator to provide "variance

Because of this statutory limitation, Richard Belzer advocates for a version of this option where the EPA sets the national maximum contaminant level at the level that is cost-benefit justified for the smallest systems, a less stringent level than the level that would be cost-benefit justified for larger systems.¹⁸⁰ On paper, the requirement would be the same for all water systems across the country. In practice, however, water quality would be different based on water-system size. As Belzer explains, “Systems that can achieve more stringent controls in an economically feasible manner will be motivated to do so without a federal mandate.”¹⁸¹ Nonetheless, it would be difficult to square Belzer’s suggestion with other language within the SDWA requiring the national standard to be based on the “maximum” “feasible” risk reduction.¹⁸²

Another way to achieve the same outcome with more grounding in the statutory scheme would be for the EPA to offer waivers for small systems when the national standards do not pass a cost-benefit test for their systems. In fact, when Congress passed the SDWA amendments of 1996, it arguably sought to provide such a possibility for small systems. The legislative history is peppered with concern for small systems facing high costs of compliance.¹⁸³ And among the congressional “findings” that motivated the amendments were explicit concerns with regulatory impacts on small water systems and the need to promote efficiency.¹⁸⁴ The amendments ultimately retained the language thought to lead to stringent national standards. But the amendments gave the EPA the ability to deviate from an otherwise

technology” that is “available and affordable . . . for public water systems of varying size”). Sunstein’s conclusion stands, however, because the EPA has never offered a variance technology in practice.

180. Belzer, *supra* note 104, at 313–14 (“The Agency can set MCLs at the most health-protective level consistent with technological and economic feasibility for the smallest size system subject to regulation. . . . The economic feasibility principle would balance customers’ interests in protection from risk and their aversion to expenditures that exceed the value of benefits received.”).

181. *Id.* at 314.

182. 42 U.S.C. § 300g-1(b)(4)(B) (requiring the maximum contaminant level to be set “as close to the maximum contaminant level goal as is feasible”).

183. See generally Cecot, *Congress and Cost-Benefit Analysis*, *supra* note 91 (discussing the legislative history). Funding needs were salient at the time. See, e.g., *States Would Need 1993 Funding Doubled to Implement Drinking Water Rules*, *EPA Says*, 23 ENV’T REP. 1857, 3199 (1992–1993).

184. See SDWA Amendments of 1996, Pub. L. No. 104-182, 110 Stat. 1613, 1614–15 (finding that “the requirements of the Safe Drinking Water Act now exceed the financial and technical capacity of some public water systems, especially many small public water systems” and that “risk assessment, based on sound and objective science, and benefit-cost analysis are important analytical tools for improving the efficiency and effectiveness of drinking water regulations to protect human health” (internal citation omitted)).

“feasible” national standard in light of a CBA,¹⁸⁵ put more emphasis on “affordab[ility]” for smaller systems,¹⁸⁶ and enabled small water systems to comply with a lower standard when complying with the national standard is not affordable.¹⁸⁷ Under this new process, the EPA would develop a list of “variance technologies” that smaller systems would be allowed to install if the technologies needed to achieve compliance (so-called “compliance technologies”) were deemed not affordable.¹⁸⁸ Although the variance technologies “may not achieve compliance with the maximum contaminant level or treatment technique requirement,” they would “achieve the maximum reduction or inactivation efficiency that is affordable considering the size of the system and the quality of the source water” and must still be “protective of public health.”¹⁸⁹ In addition, Congress implicitly excluded the smallest water systems from the Act altogether.¹⁹⁰ Individuals who received their water from unregulated sources (which included about forty-five percent of rural Americans) were responsible for maintaining their own water quality,¹⁹¹ which has often resulted in water quality below national standards.¹⁹²

185. 42 U.S.C. § 300g-1(b)(6)(A) (“[I]f the Administrator determines . . . that the benefits of a maximum contaminant level . . . would not justify the costs . . . , the Administrator may . . . promulgate a maximum contaminant level for the contaminant that maximizes health risk reduction benefits at a cost that is justified by the benefits.”).

186. *See id.* § 300g-1(b)(4)(E)(2) (requiring the EPA to explicitly list technologies and treatment techniques that would allow small water systems to affordably achieve compliance with the maximum contaminant level or treatment technique).

187. *See id.* § 300g-1(b)(15)(A) (instructing the EPA Administrator to provide guidance regarding alternative containment standards that are “available and affordable” for various sizes of public water systems).

188. *Id.* Previously, states could grant variances to water systems whenever compliance technology was not “available.” Act of Dec. 16, 1974, Pub. L. 93-523, § 1415(A)(1)(A), 88 Stat. 1660. Following enactment of the 1996 amendments, the process was changed to potentially allow small systems to adopt variance technologies to control contaminants (except microbial contaminants) when compliance technologies were deemed not affordable. 42 U.S.C. § 300g-1(b)(4)(E)(i)-(ii).

189. 42 U.S.C. § 300g-1(b)(15)(A)-(B).

190. *See id.* § 300f(15) (defining community water systems as those regularly supplying water to at least twenty-five people or fifteen service connections). This also excludes the forty million people who get their drinking water from private water wells. *See* Tyler D. Johnson, Kenneth Belitz & Melissa A. Lombard, *Domestic Wells in the United States*, USGS (June 24, 2020), <https://ca.water.usgs.gov/projects/USGS-US-domestic-wells.html> [<https://perma.cc/69UH-4S9X>].

191. *See* Brigham Daniels, Erika Weinthal & Blake Hudson, *Is an Exemption from US Groundwater Regulations a Loophole or a Noose?*, 41 POLY SCI. 205, 206 (2008) (noting that the SWDA “does not protect or regulate any water system that serves fewer than 25 people or has fewer than 15 service connections associated with it” and calling this “a significant loophole”).

192. Samples suggest that many private water wells have at least one contaminant above the maximum contaminant level. *E.g.*, LESLIE A. DESIMONE, PETER B. MCMAHON & MICHAEL R. ROSEN, U.S. GEOLOGICAL SURV., U.S. DEP’T OF THE INTERIOR, CIRCULAR 1360, THE QUALITY OF OUR NATION’S WATERS: WATER QUALITY IN PRINCIPAL AQUIFERS OF THE UNITED STATES, 1991–2010, at 2 (2014), <https://pubs.usgs.gov/circ/1360/pdf/circ1360report.pdf> [<https://perma.cc/7Q3R-MCJG>] (“Groundwater from 22 percent of sampled wells—more than one in five—contained at

But if Congress intended a more nuanced, sliding-scale regulatory scheme that allowed for such different standards in practice to promote efficiency and equity, it was not successful. After the amendments, the EPA created a plan for implementing these statutory directives that made them virtually irrelevant.¹⁹³ For each contaminant already regulated under the Act, the EPA investigated the cost of technologies and treatment techniques that small water systems could use to achieve compliance with maximum contaminant levels, defining as affordable any increase in costs less than one-and-a-half to three percent of the median household income.¹⁹⁴ Although concerns about the affordability of existing standards motivated Congress to create this process, the EPA ultimately concluded that affordable technologies and treatment techniques existed to achieve compliance with maximum contaminant levels *for all regulated contaminants*.¹⁹⁵ In other words, the EPA declined to list any variance technologies that would allow small water systems to comply with a lower standard for a previously regulated contaminant. The EPA also decided not to offer any variance technologies for regulating arsenic, despite the vastly higher compliance costs for the smallest water systems to effectively regulate that contaminant.¹⁹⁶ In fact, I could not find evidence of the EPA ever listing a variance technology that would allow small systems to comply with a standard less stringent than the maximum contaminant level for any contaminant.¹⁹⁷ Thus, the only way for a small system to legally *not comply* with expensive regulation is to downsize so much that it falls out of the Act's coverage entirely.¹⁹⁸

least one chemical constituent at a concentration greater than a U.S. Environmental Protection Agency Maximum Contaminant Level (MCL) or other human-health benchmark for concentrations in drinking water.”).

193. See EPA, VARIANCE TECHNOLOGY FINDINGS, *supra* note 101 (concluding that variance technologies for contaminants regulated before the 1996 SDWA amendments are not necessary).

194. *Id.* at 19.

195. *Id.* at 59:

The two compliance technology lists developed by EPA for contaminants regulated before 1996 identified compliance technologies for all of the 80 regulated contaminants, including affordable compliance technologies for all classes of small systems where appropriate. . . . Thus, EPA will not, at this time, be listing variance technologies for any existing [national drinking water standard].

196. See EPA, ARSENIC RIA, *supra* note 125, at 3–5 (determining that all compliance technologies are affordable and declining to identify any variance technology for any system size).

197. See also Raucher et al., *supra* note 124, at 5 (“[T]o date these variances are, in effect, unavailable to small systems.”).

198. See Daniels et al., *supra* note 191, at 207 (expressing concerns about escaping regulation through downsizing). Households could also switch to obtaining water through private water wells, which are also unregulated. See *id.* at 213 (warning citizens that the SDWA does not cover private wells).

If the EPA were to make more use of this variance process and allow greater compliance flexibility for small water systems, it would increase efficiency and reduce inequitable outcomes, at least through the perspective of ensuring that there exist net welfare gains for those served by small water systems.¹⁹⁹ But under this “efficiency”-based solution, a different form of inequity would result: households served by small systems would be explicitly *allowed* to comply with less stringent water-quality standards.²⁰⁰ Even if less stringent standards would better promote welfare for these households, the government-sanctioned exposure to lower quality drinking water for poorer households could be viewed as a kind of inequitable treatment, especially if adverse events (such as illnesses related to water quality) were ever realized.²⁰¹ And arguably, this kind of solution would go against the motivation of the environmental justice movement, which has been focusing on remedying the unequal exposures to contaminants that some communities face.²⁰² In other words, there may be an “equity”-based aspirational constraint on the solution: Everyone should have access to high water quality.

199. See Raucher et al., *supra* note 124, at 4:

Applying an expensive [national drinking water standard] to small systems may be considered inequitable, because it forces households in small [water] systems to pay considerably more than their big system counterparts, to obtain a comparable risk reduction benefit. Perhaps more important, the high costs imposed on lower income households in small systems may also be counterproductive from a public health standpoint, to the degree that reducing their effective disposable incomes may elevate some risks by curtailing household spending on preventive or other medical care . . . ;

Jones & Joy, *supra* note 126, at 561 (arguing that the high costs and low benefits associated with the arsenic standard for Tribal communities in Arizona make it inequitable, shifting resources among risks instead of promoting actual risk reduction). In short, households would be better-off spending on other things that would increase their overall welfare more.

200. These less stringent standards would still have to be protective of public health, as required under the SDWA, in order to obtain a variance. See Safe Drinking Water Act Amendments of 1996 § 116, 42 U.S.C. § 300g-4(e)(3)(B) (permitting small system variances only when the EPA “determines that the terms of the variance ensure adequate protection of human health”).

201. See, e.g., Daniels et al., *supra* note 191 (arguing that the exemption for the smallest water systems, those serving less than twenty-five people, as well as the existence of the variance system is an inequitable loophole); Moriah Schmidt, *Don't Drink the Water: Why the Safe Drinking Water Act Failed Flint*, 19 VT. J. ENV'T L. 218, 223 (2018) (arguing that variances “can effectively abolish water quality standards,” with “a community that is struggling financially [having] a greater chance of being granted a variance, which leads to a greater risk of compromised drinking water”); see also Belzer, *supra* note 104, at 306 (arguing that, if equity is defined “in terms of a quantity-based definition of equal protection,” then EPA would be more equitable in setting high national standards but, in so doing, would “reduc[e] the welfare of those it purports to benefit”).

202. See, e.g., *Climate Justice*, CAL. ENV'T JUST. ALL., <https://caleja.org/what-we-do/climatejustice/> (last visited Oct. 2, 2022) [<https://perma.cc/KQM2-NM4D>] (“We believe the California climate policy needs to protect and benefit environmental justice communities by reducing toxic hotspots, implementing strong regulatory measures, and speeding our transition off fossil fuels.”).

But the larger point is that, even if we agree that pursuing the same high standards is the best way to understand and promote equity in this context, this outcome will not emerge *unless* the efficiency-based concerns are acknowledged and addressed in some way, such as by fully subsidizing small water systems facing high compliance costs.²⁰³ One high-profile example of this is the water-quality tragedy in Flint, Michigan, which exposed a predominantly minority population to high levels of lead in drinking water.²⁰⁴ The details that emerged from the tragedy showed shocking failures at all levels of government to predict, detect, and mitigate the devastating consequences; but fundamentally, as James Salzman put it, “The origins of the Flint crisis lay in poverty.”²⁰⁵ The cash-strapped city decided to stop buying water from the city of Detroit and instead get their drinking water from the Flint River.²⁰⁶ They also decided not to apply the necessary treatment, required by the SDWA, to ensure the water would be safe for consumption.²⁰⁷ In other words, a key part of the failure was a lack not of equitable standards but rather of funding to implement them.²⁰⁸

Subsidizing small water systems would ensure that poorer households receive the same high quality of drinking water (the preferred equitable outcome) and would avoid reducing their overall welfare by lowering their direct costs (efficiency/equity). Society as a whole, deeming varying standards to be inappropriate, would pay the difference for those households through government-provided funding, grants, or other transfers.²⁰⁹

Under the SDWA, Congress authorized several programs to provide support to water systems in order to reduce the costs of compliance.²¹⁰ According to the EPA, small water systems have more

203. See Sunstein, *supra* note 47, at 2299 (proposing this option though expressing concerns about the value of such redistribution); Raucher et al., *supra* note 124, at 5–6 (discussing this option but noting the funding inadequacies).

204. James Salzman, *The Past, Present and Future of the Safe Drinking Water Act* 10–12 (UCLA Sch. of L., Pub. L. & Legal Theory Rsch. Paper No. 22-21, 2022), <https://ssrn.com/abstract=3463976> [<https://perma.cc/R4Y4-X2K3>].

205. *Id.* at 11–12.

206. *Id.* at 11 (deciding to do this as an interim solution before switching to a permanent source that drew water from Lake Huron).

207. *Id.*

208. That said, a lack of funding was not the only cause of the tragedy at Flint. James Salzman documents in detail the layers of indifference and deception that compounded the crisis. *Id.* at 11–12. For example, he highlights an internal EPA email that stated, “I am not so sure Flint is a community we want to go out on a limb for.” *Id.* at 12.

209. This option is akin to a progressive tax.

210. See, e.g., 42 U.S.C. § 300j-1a (providing grants for research into cost-reducing technologies); *id.* § 300j-2(a)(7) (appropriating funds to finance state public water system supervision programs); *id.* § 300j-3c (authorizing EPA to issue grants to finance “the construction, rehabilitation, and improvement of water supply systems”); *id.* § 300j-4(a)(2)(H) (appropriating

than sixty-four billion dollars in funding needs.²¹¹ But Congress typically does not appropriate enough money to address such needs, often providing for less than a billion dollars.²¹² Furthermore, a recent report concluded that the programs that are available, such as the Drinking Water State Revolving Fund, are not targeted to help households facing high costs of compliance—and many states do not collect the kind of data that would make such targeting possible.²¹³ In other words, even when money is available, it does not always go to the communities that need it most. In Executive Order 13,985, President Biden committed to increasing federal investments to underserved communities.²¹⁴ In guidance implementing the Order, the Administration identified water programs as covered under the Administration's commitment.²¹⁵ The goal is laudable, but without additional appropriated funds, these programs cannot reduce the inequity associated with low or negative net benefits from drinking water regulations for those served by small water systems.²¹⁶ Although these programs have already been established, the need for much

funds to finance state monitoring programs for unregulated contaminants); *id.* § 300h-8 (providing for grants to states for state groundwater protection efforts).

211. See Copeland, *supra* note 162, at 1.

212. See *id.* at 3–4 (reporting an appropriation of \$907 million in fiscal year 2014 for the state revolving fund under the SDWA, with about thirty-eight percent of total assistance going to small water systems). The recently enacted Infrastructure Investment and Jobs Act sought to address some of these funding gaps. See Pub. L. No. 117-58, 135 Stat. 429 (2021) (codified predominantly in scattered sections of 23 U.S.C., 42 U.S.C., and 49 U.S.C. and allocating over \$50 billion for improvements to water infrastructure).

213. See *Funding Navigator*, ENV'T POL'Y INNOVATION CTR., <https://static1.squarespace.com/static/611cc20b78b5f677dad664ab/t/6334cddb9875135d3f0b0eb/1664404925222/Funding+Navigator+Program+Summary-1.pdf> (last visited Oct. 2, 2022) [<https://perma.cc/J6KJ-FZZB>] (highlighting that the limited funding available does not consistently or necessarily go toward reducing costs for low-income or otherwise vulnerable groups). The Infrastructure Investment and Jobs Act has a provision directing the EPA to assess federal water programs “to identify historical distributions of funds to small and disadvantaged communities and new opportunities and methods to improve on the distribution of funds under those programs to low-income communities, rural communities, minority communities, and communities of indigenous peoples.” Infrastructure Investment and Jobs Act § 50216, 135 Stat. at 1174.

214. Exec. Order No. 13,985, 86 Fed. Reg. 7009 (Jan. 20, 2021).

215. See Memorandum from Shalanda D. Young, Acting Dir., Off. of Mgmt. & Budget, Brenda Mallory, Chair, Council on Env't Quality & Gina McCarthy, Nat'l Climate Advisor, to the Heads of Dep'ts & Agencies 12 (July 20, 2021), <https://www.whitehouse.gov/wp-content/uploads/2021/07/M-21-28.pdf> [<https://perma.cc/DUU4-D3EQ>] (listing as covered programs under the commitment: the EPA Drinking Water State Revolving Fund, the EPA Clean Water State Revolving Fund, and the EPA Reducing Lead in Drinking Water program).

216. It is sometimes possible for an administration to identify unused or discretionary funds and redirect them to other programs. See Revesz, *supra* note 16, at 1550–55 (describing such a move under the Obama Administration). But such opportunities are not always available. And even if they are, there may be legal challenges to redirecting funds from programs that are meant to promote substantially different goals.

greater appropriations can create challenges potentially similar to the challenges of handling distribution through the tax system.²¹⁷

Recognizing the importance of the incidence of costs—and subsequently the importance of funding—in order to achieve real equity is essential in these contexts; without this, current regulatory schemes will be neither equitable nor efficient. For example, without adequate funding, many small water systems have simply violated the SDWA, preferring to face additional fines than impose the high costs of compliance on households that cannot afford to pay. Numerous studies have found that smaller water systems are more likely to violate the SDWA.²¹⁸ Tribal water systems are especially likely to violate the SDWA.²¹⁹ According to EPA data, 290 out of 1,040 Tribal systems (twenty-eight percent) have currently outstanding violations, and 756 systems (seventy-three percent) have had violations in the last three years.²²⁰ Another concern is that water systems might downsize in order to fall out of the coverage of the act entirely,²²¹ or that individual households served by these systems might switch to getting water from private wells, in either case completely avoiding regulations and

217. *But see id.* at 1563–64 (arguing that political barriers are lower for appropriating funds for established programs than for creating and funding new programs).

218. *See, e.g.*, Maura Allaire, Haowei Wu & Upmanu Lall, *National Trends in Drinking Water Quality Violations*, 115 PNAS 2078, 2082 (2018) (noting challenges particular to small systems that make compliance with stricter standards particularly difficult for such systems as compared to larger systems); Scott Wallsten & Katrina Kosec, *The Effects of Ownership and Benchmark Competition: An Empirical Analysis of U.S. Water Systems*, 26 INT'L J. INDUS. ORG. 186, 193–94 (2008) (pointing out that “[s]maller systems tend to have the largest number of violations of all types”); Manuel P. Teodoro, Mellie Haider & David Switzer, *U.S. Environmental Policy Implementation on Tribal Lands: Trust, Neglect, and Justice*, 46 POL'Y STUD. J. 37, 52 (2018) (finding that “utility size had the expected effect, as larger utilities performed better than smaller ones” in a study focused on Tribal water systems). *Contra* Tauhidur Rahman, Mini Kohli, Sharon Megdal, Satheesh Aradhyula & Jackie Moxley, *Determinants of Environmental Noncompliance by Public Water Systems*, 28 CONTEMP. ECON. POL'Y 264, 270–71 (2010) (finding that sixty percent of the public water systems surveyed violated drinking water quality standards at least once and that larger systems were more likely to have committed these violations).

219. Conroy-Ben & Richard, *supra* note 164, at 38 (finding that “[t]he average percentage of customers in Indian Country affected by health-based violations was 8.6%, while that for non-tribal populations was 7.7%”); Teodoro et al., *supra* note 218, at 52 (“Tribal utilities were found to have significantly more health and monitoring violations than nontribal utilities.”).

220. EPA, *Facility Search Results*, ECHO, <https://echo.epa.gov/facilities/facility-search/results> (last visited Oct. 19, 2022) [<https://perma.cc/BVFG-7AFC>] (click “View Search Form for More Criteria...” in the “Current Search” panel on the right side of the screen, select “Drinking Water (SDWA)” under the “Search Media Program” section, select “Yes” for the “In Indian Country” prompt under the “Community” section, and then click “Search” under the “Search Criteria Selected” panel on the right side of the screen). For non-Tribal systems, 12.7 percent have current violations and 41.6 percent have had violations in the last three years. *Id.* (use the same process described *supra* but select “No” for the “In Indian Country” prompt under the “Community” section and click “Search,” which will provide the total number of active systems, then click “Systems with Violations (3 Years)” under the “Current Search” tab).

221. *See* Daniels et al., *supra* note 191, at 207 (expressing this concern).

monitoring.²²² The overwhelming conclusion from studies, especially those focusing on Tribal water systems, is that those served by small water systems actually face lower quality water.²²³ This has been the unintended consequence of stringent drinking water regulation that is not accompanied by both an acknowledgement of the impact of high costs and a concerted effort to provide for funding.

Thankfully, Congress recently passed a bipartisan infrastructure deal that allocated fifty billion dollars to the EPA to improve drinking water, wastewater, and stormwater infrastructure, including fifteen billion dollars specifically allocated to replace lead service lines that continue to degrade water quality in many communities of color and low-income neighborhoods.²²⁴ And the EPA has pledged to use this funding to address these inequities, with early funding allocations showing promise.²²⁵ This is exactly the kind of action that can generate real equity gains.

Other solutions associated with efficiency can help promote more equitable outcomes by reducing the costs of compliance. There are at least two ways to lower costs that draw from efficiency-promoting concepts: consolidating multiple small systems into a larger system in order to realize economies of scale²²⁶ or establishing trading schemes to eliminate contamination within drinking water sources at lowest

222. The SDWA only applies to water systems that regularly supply drinking water to at least twenty-five people or have fifteen service connections. Safe Drinking Water Act, 42 U.S.C. § 300f(15).

223. See Heather Tanana, Jaime Garcia, Ana Olaya, Chelsea Colwyn, Hanna Larsen, Ryan Williams & Jonathan King, *Universal Access to Clean Water for Tribes in the Colorado River Basin*, WATER & TRIBES INITIATIVE: COLO. RIVER BASIN 16–17 (2021), <http://www.naturalresourcespolicy.org/docs/water-tribes/wti-full-report-4.21.pdf> [<https://perma.cc/S6TQ-DW3H>] (documenting the different reasons for poor water quality). *Contra* Conroy-Ben & Richard, *supra* note 164, at 40 (finding no “increase in violations with smaller utilities” in a study focusing on Tribal water systems while conceding that limited data “may have contributed” to this result).

224. *Bipartisan Infrastructure Law: A Historic Investment in Water*, EPA, <https://www.epa.gov/system/files/documents/2021-11/e-ow-bid-fact-sheet-final.508.pdf> (last visited Oct. 2, 2022) [<https://perma.cc/KML3-UEGV>] (describing the funding allocations to various EPA water programs from the Bipartisan Infrastructure Law).

225. See, e.g., Press Release, EPA, EPA Announces New WIFIA Loans Totaling \$688 Million, Highlights More than \$5 Billion in Water Infrastructure Investments Towards Building a Better America (Jan. 19, 2022), <https://www.epa.gov/newsreleases/epa-announces-new-wifia-loans-totaling-688-million-highlights-more-5-billion-water> [<https://perma.cc/N8Y6-M57D>] (describing new EPA funding for water infrastructure in large, urban parts of the country); Hannah Northey, *Regan Touts EPA Environmental Justice Efforts, Water Loans*, E&E NEWS (Jan. 19, 2022, 4:25 PM), <https://subscriber.politicopro.com/article/eenews/2022/01/19/regan-touts-epa-environmental-justice-efforts-water-loans-285351> [<https://perma.cc/W58T-6AZG>] (describing the EPA’s progress toward its goal of “tackling environmental justice by leveraging water infrastructure funding, all while building up an agency that in recent years has faced anemic budgets and low staffing”).

226. Raucher et al., *supra* note 124, at 6.

cost.²²⁷ Consolidation has often been proposed,²²⁸ but its successful deployment is sometimes limited due to political and technical coordination issues.²²⁹ Tribal systems, in particular, are resistant to consolidating because they prefer to have more control over water resources.²³⁰

Trading, meanwhile, has not been adequately explored because trading schemes are thought to be prohibited under the SDWA.²³¹ But, of course, a water system is required to install a compliance technology only if it needs to do so to meet a water quality standard. And there are provisions under the SDWA that authorize states to think of other ways to improve source water quality that could make the installation of a compliance technology unnecessary.²³² In particular, there might be opportunities to implement cost-effective methods of improving the quality of the source water, especially when it is surface water, under other statutes such as the Clean Water Act.

Promoting equity by focusing only on benefits and ignoring the costs of compliance risks issuing regulations that unintentionally hurt the groups they intend to benefit. This risk is especially high when costs fall on the intended beneficiaries. Those seeking to advance equity cannot ignore these costs; if they want to achieve true equity, in practice and not just in rhetoric, they must measure them, appreciate them, and try to lower or offset them.

227. See Sunstein, *supra* note 47, at 2297–99 (proposing a form of such a system, where trading would occur across water sources but the EPA would establish a maximum unacceptable level of a contaminant to prevent hot spots).

228. See, e.g., Gregory Pierce, Larry Lai & J.R. DeShazo, *Identifying and Addressing Drinking Water System Sprawl, Its Consequences, and the Opportunity for Planners' Intervention: Evidence from Los Angeles County*, 62 J. ENV'T PLAN. & MGMT. 2080 (2019); JANICE A. BEECHER, NAT'L REGUL. RSCH. INST., *THE REGIONALIZATION OF WATER UTILITIES: PERSPECTIVES, LITERATURE REVIEW, AND ANNOTATED BIBLIOGRAPHY* (1996), <https://pubs.naruc.org/pub/48860212-155D-0A36-3115-26BCFC16B761> [<https://perma.cc/U636-KUY2>] (summarizing the literature).

229. For an overview of lessons, including challenges, from successful consolidation efforts in California, see NELL GREEN NYLEN, CAMILLE PANNU & MICHAEL KIPARSKY, UC BERKELEY SCH. OF L., *LEARNING FROM CALIFORNIA'S EXPERIENCE WITH SMALL WATER SYSTEM CONSOLIDATIONS: A WORKSHOP SYNTHESIS* (May 2018), <https://www.law.berkeley.edu/research/clee/research/wheeler/learning-from-consolidations/> [<https://perma.cc/6KZF-YLPF>].

230. Joy Collins & Caitrin Chappelle, *Ensuring Safe Drinking Water for California's Native American Communities*, PUB. POL'Y INST. CAL. (June 22, 2021), <https://www.ppic.org/blog/ensuring-safe-drinking-water-for-californias-native-american-communities/> [<https://perma.cc/VT5F-YXXD>] (“They tend to have a strong preference to have sovereign control over their water resources.” (quoting Jonathan Rash, Deputy Director of the Division of Sanitation Facilities Construction at the California Area Indian Health Service)).

231. See *supra* note 107.

232. E.g., 42 U.S.C. § 300h-6 (authorizing land use control demonstration programs for critical aquifers to prevent contamination); *id.* § 300j-14(a) (allowing states to establish programs that allow water systems to petition the state to establish source water quality protection partnerships among stakeholders).

B. Identifying Win-Win Scenarios

Understanding the incidence of costs and benefits can help make efficient regulations more equitable. One example in the drinking water context where paying attention to distributional concerns coincided with enacting a more efficient regulatory plan is the New York City Watershed Protection Program.²³³ In 1986, Congress required the EPA to issue regulations specifying the circumstances under which all regulated water systems must adopt two treatment techniques: filtration for surface water sources²³⁴ and disinfection for surface water and groundwater sources.²³⁵ Pursuant to this directive, the EPA issued the Surface Water Treatment Rule that required filtration unless a water system met certain water quality criteria and met maximum contaminant levels for relevant contaminants.²³⁶ The regulations were meant to protect against the potential adverse health effects of exposure to *Giardia lamblia* viruses, *Legionella*, heterotrophic bacteria, and other pathogenic organisms that are removed by filtration.

At the time, more than nine million residents of greater New York City relied on unfiltered drinking water from reservoirs located in the Catskill and Delaware watersheds in upstate New York.²³⁷ Unlike other watershed areas that supply water to major cities, the City's watershed area was more densely populated and contained significant economic activity.²³⁸ Increased use and development in the area degraded the water quality over time,²³⁹ triggering the requirement to build a filtration plant under the EPA's criteria. According to the City's estimates, a filtration plant would cost between six and ten billion dollars to build and more than one million dollars per day to operate,²⁴⁰

233. The program recently underwent a review by the National Academies of Sciences, Engineering, and Medicine that confirmed its long-standing success in achieving and maintaining drinking water standards. NAT'L ACADS. OF SCIS., ENG'G & MED., REVIEW OF THE NEW YORK CITY WATERSHED PROTECTION PROGRAM 58 (2020) [hereinafter NAS, REVIEW].

234. 42 U.S.C. § 300g-1(b)(7)(C)(i).

235. *Id.* § 300g-1(b)(8).

236. Drinking Water; National Primary Drinking Water Regulations; Filtration, Disinfection; Turbidity, *Giardia lamblia*, Viruses, *Legionella*, and Heterotrophic Bacteria, 54 Fed. Reg. 27486, 27505 (June 29, 1989) (codified at 40 C.F.R. pts. 141, 142) [hereinafter EPA, Surface Water Treatment Rule].

237. *New York City Water Supply*, N.Y. STATE DEP'T ENV'T CONSERVATION, <https://www.dec.ny.gov/lands/25599.html> (last visited Oct. 11, 2022) [<https://perma.cc/BN49-HG5M>] [hereinafter NYS, *NYC Water Supply*]. New York City also gets drinking water from the Croton System, which is filtered. Michael C. Finnegan, *New York City's Watershed Agreement: A Lesson in Sharing Responsibility*, 14 PACE ENV'T L. REV. 577, 581 n.24 (1997).

238. *Id.* at 583–85.

239. *Id.* at 610–13.

240. *See id.* at 618 (describing construction costs between \$6 and \$8 billion); NYS, *NYC Water Supply*, *supra* note 197 (describing construction costs between \$8 to \$10 billion).

costs that many felt were unjustified by the risks.²⁴¹ But if the City wanted to avoid filtration, its only option would be to take significant steps to protect the watershed area.²⁴²

Since 1905, New York City has had the authority to regulate land use in the upstate watershed and to use eminent domain to acquire land, if needed, to protect the City's drinking water.²⁴³ The City extensively used these powers in the 1930s through 1960s to build large reservoirs in established watershed communities in order to provide stable drinking water to the City's residents.²⁴⁴ These actions had brewed resentment in upstate watershed communities, where residents felt that they disproportionately bore the costs of these actions.²⁴⁵ So when the City again tried to use its authority to acquire land and adopt the necessary restrictions in the watershed area in order to avoid filtration,²⁴⁶ upstate residents became "enraged," blocking the City's early efforts.²⁴⁷

In 1993, EPA issued New York City a waiver of the filtration requirement on the condition that the City take "numerous steps to maintain and protect the Catskill/Delaware's drinking water quality," urging the Governor to bring groups together to negotiate "an effective and equitable watershed program."²⁴⁸ Michael Finnegan—who, as Counsel to Governor George Pataki, led negotiations among state, federal, and New York City governments; representatives of upstate

241. Allan R. Gold, *Drinking Water Will Be Purer, But at What Price?*, N.Y. TIMES, Oct. 7, 1990, at E4.

242. See EPA, Surface Water Treatment Rule, *supra* note 236, at 27507. In addition, for systems identified as sources for waterborne disease outbreaks, the system "must have been modified sufficiently to prevent another such occurrence" in order to avoid filtration. *Id.*

243. NAS, REVIEW, *supra* note 233, at 58; Finnegan, *supra* note 237, at 614.

244. NAS, REVIEW, *supra* note 233, at 34, 45–48, 58; see also Finnegan, *supra* note 237, at 591 ("From the first Croton project through the completion of the Catskill and Delaware systems, the City has relied on the power of condemnation for one obvious reason: local landowners would not sell or vacate their land voluntarily at the prices offered by the City.").

245. NAS, REVIEW, *supra* note 233, at 15, 48:

If there has been one common denominator in the city's multitudinous water projects, it has been the conflict between individual property rights and the needs of the masses. Wholesale condemnation of private properties to build public-benefit projects brought grief to many, fortune to some, and fresh water to millions of consumers largely unaware of the sacrifices made far away on their behalf.

(quoting Diane Galusha); Finnegan, *supra* note 237, at 580–81, 591, 601; see also Michael Specter, *New York City Feels Pressure to Protect Precious Watershed*, N.Y. TIMES, Dec. 20, 1992, at A1.

246. Proposed regulations would have limited agricultural activities and provided standards for the design of plans for the construction of individual residences and paved driveways that meet certain criteria. See Mark D. Hoffer, *The New York City Watershed of Agreement: Forging a Partnership to Protect Water Quality*, 18 U. BALT. J. ENV'T L. 17, 28 (2010).

247. Finnegan, *supra* note 237, at 581, 619–21.

248. EPA, WATERSHED PROGRESS: NEW YORK CITY WATERSHED AGREEMENT 3 (1996).

counties; and the environmental community—described the hostilities at the time as “almost insurmountable.”²⁴⁹

The New York City Watershed Memorandum of Agreement was ultimately signed in 1997.²⁵⁰ Under the Agreement, the City committed to investing more than 1.2 billion dollars over ten years through a comprehensive Watershed Protection Program.²⁵¹ The program uses the money to fund improvement projects for watershed residents and help farmers reduce their use of agricultural contaminants, among other things.²⁵² Importantly, the City agreed to renounce the use of eminent domain, committing to acquire land in the watershed for permanent protection from development based on voluntary transactions.²⁵³ Other programs under the plan helped farmers adopt best management practices to reduce agricultural runoff and provided funding to maintain unfragmented forested land and lower nonpoint source pollution during timber harvests.²⁵⁴ Since 1997, the City has spent about 2.5 billion dollars on various programs to protect the watershed, averaging one hundred million dollars annually.²⁵⁵ In a 2020 review of the Watershed Protection Program, the National Academies of Science, Engineering, and Medicine concluded that the program has “largely succeeded in maintaining or enhancing water quality for the NYC water supply system and providing sustained investments to enhance the economic vitality of watershed communities.”²⁵⁶ The long-term success of the program will depend on continued “shared values, mutually beneficial goals and objectives, and [the] equitable distribution of costs and benefits,”²⁵⁷ as well as increased “flexibility to manage changed circumstances and priorities.”²⁵⁸

Without considering equity, the City would have likely issued *regulations* limiting watershed development, potentially achieving the same result. The regulations would be efficient in the sense that society overall would benefit (cleaner water to New York City residents is likely more valuable than increased development by the watershed area). No compensation would be required for losses from the regulations, as is the norm in regulatory policy. Upstate, rural residents would have

249. Finnegan, *supra* note 237, at 581, 623.

250. *Id.* at 578.

251. *Id.* at 643–44; *see also* NAS, REVIEW, *supra* note 233, at 14–16.

252. Finnegan, *supra* note 237, at 643–44; *see also* NAS, REVIEW, *supra* note 233, at 14–16.

253. NAS, REVIEW, *supra* note 233, at 15.

254. *See generally id.* (multiple chapters covering different programs).

255. *Id.* at 1.

256. *Id.* at 384.

257. *Id.* at 27, 30.

258. *Id.* at 74.

borne most of the costs, while most of the benefits would go to residents of New York City, who would have borne little of the cost. The result would have been, arguably, inequitable.

Without considering efficiency, the alternative of cleaning up the watershed area might have been avoided, leading to a filtration plant and high costs for New York City residents—an inefficient outcome. And given that New York City is home to many low-income and minority communities, the result would have been, arguably, inequitable too.

Instead, the solution adopted managed to advance both goals by acknowledging and understanding the incidence of costs and benefits and making adjustments in light of this. What helped in this case was the willingness of stakeholders to take a cooperative approach and, importantly, the availability of and ability to target funds.

Such opportunities to protect watershed areas and improve drinking water quality exist elsewhere.²⁵⁹ Forest Trends, an organization seeking to preserve and restore forests and natural ecosystems, maintains a map of all watershed protection programs and lists 146 such programs as currently active within the United States.²⁶⁰ But there is not much information available for the vast majority of these programs. Margaret Walls and Yusuke Kuwayama examined fifteen programs for which there was sufficient information on funding, payments, and outcomes.²⁶¹ All programs in the survey were motivated by a desire to protect or restore upstream forested land in watersheds to benefit downstream communities, including water consumers, especially in order to comply with standards under the SDWA. Eleven out of fifteen programs benefited larger water systems, which serve more than one hundred thousand people.²⁶² Walls and Kuwayama concluded that, although these programs were not completely efficient,²⁶³ they were an improvement over alternative approaches available to governments that would be more expensive and provide no

259. For example, other major cities that, like New York City, received a waiver from the EPA to avoid filtration include Boston, Portland (Oregon), San Francisco, and Seattle. See Margaret Walls & Yusuke Kuwayama, *Evaluating Payments for Watershed Services Programs in the United States*, 5 WATER ECON. & POL'Y 1 (2019).

260. See *Ecosystem Markets Map*, FOREST TRENDS, <https://www.forest-trends.org/project-list/#project-action> (last visited Oct. 2, 2022) [<https://perma.cc/4X93-2PD4>]; see also James Salzman, Genevieve Bennett, Nathaniel Carroll, Allie Goldstein & Michael Jenkins, *The Global Status and Trends of Payments for Ecosystem Services Programs*, 1 NATURE SUSTAINABILITY 136 (2018) (listing and reviewing programs across the globe).

261. Walls & Kuwayama, *supra* note 259.

262. *Id.* at 15–17 (counting the large water systems in Table 1).

263. Prices are not likely based on consumers' willingness to pay but rather set to offset the costs of the programs. *Id.* at 22–23, 29.

compensation to burdened landowners for their efforts to improve water quality.²⁶⁴

Other programs will likely not have to overcome as many challenges as the New York City program, where historic hostilities were coupled with a denser baseline watershed population and, at least initially, little land owned by the City. The confirmed success of the City's program after more than twenty years, especially as one of the pioneering efforts, provides hope for resolving new and difficult issues by employing efficient solutions that are sensitive to equity considerations. Outside of the context of drinking water regulation, there could exist similar win-win opportunities.²⁶⁵ In fact, this is similar to what happened in California; after the state authorized its cap-and-trade program (which was widely opposed by environmental justice advocates), it committed to using some of the proceeds from the program to invest in disadvantaged communities in California.²⁶⁶

C. Converting Losers into Winners

Importantly, avoiding lose-lose scenarios and taking advantage of win-win scenarios entails paying attention to not only who benefits from a regulation but also *who is burdened by it*. In the lose-lose scenario, a community that is meant to benefit from a policy will not actually benefit if it has to bear an unjustifiably high cost to implement the policy; to avoid this scenario, some subsidy is necessary. In the win-win scenario, this is in essence what occurs: a community reaps the benefits from an efficient solution that imposes costs on others but ensures that those parties are compensated.

Other work has discounted the potential for converting lose-lose scenarios into win-win scenarios because of the view that agencies have neither the funding nor the authority to transfer funds to groups.²⁶⁷ While it is true that agencies do not have general authority to order cash transfers between groups when they regulate in a way that

264. *Id.* at 29, 31.

265. *See, e.g.*, Felix Mormann, *Clean Energy Equity*, 2019 UTAH L. REV. 335 (proposing stakeholder participation that would advance efficiency and equity in energy).

266. S.B. 535, 2011–2012 Leg., Reg. Sess. (Cal. 2012).

267. *See, e.g.*, Liscow, *supra* note 21, at 506 (“[F]ew are so unrealistic as to imagine that the DOT itself would make cash transfers to the poor when it spends on projects that favor the rich. It lacks such legal authority.”); Anthony Boardman, David Greenberg, Aidan Vining & David Weimer, *Efficiency Without Apology: Consideration of the Marginal Excess Tax Burden and Distributional Impacts in Benefit–Cost Analysis*, 11 J. BENEFIT-COST ANALYSIS 457, 459 (2020) (asserting that “reallocations to achieve actual Pareto improvements are usually impractical”); Adler & Posner, *supra* note 34, at 1138 (“We know of no agency in the U.S. government that has the authority to order wealth transfers, and there are many good reasons for denying them this authority.”).

benefits some and burdens others, that sort of general authority is unnecessary in many contexts to provide relief for those who are burdened by regulation. Many agencies, such as the EPA, the Department of Transportation (“DOT”), and the Department of Energy (“DOE”), have programs established by Congress that are devoted to helping states, facilities, and individuals comply with regulatory policies.²⁶⁸ These programs typically provide agencies with discretion in how to allocate these funds, especially when resources are scarce. Agencies could explicitly try to use such funds, when available, to offset some of the negative distributional consequences that might otherwise come from uniform standards. Using funds deliberately in this way would be similar to using tax policy to offset regulatory losses, except that, unlike tax policy, the funds could be explicitly tied to relieving specific inequitable regulatory outcomes. This framing would not only make a real difference for people burdened by regulation but it would also be more likely to generate broad support and limit opposition.

One known problem with these funds is that they are chronically underfunded, as discussed in the example of the State Revolving Fund under the SDWA. But Congress has been more willing to appropriate money into existing programs that distribute funds for specific purposes than it has been to enact more progressive tax policy.²⁶⁹ In the Bipartisan Infrastructure Bill, as discussed previously, Congress has done exactly this for several programs—sometimes expressly directing the agency to consider equity.²⁷⁰ To provide a few examples, the Bipartisan Infrastructure Bill allocates money for several existing programs, briefly listed here:

- (EPA) providing grants for water filtration and filter safety for disadvantaged communities;²⁷¹ offsetting drinking water and wastewater service and infrastructure costs for low-income households;²⁷² assisting states to replace lead service lines,

268. For a list of some of these programs, see the existing programs that received funding under the Bipartisan Infrastructure Bill. Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 429 (2021).

269. See Liscow, *supra* note 21 (providing a reason grounded in psychological and behavioral economic research for this).

270. See *Fact Sheet: Bipartisan Infrastructure Deal*, THE WHITE HOUSE (Nov. 6, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/06/fact-sheet-the-bipartisan-infrastructure-deal/> [<https://perma.cc/YS2T-H2H7>].

271. 42 U.S.C. § 300j-19A; Infrastructure Investment and Jobs Act § 50104, 135 Stat. at 1137–40.

272. 42 U.S.C. § 300j-19A; Infrastructure Investment and Jobs Act §§ 50108, 50109, 135 Stat. at 1146–50 (service); 33 U.S.C. § 1302(d); Infrastructure Investment and Jobs Act § 50208, 135 Stat. at 1165–67 (infrastructure).

especially in disadvantaged and low-income communities;²⁷³ assisting Tribal populations get access to clean drinking water;²⁷⁴ and assisting disadvantaged communities to address emerging contaminants in drinking water.²⁷⁵

- (DOT) providing grants for street improvement projects, with priority to projects in low-income or disadvantaged communities;²⁷⁶ providing grants to provide safe transportation facilities, with increased funding to those in communities with high poverty rates;²⁷⁷ providing grants for Strengthening Mobility and Revolutionizing Transportation (“SMART”) cities, with criteria including whether it will “connect or expand access for underserved or disadvantaged populations and reduce transportation costs”;²⁷⁸ focusing on Tribal transportation;²⁷⁹ and providing grants for charging and fueling infrastructure, with priority to projects that expand access to rural areas, low- and moderate-income areas, and communities with a high ratio of multi-unit dwellings to single-family homes.²⁸⁰
- (DOE) providing weatherization assistance;²⁸¹ electric grid reliability assistance for rural or remote areas;²⁸² and grants for clean energy manufacturing, with priority to small entities and minority-owned entities.²⁸³

These funding allocations could influence regulatory priorities and provide the first steps in developing efficient and equitable regulatory policy. In fact, the idea that such programs, new and existing, could be used to offset distributional consequences of regulations is similar to the Biden Administration’s Justice40 Initiative, which seeks more explicit targeting of federal funding to disadvantaged communities.²⁸⁴

273. 42 U.S.C. § 300j-19b; Infrastructure Investment and Jobs Act § 50105, 135 Stat. at 1140–42.

274. 42 U.S.C. § 300j-3c; Infrastructure Investment and Jobs Act § 50111, 135 Stat. at 1152–53.

275. Infrastructure Investment and Jobs Act § 50104, 135 Stat. at 1399.

276. § 11406, 135 Stat. at 575–77.

277. § 11529, 135 Stat. at 612–14.

278. § 25005(d)(3)(a)(ii)(IV), 135 Stat. at 840–43.

279. § 11128, 135 Stat. at 443.

280. § 11402, 135 Stat. at 546–52.

281. § 40551, 135 Stat. at 1075–76.

282. 42 U.S.C. § 18712.

283. *Id.* § 18742.

284. See Shalanda Young, Brenda Mallory & Gina McCarthy, *The Path to Achieving Justice40*, THE WHITE HOUSE (July 20, 2021), <https://www.whitehouse.gov/omb/briefing-room/2021/07/20/the-path-to-achieving-justice40/> [https://perma.cc/T8JV-DW8H].

Already, the EPA is associating its regulatory priorities with its funding from the Bipartisan Infrastructure Law. In June 2022, the EPA updated drinking water health advisories for perfluorooctanoic acid (“PFOA”) and perfluorooctane sulfonic acid (“PFOS”) and issued new health advisories for two other chemicals often used as replacements for PFOA and PFOS.²⁸⁵ In the same press release, the EPA flagged its plans to issue binding regulations about per- and polyfluoroalkyl substances (“PFAS”) that can contaminate drinking water.²⁸⁶ And, importantly, the agency also announced its intention to distribute one billion dollars in grant funding to small and disadvantaged communities that have been dealing with PFAS contamination.²⁸⁷ In other words, the EPA paired an announcement of forthcoming regulation with an announcement about the availability of funds, newly replenished by Congress, to communities who would not otherwise afford its implementation. This suggests that it would not be a stretch to encourage agencies to be deliberate about coordinating regulatory proposals with existing funding authorities after analyzing the incidence of regulatory costs. The next Part provides a more general framework for identifying such opportunities when regulating.

IV. VALUING BOTH EFFICIENCY AND EQUITY

Thus far, the Article has focused on dispelling the notion that paying attention to equity is always in conflict with focusing on efficiency. In practice, there exist opportunities to increase both, and sometimes efficiency considerations can help achieve equity outcomes at lowest cost. The Article has provided examples in the context of regulating drinking water to demonstrate some of these scenarios. In this Part, the Article provides a more general framework for thinking about one kind of interaction between the two values that focuses on the incidence and concentration of costs and benefits.

285. Press Release, EPA, EPA Announces New Drinking Water Health Advisories for PFAS Chemicals, \$1 Billion in Bipartisan Infrastructure Law Funding to Strengthen Health Protections (July 15, 2022), <https://www.epa.gov/newsreleases/epa-announces-new-drinking-water-health-advisories-pfas-chemicals-1-billion-bipartisan> [<https://perma.cc/VC8K-CLDF>].

286. *Id.*

287. *Id.*; see also E.A. Crunden & Ariel Wittenberg, *EPA Sets Targets for Slashing PFAS in Drinking Water*, E&E NEWS (June 15, 2022, 1:31 PM), <https://www.eenews.net/articles/epa-sets-targets-for-slashing-pfas-in-drinking-water/> [<https://perma.cc/FS3M-ZYM2>] (“[M]unicipalities . . . have implored legislators for help as they have struggled to pay for massive groundwater cleanups and drinking-water treatment plant expansions due to PFAS contamination.”).

A. The Incidence and Concentration of Benefits and Costs

Benefits of a regulatory action can be either widely distributed across the population or concentrated (localized) in a particular area or on a particular group. Costs, too, can be widely distributed or concentrated among the same or different groups. Table 3 summarizes this dynamic with examples of statutes previously discussed that often lead to regulatory programs that exemplify some of the categories.

TABLE 3. THE INCIDENCE OF BENEFITS AND COSTS

		Benefits	
		W (widespread)	C (concentrated)
Costs	W	<i>e.g.</i> , Clean Air Act/ Clean Water Act	<i>e.g.</i> , Superfund cleanups by EPA
	C		<i>e.g.</i> , Safe Drinking Water Act (same group); New York City Watershed Protection Program (different groups)

As an initial matter, all regulatory actions impose costs and benefits on some groups. Without analysis, the net effects on different groups are simply obscured. But the net effects on different groups are important from both the efficiency and equity perspectives.

First, when both benefits and costs are concentrated, the possibility of lose-lose scenarios is heightened when efficiency considerations are ignored. In this category, effects (positive and negative) can fall on the same group, such as in the example of stringent regulation of small water systems,²⁸⁸ or they could fall on two different groups, such as in the example of the New York City Watershed Protection Program.²⁸⁹

If the effects fall on the same group, then equity considerations that increase regulatory benefits *must* consider the costs and account for them; otherwise, disadvantaged communities might be overly burdened by coercive regulations that are, simply put, not worthwhile given their financial constraints. Pushing perceived equity in outcomes in these scenarios over efficiency will leave these communities worse off, as exemplified in the Safe Drinking Water bind for small water systems.²⁹⁰ For the communities served by such systems to actually benefit from regulatory action, the initiatives must either pass a cost-

288. See discussion *supra* Part III.A.

289. See discussion *supra* Part III.B.

290. See discussion *supra* Part III.A.

benefit test (be efficient) or the costs must *become* widely distributed, such as by supplementing the implementation of such programs using tax revenues (funding support). In the Bipartisan Infrastructure Bill, for example, Congress allocated billions of dollars to help underserved communities implement the SDWA.²⁹¹ These kinds of funding needs cannot be ignored. Unfortunately, this reality could limit what can be accomplished solely through regulatory initiatives in these contexts.²⁹²

If the effects fall on different groups, then equity considerations that increase benefits to one group by imposing the costs on another group will be suspect and controversial, especially if not also justified by efficiency considerations. The New York City Watershed Protection Program provides an important lesson about the interaction of these dynamics. In that example, imposing land use and other regulations on watershed communities was cost-benefit justified, and New York City had the power to impose the regulations without paying for them.²⁹³ The distributional analysis, however, revealed the potential inequity in doing this, especially because vulnerable and disadvantaged populations were arguably on both sides of the issue. Instead of upending the CBA-justified action or imposing it despite potential inequity, the City paid for the benefits. Payment does at least two things in this example: (1) it ensures that these scenarios *only* occur when they are CBA-justified (essentially imposing a Pareto-efficiency criterion); and (2) it ensures that some groups do not take advantage of opportunities to gain unpaid-for benefits under the guise of promoting equity.²⁹⁴ It converts the scenario from a potential lose-lose situation into a win-win situation.

Next, when one effect, whether positive or negative, is concentrated on a particular group, while the other effect is widely distributed, distributional analysis can play an important role for determining whether to prioritize this action that essentially would subsidize some group for regulatory benefits. The Superfund cleanup program under the Comprehensive Environmental Response,

291. See THE WHITE HOUSE, *supra* note 270.

292. That said, the Bipartisan Infrastructure Law increased funding to several regulatory programs that are meant to offset costs for struggling communities. See, e.g., discussion *supra* Part III.C; see also Revesz, *supra* note 16 (arguing that there might be opportunities within existing programs that could be used in a more targeted and equity-focused way).

293. See discussion *supra* Part III.B.

294. See Richard A. Epstein, *Property Rights, State of Nature Theory, and Environmental Protection*, 4 N.Y.U. J.L. & LIBERTY 1, 31 (2009) (arguing that, where regulations hurt some landowners but help others, “the danger is that cohesive interest groups will seek through regulation—for which they pay nothing—benefits that would require compensation if done privately”).

Compensation, and Liability Act,²⁹⁵ for example, has been criticized for using federal resources to clean up wealthier areas over less wealthy ones.²⁹⁶ If the group that benefits from a regulatory action is disadvantaged, then it might be worthwhile to pursue the action as long as it is CBA-justified. And if the group that is burdened by a regulatory action is disadvantaged, then equity considerations might caution against pursuing the option, even if it is CBA-justified, without additional measures such as some sort of transfer (which would promote equity with little efficiency loss) or a targeted accommodation (which would promote equity at minimal efficiency loss). In other words, equity considerations could help regulators prioritize certain actions, especially in cases where public funding is limited. Meanwhile, consider a cap-and-trade program where an environmental goal is achieved at lowest cost—but which results in a “hot spot” that affects a particular community.²⁹⁷ Society could prefer to avoid such a situation by establishing trading constraints, for example. This would reduce efficiency somewhat, but the trade-off would be intentional to promote equity and could be done at lowest cost to efficiency if both concepts are valued.

Finally, regulatory actions can impose widespread costs that result in widespread benefits. Regulations under the Clean Air Act²⁹⁸ are thought to have these attributes, with many benefitting from improvements in air quality and many bearing costs through higher prices for a variety of goods.²⁹⁹ In these cases, efficiency considerations should govern: these actions should be undertaken when the benefits exceed the costs, maximizing net benefits whenever possible. And in these kinds of scenarios, equity considerations are unlikely to make any difference.

295. 42 U.S.C. §§ 9601-9628.

296. *See, e.g.*, Viscusi & Hamilton, *supra* note 72.

297. For a deeper discussion of equity considerations and cap-and-trade programs, see Wiener, *supra* note 23; Revesz, *supra* note 16.

298. 42 U.S.C. §§ 7401-7671.

299. One analysis of the Clean Air Act, focusing on California, found dispersed costs and benefits given the many regulated pollutants and affected industries, though the study ultimately concluded that some poorer demographic groups may have disproportionately benefitted from the Act overall. *See* Matthew E. Kahn, *The Beneficiaries of Clean Air Act Regulation*, REGULATION, Spring 2021, at 34. The EPA consistently estimates that the economic benefits of the Clean Air Act exceed its costs by far. *See* EPA, THE BENEFITS AND COSTS OF THE CLEAN AIR ACT, 1970 TO 1990 (1997); EPA, BENEFITS AND COSTS OF THE CLEAN AIR ACT 1990-2020, THE SECOND PROSPECTIVE STUDY (2011).

B. A Modest Proposal

In this Section, I propose two rules of thumb for agencies to follow that could avoid the kinds of lose-lose scenarios that this Article primarily highlights. First, agency action should not leave society, from the aggregate perspective, worse off. Second, agency action should avoid leaving disadvantaged groups worse off, especially in contexts of pursuing *equality in regulatory benefits*, by considering transfers under the agency's authority where appropriate and available. Of course, these rules of thumb are only useful when benefits or costs could be easily attributed to some identifiable group. In many cases, this could be because of the geographic impact of the benefits or costs, such as in this Article's examples. In these scenarios, distributional analysis could play an important role in highlighting how some groups are paying for regulatory benefits that accrue to others. When those burdened groups are identified as disadvantaged or vulnerable, this information could lead regulatory decisionmakers to avoid these actions even if they are cost-benefit justified, unless some adjustment is made to account for the distributional consequences, if possible, under the statute and the agency's programs. Explicit analysis of distributional outcomes for different groups would allow the agency to take action, when possible, to prevent an inequitable outcome.

These rules of thumb are admittedly modest, applying to scenarios where agencies can easily identify effects on groups. The rules of thumb are focused on (1) avoiding especially concerning lose-lose scenarios that an efficiency-blind pursuit of equity could generate and (2) converting those potential outcomes into win-win scenarios that promote equity whenever possible. The point is for agencies to institutionalize doing this in those cases where it is possible.

This proposal is similar to proposals by scholars such as Spencer Banzhaf,³⁰⁰ Richard Revesz,³⁰¹ Scott Farrow,³⁰² and John Graham³⁰³ in that it also does not require any explicit weighting of distributional outcomes within the CBA. Banzhaf, Farrow, and Revesz (separately) advocate for conducting distributional analysis for different demographic groups alongside CBA.³⁰⁴ Banzhaf would stop there,

300. Banzhaf, *supra* note 47, at 5.

301. Revesz, *supra* note 16, at 1500.

302. Scott Farrow, *Incorporating Equity in Regulatory and Benefit-Cost Analysis Using Risk-Based Preferences*, 31 RISK ANALYSIS 902, 903 (2011) [hereinafter Farrow, *Incorporating Equity*]; Farrow, *Rejecting Kaldor-Hicks*, *supra* note 118, at 184.

303. Graham, *supra* note 79, at 516–24.

304. See Banzhaf, *supra* note 47, at 5; Revesz, *supra* note 16, at 1500; Farrow, *Incorporating Equity*, *supra* note 302, at 903; Farrow, *Rejecting Kaldor-Hicks*, *supra* note 118, at 184.

focusing on the usefulness of presenting this information to policymakers and the public.³⁰⁵ Banzhaf argues that “fully informing the public of distributional effects in this way would facilitate public comments on specific regulations . . . [and] empower citizens to shape the legislative agenda.”³⁰⁶ Farrow and Revesz would go further. In addition to advocating for systematically presenting information about the distributional consequences of regulation, Farrow argues for sensitivity analyses that would incorporate income weights that might affect the ultimate policy decision.³⁰⁷ In other work, Farrow also advocates for actual compensation for net costs to low-income groups from those who benefit from the regulatory action.³⁰⁸ Revesz’s proposal, meanwhile, is for substantive changes to the regulation in cases where a regulatory initiative results in an “unusually large inequity.”³⁰⁹ Like Farrow and Revesz, I also advocate for a substantive response, though my proposal is not limited to situations where the inequity is particularly large. And my preferred method of remediation is through deployment of public funding within existing agency programs. Unlike Farrow’s proposal, such offsets could likely be implemented without additional congressional authorization, but admittedly, the availability of such funding would be limited to existing programs that have sufficient resources.³¹⁰

Finally, John Graham advocates for two rules of thumb that are very similar to the two rules of thumb in this proposal. In particular, he advocates for ensuring that regulations are cost-benefit justified overall *and* that regulations benefit *low-income* individuals.³¹¹ There are two differences between Graham’s proposal and this proposal that are worth noting. First, Graham primarily contemplates action that is “deregulatory” in the sense that no action that harms low-income groups is undertaken. He states, “Unless a lifesaving rule is neutral or yields a net gain for the poor as a group, it should not be promulgated, regardless of its consequences for society as a whole.”³¹² In the SDWA example, then, Graham’s proposal might mean abandoning stringent regulation of contaminants in drinking water for everyone or at least for some small water systems. He does not explicitly contemplate

305. Banzhaf, *supra* note 47, at 27.

306. *Id.*

307. See Farrow, *Incorporating Equity*, *supra* note 302, at 905–06.

308. See Farrow, *Rejecting Kaldor-Hicks*, *supra* note 118, at 184.

309. Revesz, *supra* note 16, at 1571–72.

310. But, as I argue *infra* Part III.C, I am hopeful that framing such programs as compensating disadvantaged groups who bear regulatory costs could result in better and more consistent funding for these programs by Congress.

311. Graham, *supra* note 79, at 519.

312. *Id.*

transfers or thoughtfully deploying agency funding programs to offset regulatory costs in order to achieve regulatory benefits, though I think such interventions would qualify under his proposal. Part of the goal of my proposal, though, is to institutionalize thinking about such opportunities. Second, Graham explicitly focuses on only low-income groups. One way to define “disadvantaged” groups is through income, but there are contexts in which other definitions of “disadvantaged” might be more useful or even indicated by statute.³¹³ For example, the Bipartisan Infrastructure Bill allocated funding to programs focused not only on low-income communities but also Tribal communities, rural communities, and minority-owned businesses, to name a few.³¹⁴ My proposal is explicitly geared toward making calculations for broadly defined disadvantaged groups so that they could have access to regulatory benefits—especially when that requires offsetting regulatory costs—under existing agency authorities.³¹⁵

Other proposals have bigger goals for balancing efficiency and equity. I acknowledge here, in particular, proposals that would explicitly give extra weight in decision analysis to groups that are considered worse off, in order to promote social welfare. These proposals are sometimes referred to as “prioritarianism” approaches.³¹⁶ A recent book, edited by leading scholars in the field Matthew Adler and Ole Norheim, reviews the economic and philosophical literature on the approach and highlights possible implementation in various contexts.³¹⁷ That said, in order for such approaches to be used broadly, as intended, agencies would have to undertake distributional analysis and calculate changes to welfare for different groups.³¹⁸ To do this, agencies would have to significantly increase their efforts at estimating the distributional consequences of regulation.³¹⁹ These proposals have also been criticized for obscuring information on the effect of the equity-based weights on the overall decision or for incorporating controversial

313. See Exec. Order No. 13,985, 86 Fed. Reg. 7009 (Jan. 20, 2021) (defining “underserved communities” broadly).

314. See *supra* notes 231–243.

315. I do not define “disadvantaged” groups in this Article, and I think providing some discretion to the agency, at least at the outset, would be beneficial. But I note that there could arise questions about the legal permissibility of implementing some of these proposals for particular groups. This Article does not focus on these issues.

316. See Adler & Norheim, *supra* note 134.

317. *Id.*

318. In contrast, my more limited proposal is exactly targeted for scenarios when costs are easily translated into costs for individuals and groups, such as when the groups exposed to regulatory costs are geographically identifiable.

319. Robinson et al., *supra* note 15; Cecot & Hahn, *supra* note 15.

moral and ethical values into otherwise technical regulatory assessments.³²⁰ In the context that this Article focuses on, these proposals could not be easily used to highlight when a transfer could be appropriate and available instead of, say, foregoing the regulation altogether.

Overall, the rules of thumb that make up this Article's proposal are most useful when equity weights are not (or cannot be) included in a CBA and when the objective is to equalize regulatory benefits. Applying this framework would require an agency to explicitly consider whether there are likely to be concentrated costs or benefits that fall on advantaged or disadvantaged groups, highlight scenarios of possible conflict and concern, and nudge agencies toward more equitable outcomes as they pursue efficiency. With the above rules of thumb, equity considerations would trump efficiency considerations in only a few scenarios; in particular, the rules could help prevent an agency from overly burdening disadvantaged groups when intending to provide them with regulatory benefits by alerting the agency to the need for a transfer or offset.

C. Implementation Through White House Coordination

Centralized oversight by the White House, typically through the Office of Information and Regulatory Affairs ("OIRA") within the Office of Management and Budget, is thought to play an important role in motivating agencies to undertake resource-intensive tasks such as CBA and related analysis. For example, independent agencies, which are not subject to executive order requirements on CBA and are not required to submit their CBAs to OIRA for review, lag executive agencies in conducting CBA.³²¹ In addition, agencies have long analyzed distributional consequences of regulations for small businesses, as

320. Acland & Greenberg, *supra* note 130, at 4 (arguing that "weighting to account for society's particular concern for the welfare of the poor draws [CBA] into the moral domain of equity" and that "[a]ttempting to account for welfare and equity with the same, unitary cardinal measure obfuscates the impacts of a policy on these two domains"); Graham, *supra* note 79, at 422 ("There is no consensus about how the weights should be derived."); Farrow, *Rejecting Kaldor-Hicks*, *supra* note 118, at 184 ("[Distributional weights] are often considered arbitrary by outside viewers . . ."). *But see* Adler & Norheim, *supra* note 134 (for justifications for a prioritarian approach).

321. *See, e.g.*, OFFICE OF MGMT. & BUDGET, EXEC. OFF. OF THE PRESIDENT, 2017 REPORT TO CONGRESS ON THE BENEFITS AND COSTS OF FEDERAL REGULATIONS AND AGENCY COMPLIANCE WITH THE UNFUNDED MANDATES REFORM ACT 29 (2017), https://www.whitehouse.gov/wp-content/uploads/2019/12/2019-CATS-5885-REV_DOC-2017Cost_BenefitReport11_18_2019.docx.pdf [<https://perma.cc/ZL4W-LLPC>] ("The independent agencies still have challenges in providing monetized estimates of benefits and costs of regulation.").

required by Congress and reviewed by OIRA.³²² In both cases, OIRA review is thought to have encouraged agencies to improve their analyses. In addition, OIRA plays an important coordination role between agencies, facilitating their communication on similar or overlapping regulatory initiatives.³²³ For this reason, scholars have already called for explicit guidance from OIRA on distributional analysis and attention to an agency's consideration of distributional impacts.³²⁴

This Article's proposal simplifies the agency's task by providing rules of thumb for when distributional concerns might be most important to achieving the agency's regulatory goals. The hope is that this would diminish some of the technical concerns of doing distributional analysis and would lessen OIRA's task in reviewing the analysis.

But importantly, the Article also proposes leveraging an agency's funding authority in cases where it identifies a potential negative effect on a disadvantaged group. In order for this mechanism to be successful, there must also be some coordination between different programs within the agency. And OIRA, housed within the Office of Management and Budget and already tasked with various coordination functions, would be ideally situated to help the agency identify such opportunities.³²⁵

CONCLUSION

There has been a lot of attention recently on considering equity in regulatory decisionmaking. Unlike efficiency considerations, which seek to maximize net benefits to society overall, equity considerations

322. See THOMAS M. SULLIVAN & JOHN D. GRAHAM, MEMORANDUM OF UNDERSTANDING BETWEEN OIRA AND SBA, <https://advocacy.sba.gov/memorandum-of-understanding-between-the-office-of-advocacy-u-s-small-business-administration-and-the-office-of-information-and-regulatory-affairs-office-of-management-and-budget/> (last visited Feb. 12, 2023) [<https://perma.cc/73RX-7DPR>].

323. See Susan E. Dudley, *The Office of Information and Regulatory Affairs and the Durability of Regulatory Oversight in the United States*, 16 REGUL. & GOVERNANCE 243 (2022); Susan E. Dudley & Sally Katzen, *One Year on, a Critical Role Needs to be Filled by the Administration*, THE HILL (Jan. 20, 2022, 6:30 PM), <https://thehill.com/blogs/congress-blog/politics/590704-one-year-on-a-critical-role-needs-to-be-filled-by-the/> [<https://perma.cc/4FRN-X7JM>].

324. See, e.g., Farrow, *Incorporating Equity*, *supra* note 302, at 903.

325. For this to be realistic, though, I acknowledge that OIRA would have to increase its staff. OIRA, which operates with a relatively small staff, is already responsible for many aspects of federal rulemaking. See CONG. RSCH. SERV., RL32397, FEDERAL RULEMAKING: THE ROLE OF THE OFFICE OF INFORMATION AND REGULATORY AFFAIRS (2011); Kelsey Brugger, *Staffing, Leadership Concerns Bedevil OMB*, E&E NEWS (Oct. 22, 2021, 1:16 PM), <https://www.eenews.net/articles/staffing-leadership-concerns-bedevil-omb/> [perma.cc/4V5J-GVHK].

respond to the baseline conditions of those who benefit from or those who are burdened by regulation with the goal of ensuring that disadvantaged and vulnerable groups, on net, appropriately benefit from regulatory actions. To this end, distributional analysis is important, and it could shed light on pervasive inequities in current regulatory programs.

But the pursuit of equity and distributional analysis should not displace CBA, efficiency, or economic thinking in regulatory decisionmaking, as some scholars and commentators have suggested. Already, environmental justice groups have derailed efficiency-promoting solutions because of a perception that these solutions always exacerbate inequality. It is important to dismantle the myth that equity and efficiency are necessarily at odds. In many contexts, regulatory schemes are inequitable and far from efficient, with opportunities to improve both equity and efficiency. Paying attention to distributional outcomes, through analysis of the incidence of benefits and costs, is important and in many cases can help regulators better attain goals of maximizing welfare. And paying attention to efficiency could help promote equitable outcomes in the least costly way and avoid unintended consequences.

When equity and efficiency considerations are in conflict, this Article provides a framework for how to think about the interaction between the two values. The Article also offers a few rules of thumb based on additional preconditions, including ensuring that government action does not leave vulnerable or disadvantaged groups worse off. The key insight is that, in some cases, agencies can leverage their funding authority to ensure that groups benefit as intended by regulation. This option might not be available in all cases, and that is a limitation of the proposal but, importantly, it should be used when it currently is available.

Overall, it is important to understand that regulatory actions *already* have distributional impacts, benefitting some groups more than others; agencies just do not calculate or otherwise consider these impacts. History has demonstrated that any assumption that effects are likely to net out to zero for all groups, on average, is unlikely to reflect reality. It is long past due for agencies to analyze and understand how their regulatory actions affect vulnerable and disadvantaged groups. And, as long as tax policy remains gridlocked in Congress, agencies must, at least, pause and consider options before issuing regulations that could exacerbate existing inequality without any offset.

But this work cannot happen in a vacuum that rejects CBA, cost consideration, economic thinking, and the pursuit of efficiency. Appreciating the importance of considering the equity of regulations

does not mean uprooting long-standing commitments to analyzing whether regulatory actions improve social welfare overall. Mutual respect for these two important values—equity and efficiency—is the best way to to avoid unintended effects and ensure reasonable regulatory policy going forward.