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ARTICLE

An Equity Blindspot: The Incidence of Regulatory Costs

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Abstract

The Biden administration has made equity a priority when issuing regulations, encouraging agencies to ensure that their regulations appropriately benefit and do not inappropriately burden disadvantaged groups. But scholarly examinations of agencies' practices to date on understanding the distributional consequences of their regulations and on promoting equity have revealed significant gaps. In particular, agencies pay very little attention to the incidence of the costs of their regulations. The U.S. Environmental Protection Agency, for example, rarely considers the incidence of regulatory costs among disadvantaged groups, despite being an agency that conducts relatively complete benefit–cost analyses and explicitly analyzes environmental justice implications of its regulations. But this cost-blindness is a mistake; it presents a missed opportunity to use the current equity-focused momentum to make real improvements for disadvantaged groups that could have long-lasting effects. This essay calls for agencies to give more attention to the incidence of regulatory costs in order to identify needs and opportunities for grants and investments to disadvantaged groups. This approach could provide much-needed direction for a program like the Biden administration's Justice40 initiative.

1. Introduction

Lead in drinking water continues to be a serious public health concern, associated with a range of neurological and other effects including decreases in intelligence and attention in children.[1] Lead primarily enters drinking water through the corrosion of lead service lines and plumbing fixtures.[2] In 1991, the U.S. Environmental Protection Agency (EPA) issued the Lead and Copper Rule (LCR), which required certain water systems to use a treatment technique to reduce corrosion in order to combat the amount of lead that gets into drinking water (U.S. EPA, 1991). The rule had many caveats and required case-by-case

[1] U.S. Environmental Protection Agency. Basic Information about Lead in Drinking Water. Available at https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water#health.

[2] See note 1.

determinations because the treatment technique could increase the level of other contaminants in the water (p. 26, pp. 486–487). The far more effective solution – removal of lead service lines – appeared unattainable; removal would require homeowner cooperation and carry a steep cost that would ultimately be borne by the affected homeowners and ratepayers.[3]

Between 6 million and 10 million lead service lines remain today (U.S. EPA, 2019), often in low-income and minority communities (Abt Associates, 2019). To accelerate the removal of these lines, in 2021, the EPA issued a revision to the LCR that required water systems to use updated treatment techniques and leveraged information disclosure tools to encourage more lead service line removals (U.S. EPA, 2021). But ultimately, as the EPA's environmental justice analysis for the revision observed, "The [lead service line removal] provision may be less likely than the [corrosion control treatment] provision to address baseline health risk disparity among low-income populations because [removal] may not be affordable for low-income households" (Abt Associates, 2019, p. 22). In fact, according to the analysis, the provisions relying on information disclosure to induce removal might have net negative effects on low-income households.[4]

This environmental justice analysis of the effect of the rule on low-income and minority communities explains that the rule, targeting lead in drinking water, might not actually benefit key populations that are disproportionately affected by lead in drinking water – at least not as much as intended. In doing so, it highlights the need to subsidize lead service line removal for these households in order to ensure that these groups benefit, too.[5] Thankfully, there is federal money available to help with these costs[6]—but the importance of these funds to securing the benefits of lead service line removal for low-income and minority communities would have been obscured without frank analysis of the costs.

Unfortunately, such an analysis of the incidence of benefits and, especially, costs on specific populations is relatively uncommon. Although Executive Order No. 12866 (n.d.) requires federal agencies to conduct a benefit–cost analysis, agencies rarely supplement aggregate information on benefits and costs with a distributional analysis of the rule's effect

[3] The average cost is $4,700 per line replaced, ranging from $1,200 to $12,300 (U.S. EPA, 2019). The LCR ultimately required each public water system to replace at least 7% of the lead service lines it controls each year. Water systems, however, rarely own the entire line; the rule required the system to offer to replace the remaining portion—but not necessarily for free. 40 C.F.R. § 141.84(d) ("The water system is not required to bear the cost of replacement of the portion of the affected service line not owned by the water system"). Without additional funding, the rule did nothing to ensure that a full lead service line would be replaced, especially when households served by lead service lines are often low-income households. Meanwhile, the EPA's Science Advisory Board found that partial replacement of lead service lines was not shown to reduce drinking water lead levels and may even increase short-term lead levels (U.S. EPA, 2011).

[4] In particular, the analysis argued that "[l]ow-income households may be disadvantaged in several ways, including having limited access to information (e.g., no access to online inventory maps or [public education] materials not provided in native languages), less ability to afford averting behaviors, and reduced wealth if property values decline [from the publicly available lead service line inventory data]" (Abt Associates, 2019, p. 15).

[5] For example, the analysis warns that "[partial lead service line] removals may be unavoidable if low-income households are unable to afford the cost and the system or other agencies do not subsidize [the removal] for low-income households" (Abt Associates, 2019, pp. 14–15). As discussed previously, see note 3, partial replacement of lead service lines has not been shown to be effective (U.S. EPA, 2011).

[6] U.S. EPA. Funding and Technical Resources for Lead Service Line Replacement in Small and Disadvantaged Communities. Available at https://www.epa.gov/sites/default/files/2020-12/documents/ej_lslr_funding_sources-final.pdf.

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on specific demographic groups (Robinson et al., 2016; Cecot & Hahn, 2022). One agency that, at least in recent years, has tried to pay more attention to distributional concerns is the EPA, which often prepares an environmental justice analysis focusing on communities of concern. But even EPA's environmental justice analyses do not often consider the distribution of costs of a rule. Cecot and Hahn (2022, p. 15) find that only 13% of environmental justice analyses that accompany rules with monetized aggregate benefits and costs contain a similarly quantitative discussion of the distribution of costs for specific groups – and only 30% contain a qualitative discussion of the distribution. In contrast, most of these analyses identify a potential disproportionate exposure to an environmental contaminant (83%) and examine the rule's likely effect on the exposure (70%). It is easy to see in the case of the LCR revision rule that an analysis that focuses on the disproportionate exposure of low-income and minority communities to lead service lines and ignores who would bear the cost of lead service line removal would end up painting a misleading picture of the benefits of mandating removal.

The distribution of costs does not matter only in the context of lead service lines (see Hemel, 2022; Cecot, 2023, for other examples). It is just a context where those who ultimately bear the costs of regulatory requirements are particularly clear – the owners of the lines or the water system's ratepayers (typically, the surrounding community).[7] But every regulation has costs that are ultimately borne by people. A benefit–cost analysis will approximate social costs by calculating compliance costs to affected industries – but that is just an approximation of the costs that people, often consumers of the affected product, will bear through increased prices. And sometimes the costs of regulations might be more than affected people would – or could – pay.[8]

To truly promote equity, agencies need to understand the distribution of benefits *and costs* of their rulemakings on disadvantaged communities.[9] This would provide the agency with some basis to ensure that regulations, in President Biden's words, "appropriately benefit and do not inappropriately burden" those groups (Memorandum, 2021). This is especially important in those cases where the groups intended to benefit bear the costs of the rule. If the analysis reveals that the costs exceed the benefits, the agency could consider scrapping the rule or, if it truly wants those groups to end up better off, investigate whether there is something that it, under its existing authorities, could do to help alleviate the costs. In fact, funds meant to offset the costs of regulations for low-income and minority communities *are* available under many current authorities. But it seems that these programs have been chronically underfunded, underused, and poorly targeted (Hansen et al., 2021). It is time to use these funds efficiently.

Section 2 discusses the current state of distributional analysis and highlights its lack of focus on the distribution of costs. Section 3 describes the goals and shortfalls of the Drinking Water State Revolving Fund (DWSRF), a program administered by EPA through the states.

[7] Many economic studies within this journal have focused on the distributional consequences of drinking-water regulations (e.g., Raucher et al., 2011; Cory & Taylor, 2017; Belzer, 2020).

[8] In the case of lead service line removal, the environmental justice analysis put it this way, "Since the [removal] is expensive, the customer's willingness to share costs will depend on the household's ability-to-pay" (Abt Associates, 2019, p. 14).

[9] I borrow the term "disadvantaged communities" from President Biden's Memorandum on *Modernizing Regulatory Review* (Memorandum, 2021). In Executive Order No. 13985 (n.d.), President Biden suggests that the term refers to groups associated with relatively worse average baseline conditions on some metric, including low-income communities; racial, ethnic, or religious minorities; and those living in rural areas.

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The DWSRF is just one example of a program that could be used to help offset regulatory costs borne by disadvantaged groups. Despite chronic underfunding, many programs received a surge of money under the Bipartisan Infrastructure Law. Section 4 outlines a better strategy for promoting equity that, like Justice40, relies on providing funding to underserved communities but, unlike Justice40, is linked to regulatory proposals. This section also describes the kinds of steps the Biden Administration could take to broadly implement this strategy. Section 5 concludes. In short, this essay is meant to be a call to pay attention to the incidence of regulatory costs on disadvantaged groups – and efficiently use the money Congress allocated to offset these costs.

2. Unfulfilled promises

On his first day in office, President Biden instructed the Office of Management and Budget (OMB) to develop a plan for ensuring that regulatory initiatives "appropriately benefit and do not inappropriately burden disadvantaged, vulnerable, or marginalized communities" (Biden, 2021). But he is not the first president to encourage agencies to consider equity when issuing regulations.

The consideration of equity in regulation in large part started with President Clinton. President Clinton expanded the regulatory review process he inherited from the Reagan and H.W. Bush administrations to include more than efficiency considerations. In particular, he issued Executive Order No. 12866 (n.d.), which required agencies to maximize the net benefits of proposed regulatory actions by considering "distributive impacts" and "equity" in addition to traditional economic, environmental, and public health and safety concerns. The order survives to this day, encouraging agencies to do a comprehensive assessment of the likely effects of their proposed regulatory actions. President Clinton also issued executive orders requiring agencies to pay particular attention to effects on certain groups such as minority populations and low-income populations (Executive Order No. 12898, n.d.) and children (Executive Order No. 13045, n.d.). Later presidents kept these orders in place, sometimes slightly expanding the focus on equity (e.g., President Obama's Executive Order No. 13563, n.d.).

To operationalize these executive orders, the OMB provides guidance on incorporating equity considerations into regulatory impact assessment. For example, Circular A-4, created during the George W. Bush administration, encourages agencies to engage in distributional analysis – and quantitatively, whenever possible – in order to understand the impacts on particular groups (p. 7). Agencies have also created internal guidance documents about these orders. The EPA, notably, created a guidance document specifically aimed at assessing potential environmental justice concerns (U.S. EPA, 2016). It also stresses the EPA's "preference for quantitative analyses to complement other quantitative regulatory analyses (e.g., benefit–cost analysis, risk assessment) that are often conducted for regulatory actions" (p. 41). Significantly, the guidance specifically discusses the importance of considering the distribution of costs in order to avoid "an incomplete – and potentially biased – picture of the overall burden faced by population groups of concern" (p. 57).

Despite these executive orders and related guidance documents, agencies rarely engage in distributional analysis, especially quantitative distributional analysis of impacts on demographic groups. Earlier work by Ellig (2016) and Robinson et al. (2016) evaluated the extent of distributional analysis during the Obama administration, concluding that distributional analysis has not been done very frequently. In more recent work, Cecot and Hahn (2022)

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examined a data set of quantitative regulatory impact analyses across several presidential administrations and found that agencies rarely engage in quantitative distributional analysis. We also examined EPA's explicit efforts to analyze environmental justice concerns, a form of equity consideration. We found that EPA almost exclusively focuses on analyzing the distribution of benefits for key populations. In particular, the agency does not often analyze the incidence of costs, whether qualitatively (30%) or quantitatively (13%). In other words, regulatory impact analyses to date make it difficult to know what groups, if any, might be burdened by regulations on net, even when those regulations are beneficial for society overall. But such information could be useful, especially if those burdened groups are disadvantaged communities under the Biden administration's categorizations.[10]

3. Agency funding programs

Agencies are authorized to administer several programs intended to provide funding in the form of subsidized loans and grants that can be used to offset regulatory compliance costs. These include programs aimed at protecting drinking water quality, improving streets and roads, promoting high-speed internet access, and enhancing access to energy-efficient appliances and vehicles, among other things.[11]

One prominent example is the DWSRF, which Congress established in the 1996 amendments to the Safe Drinking Water Act.[12] Under the statute, EPA is authorized to make capitalization grants to a state each year if the state establishes a state revolving loan fund and matches 20% of the EPA's annual grant.[13] Since then, Congress has appropriated money annually for the program, totaling about $20 billion through 2018, and states have distributed about $35 billion in assistance under their programs during that time (Tiemann, 2018).

States are responsible for the administration of their DWSRF programs. They enjoy a lot of discretion on the distribution of funds, subject to statutory requirements that the money goes to projects that address serious risks to human health and assist disadvantaged communities.[14] An analysis by the Environmental Policy Innovation Center reveals that about 29% of distributed funds over the last decade went to disadvantaged communities (Hansen et al., 2021, p. 14). Other findings suggest system size and the racial characteristics of the community affect the likelihood of receiving funding (p. 17). One of the study's recommendations is for the EPA and states to do a better job of tracking the characteristics of applicants and recipients under the DWSRF to provide an easier way to assess whether the program is meeting statutory goals (p. 22). This is especially important in light of the recent influx of funding into many of these programs under the Bipartisan Infrastructure Law.[15]

[10] In this essay, I do not advocate for any definition of disadvantaged communities, though I note that EPA's environmental justice analyses have evaluated effects on a range of demographic groups (Cecot & Hahn, 2022).

[11] For more examples of these kinds of programs, see the list of programs that are covered by the Justice40 initiative. Justice40 Initiative Covered Programs List, https://www.whitehouse.gov/wp-content/uploads/2022/07/Justice40-Covered-Programs-List_v1.1_07-15-2022.pdf. Alternatively, see the list of programs that received additional funding under the Bipartisan Infrastructure Act. Fact Sheet: Bipartisan Infrastructure Deal, The White House, November 6, 2021. https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/06/fact-sheet-the-bipartisan-infrastructure-deal/.

[12] Public Law No. 104–182 § 130, 110 Stat. 1613 (codified at 42 U.S.C. § 300j–12).

[13] 42 U.S.C. §§ 300j–12(a), (e).

[14] See note 13, §§ 300j–12(b), (d).

[15] Infrastructure Investment and Jobs Act (Bipartisan Infrastructure Act), Pub. L. No. 117-58, 135 Stat. 429 (2021). In fact, the Bipartisan Infrastructure Act has a provision directing the EPA to assess federal water

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In 2022, the Council on Environmental Quality launched the Climate and Economic Justice Screening Tool,[16] a tool meant to help agencies identify potential disadvantaged communities to target under the Biden administration's Justice40 initiative. The Justice40 initiative, announced by President Biden in Executive Order No. 14008 (n.d.), mandates that at least 40% of the benefits of certain federal programs accrue to disadvantaged communities. Basically, the tool flags a Census tract as disadvantaged if its population has a higher rate of some health or environmental indicator and its population satisfies some socioeconomic criteria, typically low income or low enrollment in higher education. Although meant to help support the Justice40 initiative, the tool would also be useful to agencies interested in undertaking rigorous distributional analysis of their regulatory proposals and tracking distributions under their existing funding programs to evaluate whether they are meeting statutory goals that require attention to disadvantaged communities.

In other words, agency funding programs exist under current authorities at a variety of agencies. These programs do not always track the characteristics of recipients or evaluate their success at meeting statutory goals, but some empirical evidence suggests that programs might be falling short of their goals. The Justice40 initiative has already created infrastructure that could help agencies truly promote equity – or at least identify groups that might be affected by regulatory initiatives and could most benefit from federal funds. But the initiative's arbitrary mandated target of 40% has drawn criticism (e.g., Kniesner & Viscusi, 2022). Instead, priority targets for distributions from agency programs could be tied to past and ongoing regulatory priorities to help offset regulatory burdens and ensure net gains. The next section provides an overview of this kind of strategy.

4. Linking regulations and funds

In December 2021, EPA announced that it will develop a new proposed rulemaking to strengthen regulations to reduce lead in drinking water.[17] While the new rule will not be ready until October 2024, a key component of it is expected to be a requirement for water systems to replace all lead service lines as quickly as feasible.[18] Of course, this kind of requirement would have huge cost implications for many water systems and their customers. Simply mandating removal based on positive aggregate net benefits would be tone-deaf to the burdens that many communities, especially low-income and minority communities, would disproportionately face, even as they would benefit from reductions in lead in drinking water. But there is reason to believe that EPA understands this dynamic. In the announcement, the EPA notes, "The goal of these potential lead service line replacement regulatory improvements – *coupled with nonregulatory actions* – is to more equitabl[y] protect public health" (emphasis added).[19] And the nonregulatory actions it lists include funding available under programs such as the DWSRF, among others.

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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" (§ 50216, 135 Stat. at 1174).

[16] The CEJST is available at https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5.

[17] EPA. Stronger Protections from Lead in Drinking Water: Next Steps for the Lead and Copper Rule. Available at https://www.epa.gov/system/files/documents/2021-12/lcrr-review-fact-sheet_0.pdf.

[18] See note 17.

[19] See note 17, at 2.

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There are other signs that the EPA is starting to coordinate its diverse regulatory and funding authorities in this way. In June 2022, the EPA announced its plans to issue binding regulations about per- and polyfluoroalkyl substances (PFAS) that can contaminate drinking water (U.S. EPA, 2022). In the same press release, 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. In other words, the EPA again 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 the regulation's implementation.

Hopefully, this is the start of a new trend. The conventional economic wisdom has been that regulations could ignore any distributional consequences because it would be more efficient to address distributional concerns through progressive taxation rather than on a regulation-by-regulation basis (e.g., Kaplow & Shavell, 1994). Congress has proven, however, that such redistribution through taxation is more difficult than economists anticipated (Revesz, 2018). But this does not mean that the public does not care about distributional consequences. Liscow (2022) argues, based on work in psychology and behavioral economics, that the public is simply much more reluctant to redistribute through taxes than through other policy domains. In other words, the public might *prefer* to redistribute through nontax means. The Bipartisan Infrastructure Law provides some support for this idea; it demonstrates Congress's willingness to appropriate money, even large sums of money, into programs that distribute funds for specific purposes, sometimes expressly directing the agency to consider equity when distributing the funds.[20] If disbursements from these programs can be linked to important and net-beneficial regulatory initiatives, support for the programs could increase further and ensure continued appropriations. And these loans and grants would be less likely seen as handouts or streams that could entrench rent seekers because they would be connected to documented regulatory costs or failures to realize regulatory benefits. This approach also has the benefit of fulfilling Congress's intentions with many of these programs, which are often established in connection with some regulatory scheme or goal.

To do this well, agencies would need to invest in better distributional analysis in order to identify populations or communities that would most benefit from funding to help achieve regulatory priorities (Cecot & Hahn, 2022; Revesz & Yi, 2022). In addition, Congress could simplify requirements for funding applications when funding is directed at disadvantaged groups and tied to the implementation of regulatory initiatives.[21] And finally, agencies would also need to develop ways to coordinate work within offices focused on issuing regulations and offices focused on administering funding programs. One idea is to have the Office of Information and Regulatory Affairs (OIRA) within OMB coordinate these actions (Cecot, 2023). OIRA already plays a key coordination role between agencies, facilitating their communication on similar or overlapping regulatory initiatives; with additional staff

[20] See Fact Sheet: Bipartisan Infrastructure Deal, The White House, November 6, 2021. https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/06/fact-sheet-the-bipartisan-infrastructure-deal/.

[21] Hansen et al. (2021) discuss the expertise required to access these funds. There is some evidence that EPA is trying to alleviate these issues by providing more resources and education about their programs. EPA. Funding and Technical Resources for Lead Service Line Replacement in Small and Disadvantaged Communities. Available at https://www.epa.gov/sites/default/files/2020-12/documents/ej_lslr_funding_sources-final.pdf.

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and resources, OIRA could also help coordinate regulatory and funding programs within and across agencies.

5. Conclusion

The environmental justice literature has focused on the distribution of regulatory benefits, investigating which communities face high pollution exposures and which communities enjoy pollution reductions from regulatory interventions (e.g., Bullard, 1993). It is time to appreciate the importance of regulatory costs. Agencies should devote resources to better understanding the distribution of regulatory costs. This would allow agencies to identify when regulatory initiatives might fail to benefit disadvantaged groups, at least without additional funding support. Coordinated regulatory and funding efforts could provide a practical way to ensure that regulations "appropriately benefit and do not inappropriately burden" disadvantaged groups (Memorandum, 2021).

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