Assessing the Costs and Benefits of Mandatory Climate Risk Disclosure

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Executive Summary

The Securities and Exchange Commission (SEC) will soon propose a new rule expressly requiring companies to disclose information about climate-related financial risks.[1] Though the proposal is not yet public, trade groups have already indicated that they are likely to challenge any climate risk disclosure rule as economically unjustified.[2]

The SEC is obliged to consider the effects of its regulations on "efficiency, competition, and capital formation,"[3] and the U.S. Court of Appeals for the D.C. Circuit has interpreted this language as requiring a form of cost-benefit analysis.[4] Furthermore, the D.C. Circuit has vacated or remanded past SEC regulations as arbitrary and capricious under the Administrative Procedure Act (APA) due to inadequate cost-benefit analyses.[5] The Commission should take care, therefore, to ensure that the cost-benefit analysis for its climate risk disclosure rule is consistent with relevant case law and established best practices.

This report proceeds in two parts. Part I surveys the case law on cost-benefit analysis of SEC regulations. Part II provides recommendations—in light of the decisions reviewed in Part I as well as other relevant APA case law involving non-financial agencies—for how the SEC should conduct its cost-benefit analysis of mandatory climate risk disclosure. Specifically, we highlight best practices that the Commission can adopt at each of the four steps of a regulatory cost-benefit analysis: (1) demonstrating the need for the regulation; (2) identifying the baseline (i.e., the economic status quo); (3) identifying regulatory alternatives; and (4) evaluating the costs and benefits, relative to the baseline, of the proposal and the main alternatives identified at step 3.

Some of these best practices include:

- Identifying the market failures that the climate risk disclosure rule seeks to correct, and explaining how the rule will remedy these failures;
- Ensuring that the baseline reflects costs that investors and lenders would incur, absent a disclosure rule, to procure climate risk information independently;
- Ensuring that the baseline reflects costs that issuers would incur, absent a disclosure rule, to procure and disclose climate risk information in accordance with voluntary commitments and existing disclosure regulations both in the U.S. and abroad;

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1 Gary Gensler, Chair, SEC, Prepared Remarks Before the Principles for Responsible Investment "Climate and Global Financial Markets" Webinar (July 28, 2021), https://perma.cc/2CAN-68U9; Gary Gensler (@GaryGensler), Twitter (Sept. 15, 2021, 3:38 PM), https://perma.cc/TX7Z-XRRB.

2 Dave Michaels, *SEC Wants More Climate Disclosures. Businesses Are Preparing for a Fight.*, Wall St. J. (June 21, 2021), https://www.wsj.com/articles/climate-fight-brews-as-sec-moves-toward-mandate-for-risk-disclosure-11624267803; Robert A. Cohen et al., *Commenters Weigh in on SEC Climate Disclosures Request for Public Input*, Davis Polk (July 6, 2021), https://perma.cc/7XD6-ZA4T.

3 *See, e.g.*, 15 U.S.C. § 77b(b); 15 U.S.C. § 80a-2(c).

4 *See* Chamber of Commerce of the U.S. v. SEC, 412 F.3d 133, 144 (D.C. Cir. 2005) (referring to the SEC's "statutory obligation to determine as best it can the economic implications of the rule it has proposed"); Business Roundtable v. SEC, 647 F.3d 1144, 1149–50 (D.C. Cir. 2011) (finding that Commission "neglected its statutory responsibility to assess the economic consequences of its rule"); John C. Coates IV, *Cost-Benefit Analysis of Financial Regulation: Case Studies and Implications*, 124 Yale L.J. 882, 914 (2015) (describing *Chamber of Commercia* as "interpret[ing] the requirement that the SEC 'consider' a rule's effects on 'efficiency' to imply a very specific [cost-benefit analysis] mandate"); Robert J. Jackson, Jr., *Comment: Cost-Benefit Analysis and the Courts*, 78 Law & Contemp. Probs. 55, 62 (2015) (noting that "the D.C. Circuit made clear [in *Chamber of Commerce*] that it intends to read the law" as obligating the SEC to conduct a cost-benefit analysis).

5 *See generally id.*; Timpinaro v. SEC, 2 F.3d 453, 459 (D.C. Cir. 1993); American Equity Inv. Life Ins. v. SEC, 613 F.3d 166 (D.C. Cir. 2010); Bus. Roundtable v. SEC (*Business Roundtable II*), 647 F.3d 1144 (D.C. Cir. 2011).

- Considering any reasonable and practicable regulatory alternatives raised by dissenting commissioners or commenters;
- Providing quantitative estimates of the rule's costs and benefits where feasible with readily available data;
- Identifying and explaining any underlying assumptions or methods that were used to arrive at the cost or benefit estimates; and
- Engaging in thorough qualitative analyses where quantitative analyses are not possible.

Notably, nothing in relevant case law suggests that the SEC must support every assumption in its cost-benefit analysis with empirical evidence, quantify all of the rule's significant impacts, or demonstrate that aggregate quantified benefits outweigh aggregate quantified costs. Instead, the Commission need only provide a reasoned explanation for its assumptions (taking into account available empirical evidence), make a good-faith effort to quantify impacts when possible and, when quantification is not possible, explain why. Furthermore, the Commission may reasonably rely on purely qualitative assessments of some effects to support a conclusion that a climate risk disclosure rule is cost-benefit justified.

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Introduction: The SEC's Push for Climate Risk Disclosure

In its most recent report, the United Nations' Intergovernmental Panel on Climate Change (IPCC) laid out the scientific consensus on climate change in plain terms: "Human-induced climate change is already affecting many weather and climate extremes in every region across the globe."[6] Moreover, "[g]lobal surface temperature will continue to increase until at least mid-century under all emissions scenarios considered."[7]

These changes are already challenging major economic sectors in novel ways, and the financial threat posed by climate change will only grow in intensity and scope over the decades to come.[8] The *physical risks* associated with climate change—such as the increased frequency of heat waves, droughts, and other extreme weather events—could pose tens of trillions of dollars in annual costs to the global economy by the end of the century.[9] Just as important, however, are the *transition risks*, which include risks to companies resulting from climate-induced shifts in public policy, technology, and consumer demand.[10]

Despite their serious implications for corporate bottom lines, climate-related financial risks are under-addressed in many companies' public disclosures.[11] Existing regulations require disclosure of material financial risks, and the SEC has previously issued guidance clarifying that climate risks can be financially material.[12] But many companies still fail to report climate risk information in a way that is comparable, consistent, and decision-useful for investors.[13]

In response, the SEC has announced its intent to issue a new rule requiring public companies—and potentially some private issuers—to disclose higher-quality information about the climate risks that they face. In March 2021, Commissioner and then-Acting Chair Alison Herren Lee released a detailed request for public input on climate change disclo-

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6 Intergovernmental Panel on Climate Change, AR6 Climate Change 2021: The Physical Science Basis—Summary for Policymakers 8 (2021), https://perma.cc/HG7J-C4FE.

7 *Id.* at 14.

8 Financial Stability Oversight Council, Report on Climate-Related Financial Risk 10 (2021), https://perma.cc/HB3Q-QRKL [hereinafter "FSOC Report"] ("[C]osts to the economy are expected to increase further as the cumulative impacts of past and ongoing global emissions continue to drive rising global temperatures and related climate changes, leading to increased climate-related risks to the financial system.").

9 Tom Kompas et al., *The Effects of Climate Change on GDP by Country and the Global Economic Gains from Complying with the Paris Climate Accord*, 6 Earth's Future 1153, 1160 (2018) (estimating $23 trillion in annual global economic losses under a 4°C warming scenario). A prior report from the Institute for Policy Integrity and the Environmental Defense Fund provides further detail on physical risks, Madison Condon et al., *Mandating Disclosure of Climate-Related Financial Risk*, 23 N.Y.U. J. Legis. & Pub. Pol'y (forthcoming 2022) (manuscript at 3–5), https://perma.cc/7V28-957L [hereinafter "Mandating Disclosure"].

10 Mandating Disclosure, *supra* note 9, at 6–8.

11 Sustainability Acct. Standards Bd., The State of Disclosure 2017: An Analysis of the Effectiveness of Sustainability Disclosure in SEC Filings 2 (2017), https://perma.cc/USC8-2HN2 [hereinafter SASB State of Disclosure].

12 SEC, Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290 (Feb. 8, 2010). For a discussion of why the Commission's interpretive guidance has not yielded sufficient climate risk disclosure, see Mandating Disclosure, *supra* note 9, at 21–25.

13 *Id.* at 21–22.

sures.[14] Gary Gensler, who was confirmed as the Commission's new chair in April 2021, has also publicly expressed his support for new disclosure requirements, instructing SEC staff to prepare a proposed rule.[15]

Several interest groups, however, have already signaled plans to challenge the forthcoming climate risk disclosure rule for failing to establish that its benefits justify its costs.[16] In accordance with a series of decisions by the U.S. Court of Appeals for the District of Columbia Circuit, the SEC is required to assess the costs and benefits of any newly promulgated rule.[17] If the SEC prepares an inadequate analysis for the climate risk disclosure rule, the policy may be overturned as an arbitrary and capricious use of the Commission's rulemaking authority.[18]

This report draws upon case law, regulatory precedent, and relevant executive orders and guidance documents to examine how the Commission can perform a legally durable cost-benefit analysis for a climate risk disclosure rule. Part I explains the origins of the cost-benefit analysis requirement for SEC rulemaking and the sources of law that guide (and constrain) SEC action. Part II applies the legal framework outlined in Part I to mandatory climate risk disclosure, discussing how the SEC can satisfy its obligations with respect to each required component of a regulatory cost-benefit analysis.

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[14] Public Statement, Acting Chair Allison Herren Lee, SEC, Public Input Welcomed on Climate Change Disclosures (Mar. 15, 2021), https://perma.cc/79R6-MEBD.

[15] *See* sources cited *supra* note 1; Jennie Morawetz et al., *The SEC's Recent and Planned Activity on Climate Change Disclosures: What Companies Can Do to Prepare*, Kirkland & Ellis (Oct. 1, 2021), https://perma.cc/B96A-552G.

[16] *See* sources cited *supra* note 2; For a general summary of comments, please refer to Lee Reiners & Mario Olczykowski, *Summary of Comment Letters for the SEC's Climate Risk Disclosure RFI*, Duke FinReg Blog (July 9, 2021), https://perma.cc/D4WX-PZZE.

[17] *See* sources cited *supra* note 4.

[18] *Id.*

I. Legal Standards Governing Cost-Benefit Analysis at the SEC

This Part introduces the cost-benefit-related legal constraints that shape the SEC's regulatory actions.

Section A outlines how cost-benefit analysis requirements became relevant for independent financial agencies such as the SEC. A series of influential D.C. Circuit decisions—*Chamber of Commerce of the United States v. SEC*,[19] *American Equity Investment Life Insurance Co. v. SEC*,[20] and *Business Roundtable v. SEC*[21] (often referred to as *Business Roundtable II*)[22]—established a stronger role for judicial review of economic analysis in the rulemaking process at the SEC.

Section B explains how the SEC responded to the regulatory requirements set forth by *Chamber of Commerce*, *American Equity*, and *Business Roundtable II*. The Commission issued internal cost-benefit guidelines modeled on two executive orders and a White House guidance document that govern regulatory cost-benefit analysis at executive agencies (but not independent agencies like the SEC).

A. Case Law

Under the National Security Markets Improvement Act of 1996 (NSMIA), the SEC must, when promulgating a new rule, "consider, in addition to the protection of investors, whether the action will promote efficiency, competition, and capital formation."[23] A series of D.C. Circuit decisions have interpreted this language as requiring a cost-benefit analysis subject to arbitrary and capricious review under the APA.[24]

1. Chamber of Commerce

The first case, *Chamber of Commerce v. SEC*, was a challenge to a rule that provided several incentives for mutual funds to increase their boards' independence.[25] Specifically, the rule created incentives for mutual funds to raise the percentage of independent directors on their boards from 50% to 75%, and for the boards to have independent chairs.[26] When the SEC issued the rule, it did not quantify the total costs of requiring mutual funds to appoint more independent directors

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[19] 412 F.3d 133 (D.C. Cir. 2005).

[20] 613 F.3d 166 (D.C. Cir. 2010).

[21] 647 F.3d 1144 (D.C. Cir. 2011).

[22] Another frequently cited D.C. Circuit decision, *Bus. Roundtable v. SEC*, 905 F.2d 406 (D.C. Cir. 1990), shares a case name with the decision discussed above. To clear up confusion, legal scholars and practitioners often refer to the 1990 case as *Business Roundtable I* and the 2011 case as *Business Roundtable II*. We have chosen to use the same shorthand here.

[23] 15 U.S.C. § 77b(b); 15 U.S.C. § 80a-2(c).

[24] *See* Richard L. Revesz, *Cost-Benefit Analysis and the Structure of the Administrative State: The Case of Financial Services Regulation*, 34 Yale J. Reg. 545, 566–68 (2017). Even prior to passage of the NSMIA, the D.C. Circuit had remanded a rule for further analysis of "the balance of benefits and costs" after concluding that the Commission had not "adequately substantiated its implicit claim" that a provision was more beneficial than costly. Timpinaro v. SEC, 2 F.3d 453, 455, 458 (D.C. Cir. 1993); *see also* Bruce Kraus & Connor Raso, *Rational Boundaries for SEC Cost-Benefit Analysis*, 30 Yale J. Reg. 289, 298–99 (2013) (concluding that *Timpinaro* "anticipated . . . the strong interpretations of the ["efficiency, competition, and capital formation" language in the NSMIA] that were soon to come").

[25] *Chamber of Commerce*, 412 F.3d at 136–37.

[26] *Id.* at 137.

or the staffing costs associated with requiring boards to have independent chairs.[27] The Commission explained that it had declined to estimate these costs because it did not know how funds would respond to the incentives for board independence.[28]

The Chamber of Commerce argued that the SEC acted in an arbitrary and capricious manner under the APA by:

(1) failing to conduct a study on whether an independent chair was associated with improved fund performance;

(2) failing to consider the costs of the conditions that it was imposing; and

(3) failing to consider a disclosure policy as an alternative to the independent chair condition.[29]

The D.C. Circuit dismissed the first claim, holding that "[t]he Commission's decision not to do an empirical study does not make that an unreasoned decision."[30] The court agreed that "an agency acting upon empirical data may more readily be able to show it has satisfied its obligations under the APA," but it also made clear that "an agency need not—indeed cannot—base its every action upon empirical data."[31] Drawing upon past D.C. Circuit decisions, the court affirmed that "depending upon the nature of the problem, an agency may be 'entitled to conduct . . . a general analysis based on informed conjecture.'"[32]

However, the D.C. Circuit reached a different conclusion with regard to the Chamber's second and third claims. The court held that by failing to quantify the costs associated with the new conditions, the SEC had violated its statutory mandate to consider the effects of regulatory action on "efficiency, competition, and capital formation."[33] Even though the SEC did not know how many funds would appoint independent directors, the court explained that the Commission should have provided some estimate of the costs that would accrue to an individual mutual fund if it chose to appoint more independent directors.[34]

The court also held that the Commission should have estimated the staffing cost to an individual mutual fund of appointing an independent chair. "Although the Commission may not have been able to estimate the aggregate cost to the mutual fund industry," the court observed that the SEC "*readily* could have estimated the cost to an individual fund, which estimate would be pertinent to its assessment of the effect . . . upon efficiency and competition, if not capital formation."[35] The court appeared to draw a distinction between failing to acquire additional information (permissible) and failing to make use of available information (impermissible), stating that "uncertainty may limit what the Commission can do, but it does not excuse the Commission from its statutory obligation to do what it can to apprise itself . . . of the economic consequences of a proposed regulation."[36]

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[27] *Id.* at 144.
[28] *Id.*
[29] *Id.* at 142, 144.
[30] *Id.* at 142.
[31] *Id.*
[32] *Id.* (quoting Melcher v. FCC, 134 F.3d 1143, 1158 (D.C. Cir. 1998)).
[33] *Id.* at 142–44.
[34] *Id.* at 144.
[35] *Id.* (emphasis added). For a critical assessment of the D.C. Circuit's reasoning in *Chamber of Commerce*, see Coates, *supra* note 4, at 912–15.
[36] *Chamber of Commerce*, 412 F.3d at 144.

Finally, the court agreed with the Chamber's third claim, holding that the SEC's failure to consider the disclosure alternative was also a violation of the APA. Though the SEC is not required to consider "every alternative . . . regardless of how uncommon or unknown that alternative" may be, the court held that a disclosure policy—"a familiar tool in the Commission's tool kit"—was a reasonable alternative to the independent chair policy, in part because it was also raised by the two dissenting commissioners.[37]

In sum, *Chamber of Commerce* established three important guidelines for SEC analysis: the Commission (1) is not obliged to produce evidence it does not have, but (2) should "do what it can" to estimate costs to the best of its ability, and (3) is obliged to consider policy alternatives that are not "uncommon or unknown."[38]

2. *American Equity Investment Life Insurance Co.*

The next case discussing the SEC's use of cost-benefit analysis was *American Equity Investment Life Insurance Co. v. SEC*, in which a group of insurers challenged an SEC rule that treated a new class of life insurance contracts (also known as "fixed index annuities") as securities subject to federal (rather than state) regulation.[39] The Court agreed that fixed index annuities could reasonably be interpreted to be securities,[40] but held that the SEC had nonetheless "failed to properly consider the effect of the rule upon efficiency, competition, and capital formation."[41] In particular, "[t]he SEC could not accurately assess any potential increase or decrease in competition, . . . because it did not assess the baseline level of price transparency and information disclosure under state law."[42] Similarly, "the SEC's [efficiency] analysis [was] incomplete because it fail[ed] to determine whether, under the existing [state-level] regime, sufficient protections existed to enable investors to make informed investment decisions."[43]

American Equity thus highlighted that the SEC cannot defensibly estimate a new rule's likely economic consequences without first crafting a reasonable assessment of the economic status quo. The case further established that this baseline analysis must account for regulatory regime(s) that would exist in the absence of the new rule.

3. *Business Roundtable II*

The final instance of the D.C. Circuit striking down an SEC rule on cost-benefit grounds was *Business Roundtable II*. This case was a challenge to the SEC's proxy access rule, which attempted to improve corporate governance by requiring corporations to include the names of shareholder-nominated, or dissident, challengers to incumbent board members on their proxy ballots.[44] The proxy access rule was designed to make corporate board elections more competitive by reducing the costs of mounting a challenge to an incumbent director.

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[37] *Id.* (quoting Motor Veh. Mfrs. Ass'n v. State Farm Ins., 463 U.S. 29, 51 (1983)).
[38] *Id.* at 142, 144.
[39] 613 F.3d 166 (D.C. Cir. 2010).
[40] *Id.* at 167.
[41] *Id.* at 167–68.
[42] *Id.* at 178.
[43] *Id.* at 179.
[44] *Business Roundtable II*, 647 F.3d at 1146.

Once again, the D.C. Circuit concluded that the SEC's cost-benefit analysis was flawed enough to render the rule arbitrary and capricious under the APA. The analytic shortcomings identified by the court included:

- a failure to "estimate and quantify costs that result when companies oppose shareholder nominees in election contests," and a failure to "state in the alternative that these costs could not be estimated";[45]
- insufficient evidence that the proxy access rule would improve the performance of corporations, because the studies provided were "mixed";[46]
- "improperly assuming that the board and management would not be distracted by election contests . . . ignoring [that the rule] may make these battles more common";[47]
- ignoring the risk that the proxy access rule would enable shareholders with special interests (specifically, unions and pension funds) to achieve goals unrelated to shareholder value;[48] and
- "fail[ing] to properly estimate the incremental effect of [the proxy access rule] on the number of election contests . . . relative to the status quo."[49] The court noted that the SEC had contradicted itself in its economic analysis: "the Commission anticipated frequent use of [the proxy access rule] when estimating benefits, but assumed infrequent use when estimating costs."[50]

Although the cost-benefit analysis in this case arguably contained more defects than the cost-benefit analysis in *Chamber of Commerce*,[51] *Business Roundtable II* was especially controversial because the SEC "[had] debated the [proxy access] issue for over a decade, having developed an extensive public record before adopting the rule, and having adopted the rule under the explicit authority and implicit direction of Congress in section 971 of the Dodd-Frank Act."[52]

Additionally, the *Business Roundtable II* court took a harder look at the empirical studies that the SEC used than the *Chamber of Commerce* court did. In *Chamber of Commerce*, the Chamber argued that the SEC had arbitrarily dismissed a study that purported to show that independent directors did not improve fund performance. The *Chamber* court sided with the SEC, observing that there were limitations to the study, and noting that the court owed an "extreme degree of deference to the agency when it is evaluating scientific data within its technical expertise."[53] In contrast, when the SEC relied upon two studies to support its claim that the proxy access rule would improve board performance, the *Business Roundtable II* court sided with the rule's challengers, holding that said studies were "relatively unpersuasive" compared to the "numerous studies submitted by commenters that reached the opposite result."[54] In this respect, *Business Roundtable II* arguably undertook a less deferential review of the SEC's cost-benefit conclusions than *Chamber of Commerce*. However, both cases remain good law.

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[45] Jonathan S. Masur & Eric A. Posner, *Cost-Benefit Analysis and the Judicial Role*, 85 U. Chi. L. Rev. 935, 962. (2018).
[46] *Business Roundtable II*, 647 F.3d at 1150–51.
[47] Masur & Posner, *supra* note 45, at 962.
[48] *Id.*
[49] *Id.* at 963.
[50] *Business Roundtable II*, 647 F.3d at 1154.
[51] For an argument along these lines, see Masur & Posner, *supra* note 45, at 963–67.
[52] Coates, *supra* note 35, at 918.
[53] Chamber of Commerce of the U.S. v. SEC, 412 F.3d 133, 143 (D.C. Cir. 2005) (quoting Hüls Am. Inc. v. Browner, 83 F.3d 445, 452 (D.C. Cir. 1996)).
[54] *Business Roundtable II*, 647 F.3d at 1150–51.

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In the ten years since *Business Roundtable II*, there have only been a handful of cases in which courts have reviewed an independent financial regulator's use of cost-benefit analysis.[55] The most prominent of these is *Investment Company Institute v. Commodity Futures Trading Commission*, a 2013 case where several business associations challenged a Commodity Futures Trading Commission (CFTC) rule imposing new registration and disclosure requirements for certain forms of derivatives trading.[56] The business associations asserted that the CFTC had failed to conduct an adequate cost-benefit analysis for several reasons, but the most relevant for the purposes of this report are: (1) that the CFTC "failed to put a precise number on the benefit of data collection in preventing future financial crises," and (2) that the CFTC had refused to gather "additional market data" to support its assessment of the rule's costs and benefits.[57]

This time, the D.C. Circuit sided with the regulator.[58] First, the court concluded that "CFTC's discussion of unquantifiable benefits fulfills its statutory obligation to consider and evaluate potential costs and benefits."[59] The court held that a qualitative assessment of the potential benefits associated with data collection was acceptable in this case because "the law does not require agencies to measure the immeasurable."[60] Second, the court, consistent with *Chamber of Commerce*, concluded that the CFTC was not obliged to gather additional data to support its rulemaking.[61] The court observed that data limitations were present "in practically any regulatory endeavor."[62]

As previously acknowledged, the D.C. Circuit seems to have varied in its level of deference to regulators' policy judgments across these four cases.[63] But taken together, the decisions discussed above chart a rough course for the SEC as it assesses the costs and benefits of its climate risk disclosure rule.[64]

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[55] *See, generally, e.g.,* Lindeen v. SEC, 825 F.3d 646 (D.C. Cir. 2016); Metlife, Inc. v. Fin. Stability Oversight Council, 177 F.Supp.3d 219 (D.D.C. 2016); Loan Syndications v. SEC, 223 F. Supp. 3d 37 (D.D.C. 2016) rev'd 882 F.3d 220 (D.C. Cir. 2018); Sec. Indus. & Fin. Mkts. Ass'n v. CFTC, 67 F. Supp. 3d 373 (D.D.C. 2014); Nat'l Ass'n of Mfrs. v. SEC, 748 F.3d 359 (D.C. Cir. 2014).

[56] 720 F.3d 370 (D.C. Cir. 2013). Unlike the SEC, the CFTC has an express statutory mandate to "consider the costs and benefits" of its rules. 7 U.S.C. § 19(a)(1).

[57] 720 F.3d at 379.

[58] *Id.*

[59] *Id.*

[60] *Id.*

[61] *Id.*

[62] *Id.*

[63] *See* text accompanying notes 53–54.

[64] Although the four cases discussed above have all been litigated in the D.C. Circuit, the forthcoming climate risk disclosure rule may be challenged in a different court. *See* 15 U.S.C. § 77y(a)(1). Accordingly, these cases may only have persuasive authority.

B. Internal SEC Guidance

In the aftermath of *Business Roundtable II*, the SEC circulated an internal memorandum titled "Current Guidance on Economic Analysis in SEC Rulemakings."[65] While noting that "no statute expressly requires the Commission to conduct a formal cost-benefit analysis as part of its rulemaking," the guidance acknowledges that "the D.C. Circuit has viewed [the SEC's enabling statute], together with the requirement under the Administrative Procedure Act that Commission rulemaking be conducted 'in accordance with law,' as imposing on the Commission a 'statutory obligation to determine as best it can the economic implications of the rule.'"[66]

The guidance further explains that, although the SEC is not, as an independent agency, "obligated to follow the guidelines for regulatory economic analysis by executive agencies set out in Executive Order 12866 . . . and Executive Order 13563," the Commission's guidance nevertheless "draws on principles set forth in those orders and in the Office of Management and Budget's Circular A-4 (2003), which provides guidance for implementing Executive Order 12866."[67]

Issued in 1993 as an update to a Reagan-era order, Executive Order 12,866 imposes a cost-benefit analysis requirement for economically significant regulations from executive agencies that have "an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, [or] jobs."[68] EO 12,866 recognizes that "some costs and benefits are difficult to quantify," but asks agencies to "propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs."[69]

President Obama reaffirmed EO 12,866 with Executive Order 13,563, which requires agencies to quantify costs and benefits "as accurately as possible" and with the "best available techniques."[70] Agencies are also encouraged, where appropriate, to "consider (and discuss qualitatively) values that are difficult or impossible to quantify, including equity, human dignity, fairness, and distributive impacts."[71] Both EO 12,866 and EO 13,563 remain in effect.

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[65] Memorandum from RSFI and OGC to Staff of the Rulewriting Divisions and Offices on Current Guidance on Economic Analysis in SEC Rulemakings (March 16, 2012), https://perma.cc/S35K-QQ7V [hereinafter "SEC Guidance"].

[66] *Id.* at 3.

[67] *Id.* at 3–4.

[68] Exec. Order No. 12,866 § 3(f)(1), 58 Fed. Reg. 51,735, 51,738 (Sept. 30, 1993). A rule can also be significant if it has a material impact on the "environment, public health or safety, or State, local or tribal governments or communities." *Id.* Executive Order 12,866 also requires analysis of rules that are significant for other reasons (for example, because they "create a serious inconsistency" or "raise novel legal or policy issues"). *Id.* However, such rules are subject to milder analytic requirements, including exclusion from the Circular A-4 guidelines. *Id.* at 51,741; OMB, Circular A-4, Regulatory Impact Analysis (2003) [hereinafter "Circular A-4"].

[69] Exec. Order No. 12,866 § 1(b)(6), 58 Fed. Reg. 51,735, 51,736 (Sept. 30, 1993).

[70] Exec. Order No. 13,563 § 1(c), 76 Fed. Reg. 3821, 3821 (Jan. 18, 2011).

[71] *Id.*

The precise details of how these cost-benefit analyses should be conducted are addressed in Circular A-4, a guidance document issued by the Office of Management and Budget. Circular A 4 establishes the procedural steps that are required of each regulatory analysis, including:

- Describing the need for regulatory action;
- Defining the baseline against which the regulatory action is compared;
- Identifying regulatory alternatives and their consequences;
- Quantifying and monetizing benefits and costs;
- Evaluating non-quantified benefits and costs; and
- Characterizing uncertainties in benefits, costs, and net benefits.[72]

The substantive requirements laid out in the SEC's internal guidance memorandum track closely with the requirements in Circular A-4. Similar to rules governed by Circular A-4, SEC rules are expected to include the following elements:

> (1) a statement of the need for the proposed action; (2) the definition of a baseline against which to measure the likely economic consequences of the proposed regulation; (3) the identification of alternative regulatory approaches; and (4) an evaluation of the benefits and costs—both quantitative and qualitative—of the proposed action and the main alternatives identified by the analysis.[73]

Each of these elements—and how the SEC should approach them in the context of a climate risk disclosure rulemaking—is discussed in more detail in Part II.

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[72] Circular A-4, *supra* note 68. Other steps in the cost-benefit analysis process include setting a time horizon for the analysis and discounting future benefits. *Id.*

[73] SEC Guidance, *supra* note 65, at 4 (citing Exec. Order No. 12,866, Exec. Order No. 13,563, and Circular A-4).

II. Implications for Analysis of a Climate Risk Disclosure Rule

This Part draws upon the sources of law discussed in Part I to work through the key steps of a cost-benefit analysis for a potential rule on climate risk disclosure. At each step, we identify best practices that the SEC can adopt to increase the likelihood that its climate risk disclosure rule withstands judicial review. As the details of the SEC's proposal remain unknown, these recommendations are necessarily broad and illustrative in nature.

Section A examines the "statement of need"—the section of the SEC's analysis in which the agency will be tasked with explaining both the need for a climate risk disclosure rule and the SEC's statutory authority to promulgate such a rule. Because it is beyond the scope of this report, we do not address the statutory authority question.[74] We do, however, provide examples of economic arguments that the SEC might appropriately offer regarding the necessity of a climate risk disclosure rule.

Section B addresses the "baseline question": when the SEC conducts its cost-benefit analysis, how should it define the status quo? Defining the baseline accurately helps ensure, among other things, that a rule's incremental effects are not overstated. We offer examples of already-occurring costs that should be reflected in the baseline for a climate risk disclosure rule.

Section C discusses the selection of regulatory alternatives. The SEC is legally required to consider "*reasonable* alternatives raised during the rulemaking," but not "every alternative . . . conceivable by the mind of man."[75] We describe how the SEC has navigated this legal standard in the past and identify practices that have been deemed sufficient by the courts. We also canvas some of the alternative policies raised by opponents to climate risk disclosure and recommend that the SEC explain why it has not chosen to pursue these alternatives.

Section D asks how the SEC should evaluate the benefits and costs of a climate risk rule. We highlight a (non-comprehensive) set of costs and benefits that might arise from such a rule and describe legally permissible practices for dealing with uncertain or unquantifiable benefits.

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[74] Although regulatory opponents have argued that the SEC does not have the statutory authority to promulgate a climate risk disclosure rule, many of these arguments have been rebutted by Commissioner Allison Herren Lee. *See* Speech, Commissioner Allison Herren Lee, SEC, Living in a Material World: Myths and Misconceptions about "Materiality" (May 24, 2021), https://perma.cc/X4PS-4SGM.

[75] SEC Guidance, *supra* note 65, at 9 (quoting Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto. Ins. Co., 463 U.S. 29, 51 (1983)).

A. Demonstrating the Need for Regulation

Every cost-benefit analysis is expected to begin with a justification for the relevant regulation. Executive Order 12,866 requires executive agencies to "identify the problem [the rule] intends to address (including, where applicable, the failures of private markets or public institutions that warrant new agency action) as well as assess the significance of that problem."[76] It also mandates that:

> federal agencies should promulgate only such regulations as are required by law, are necessary to interpret the law, or are made necessary by compelling public need, such as material failures of private markets to protect or improve the health and safety of the public, the environment, or the well-being of the American people.[77]

While the SEC is not subject to EO 12,866, the Commission's internal guidance memorandum on economic analysis nevertheless cites the above language when instructing rulewriting staff to "include [in rule releases] a discussion of the need for regulatory action and how the proposed rule will meet that need."[78] The guidance further notes that SEC rules are often justified by "a market failure that market participants cannot solve because of collective action problems."[79]

Therefore, the statement of need section of the SEC's cost-benefit analysis should be careful to: (1) demonstrate the public need for improved climate risk disclosure; (2) assess the significance of the problem of inadequate climate risk disclosure; and (3) show that the proposed disclosure rule addresses this problem.

1. The Need for Improved Climate Risk Disclosure

First, the SEC has to demonstrate a need for improved climate risk disclosure. Many regulations are justified on the grounds that they are necessary to correct a market failure.[80] As explained in SEC's internal guidance and Circular A-4, such market failures may include "market power, externalities, principal-agent problems (such as economic conflicts of interest), and asymmetric information."[81] Multiple common market failures could be addressed through a rule that mandates and standardizes climate risk disclosures.

Most obviously, the SEC could highlight the information asymmetry between investors and corporate officers with respect to climate risk—an asymmetry that voluntary disclosure programs have failed to eliminate. Under the status quo, investors lack comparable, consistent, and decision-useful information about the climate-related risks that corporations face. In 2017, a study by the Sustainability Accounting Standards Board (now the Value Reporting Foundation) found that "the most common form of [environmental, social, and governance] disclosure across the majority of industries and topics was generic boilerplate language, which is inadequate for investment decision-making."[82] A 2020 study by the Brookings Institution similarly concluded that while disclosures have increased in quantity, "[m]ore firms are disclos-

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[76] Exec. Order No. 12,866 § 1(b), 58 Fed. Reg. at 51,735.
[77] *Id.*
[78] SEC Guidance, *supra* note 65, at 5.
[79] *Id.*
[80] Circular A-4, *supra* note 68, at 4.
[81] *Id.*
[82] SASB State of Disclosure, *supra* note 11, at 2.

ing more general information that is essentially of no utility to the marketplace."[83] Because "investors can only price risk that they are aware of,"[84] inadequate disclosures contribute to asset prices that do not accurately reflect issuers' varying degrees of vulnerability to the physical and transitional effects of climate change.[85]

The problem of non-disclosure may also be framed as a principal-agent problem: in this case, the executives tasked with running the corporation may have incentives that are misaligned with the interests of its owners. Companies may be resistant to sharing unfavorable climate risk information with investors "because executive compensation structures often reward short-term improvements in shareholder value over long-term performance, [meaning] managers may have implicit incentives to overlook information that would lead to drops in stock prices . . . [or] being ousted by dissatisfied short-term shareholders."[86] Mandatory disclosure thus protects investors by providing them with information that firms do not currently share and that is currently costly or impossible for investors to procure on their own.

The SEC will, of course, need to establish the need for not just *any* climate risk disclosure rule but a rule of the particular scope and stringency it chooses to propose. In justifying its proposal, the Commission should thus be mindful of the types of issuers to which its rule applies and the specific categories of information the rule requires them to disclose. In making this detailed case, however, the SEC will be able to draw on ample evidence of multiple climate risk-related market failures that significantly affect efficiency, competition and capital formation and merit regulatory action.

2. The Significance of Climate Risk (Non-)Disclosure

Next, the SEC needs to demonstrate that the absence of high-quality climate risk disclosure is a significant problem for investors, capital markets, and the public. As with its discussion of the need for regulation, the Commission will need to tie this demonstration of significance to the details of the particular rule it proposes. In other words, the SEC should show not just that a lack of accurate climate risk information is a significant problem but that the lack of the particular types of information addressed by the Commission's proposed disclosure rule, and from the particular types of issuers covered by the rule, is a significant problem. At a general level, however, the SEC should have little trouble demonstrating that the problem of undisclosed and thus mispriced climate risk threatens major harm to market participants and society at large.

The value of corporate assets at risk of climate-related devaluation is immense. For example, the energy industry has already faced major financial setbacks due to the rise in extreme weather events, including an estimated $1.8 billion in revenue loss due to drought and water scarcity in 2017.[87] The most recent estimates from the National Oceanic and Atmospheric Administration indicate that "the United States has already experienced over $500 billion in direct economic costs and damages from extreme weather events since 2015."[88] The rise of extreme heat waves is also very likely to create unprecedented costs to human capital and safety. One analysis of data from the Bureau of Labor Statistics shows that "the

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[83] Parker Bolstad et al., Brookings Institution, Flying Blind: What do Investors Really Know About Climate Change Risks in the U.S. Equity and Municipal Debt Markets? 3 (2020), https://perma.cc/8LNV-BEGK. For additional discussion of evidence that voluntary disclosure programs are not yielding adequate information for investors, see Mandating Disclosure, *supra* note 9, at 21-22.

[84] Madison Condon, *Market Myopia's Climate Bubble*, 2021 Utah L. Rev. (forthcoming 2022) (manuscript at 14), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3782675.

[85] For a lengthier discussion of evidence that asset prices do not accurately reflect climate risk, see Mandating Disclosure, *supra* note 9, at 28-30.

[86] Mandating Disclosure, *supra* note 9, at 24.

[87] Mandating Disclosure, *supra* note 9, at 5–6.

[88] *Id.* at 3.

three-year average of worker heat deaths has doubled since the early 1990s."[89] Economic research indicates that worker productivity falls by 2% for each degree Celsius above room temperature,[90] and research from the London School of Economics indicates that the costs of higher temperatures will affect not just outdoor laborers, but also indoor workers. [91]

Investors' lack of comparable, consistent, and decision-useful information means that many of these risks are not reflected in asset prices. When it comes to climate risk, investors are essentially "flying blind," with little protection against the financial volatility that will come with climate-related shocks in the market.[92] There is evidence of significant climate risk mispricing across a variety of markets, including commercial real estate,[93] electric utilities,[94] and agriculture.[95] This view is shared not just by economists, but also by the investing community: according to one survey, 93% of institutional investors "view climate risk as an investment risk that has yet to be priced in by all the key financial markets globally."[96]

Widespread mispricing can, in turn, contribute to a "climate bubble," the bursting of which could create a "contagion of financial failures."[97] According to one recent paper that models how such a domino effect might occur, the annual costs of banking instability could reach 30% of GDP under a high-warming scenario.[98] To be sure, a variety of resolutions are possible for a climate bubble, depending on whether intervention occurs early and whether price corrections occur suddenly or gradually.[99] That undisclosed climate risk is not *certain* to prompt a financial crisis does not, however, render the potential costs of such a crisis insignificant for investors, markets, and the public. Nor does uncertainty preclude the SEC from taking preventative or mitigatory actions within the scope of its statutory authority. As then-Judge Kavanaugh explained in a 2009 D.C. Circuit decision endorsing a "prophylactic" rule from the Office of Thrift Supervision, "[a]n agency need not suffer the flood before building the levee."[100]

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[89] Julia Shipley et al., *Heat Is Killing Workers in the U.S.—And There Are No Federal Rules to Protect Them*, NPR (Aug. 17, 2021), https://perma.cc/CW7P-CEMD.

[90] Jisung Park, *The Labor Productivity Impacts of Climate Change: Implications for Global Poverty* 7 (Harvard Univ. Econ. Dept., World Bank Climate Change and Poverty Conference 2015), https://perma.cc/7L58-7CZ2.

[91] Hélia Costa et al., *Climate Change, Heat Stress, and Labour Productivity: A Cost Methodology for City Economies* (Ctr. for Climate Change Econ. & Pol'y Working Paper No. 278, July 2016); *see also generally* E. Somanathan et al., *The Impact of Temperature on Productivity and Labor Supply: Evidence from Indian Manufacturing*, 129 J. Pol. Econ. 1797 (2021).

[92] Bolstad et al., *supra* note 83, at 3.

[93] BlackRock, Getting Physical: Scenario Analysis for Assessing Climate-Related Risks 13–14 (2019), https://perma.cc/3J5C-7DK6.

[94] *Id.* at 15–17.

[95] Ruihong Jiang & Chengguo Weng, *Climate Change Risk and Agriculture-Related Stocks* (Working Paper, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3506311.

[96] *Climate Change and Artificial Intelligence Seen as Risks to Investment Asset Allocation, Finds New Report by BNY Mellon Investment*, Bloomberg (Sept. 16, 2019), https://perma.cc/3HSJ-3CZM.

[97] Condon, *supra* note 84, at 49-52. *See also* Mark Carney, Gov., Bank of England, Chair, Fin. Stability Bd., Resolving the Climate Paradox, Arthur Burns Memorial Lecture (Sept. 22, 2016), https://perma.cc/6GPS-VWVU ("Changes in policy, technology and physical risks could prompt a reassessment of the value of a large range of assets as costs and opportunities become apparent. The speed at which such re-pricing occurs is uncertain but could be decisive for financial stability."); FSOC Report, *supra* note 8, at 12-14 (finding that "[c]limate change will likely be a source of shocks to the financial system in the years ahead, "that "[f]inancial risks associated with climate transitions likely increase if such transitions are delayed and occur in an unanticipated, abrupt manner, and that "financial markets could experience dramatic movements in response to unexpected changes, potentially involving a large decline in the values of assets").

[98] Francisco Lamperti et al., *The Public Costs of Climate-Induced Financial Instability*, 9 Nature Climate Change 829, 831 (2019), https://perma.cc/39AU-9LKF.

[99] Condon, *supra* note 84, at 49–50.

[100] Stillwell v. Off. of Thrift Supervision, 569 F.3d 514, 519 (D.C. Cir. 2009).

3. *The Efficacy of a Climate Risk Disclosure Regime*

Next, the SEC must show that its proposed solution—a standardized climate risk disclosure regime—would address the problem of low-quality (and nonexistent) climate risk information. Once again, the details of this showing will depend on the details of the rule the Commission chooses to propose. Broadly speaking, however, "mandatory disclosure requirements" have long been considered a "preferred" remedy for "market failures that arise[ ] from inadequate or asymmetric information."[101] And the SEC itself commonly regulates capital markets through disclosure rules, which typically receive broader support from regulatory skeptics than policies that would interfere more directly with the operation of capital markets.[102]

The empirical literature also provides meaningful evidence that disclosure rules tend to accomplish their goals. For example, one study of manufacturing industries across 37 countries found that greater corporate transparency was correlated with higher industry growth rates after controlling for country-level financial development.[103] The study indicates that corporate transparency can facilitate economic growth by improving the allocation of capital within an industry.[104] Other studies and meta-analyses suggest that mandatory disclosures are successful in reducing the cost of capital because they create fewer information asymmetries between investors and management.[105]

While a full review of the empirical literature on disclosure requirements is outside the scope of this report, the SEC should cite to such evidence, as well as to regulatory precedent, when making the case that its proposed climate risk disclosure requirements will at least partially correct climate risk-related information failures in securities markets.

B. Defining the Baseline

This subsection addresses the challenges associated with defining an economic baseline against which to measure the impacts of a mandatory climate risk disclosure rule. As explained in the SEC's internal guidance memorandum on economic analysis, the baseline is "the best assessment of how the world would look in the absence of the proposed action."[106] The guidance instructs rulewriting staff to:

> [W]ork with the [Division of Economic and Risk Analysis] economists to describe the state of the world in the absence of the proposed rule, including the existing state of efficiency, competition, and capital formation, against which to measure the likely impact of the proposed rule.[107]

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[101] *See* Circular A-4, *supra* note 68, at 9 ("If intervention is contemplated to address a market failure that arises from inadequate or asymmetric information, informational remedies will often be preferred. Measures to improve the availability of information include . . . mandatory disclosure requirements."); Cass R. Sunstein, *Informational Regulation and Informational Standing: Akins and Beyond*, 147 U. Pa. L. Rev. 613, 618–26 (1999) (describing the rise of disclosure as a "pervasive regulatory strategy," and its benefits relative to "command-and-control" strategies).

[102] Paula J. Dalley, *The Use and Misuses of Disclosure as a Regulatory System*, 34 Fla. St. U. L. Rev. 1089, 1092–93 (2007) (describing reasons for the popularity of disclosure regimes over command-and-control).

[103] Jere R. Francis et al., *Does Corporate Transparency Contribute to Efficient Resource Allocation?*, 47 J. Acct. Rsch. 943 (2009).

[104] *Id.* at 981 ("At the macro level, the implication is that transparency will contribute to the efficient allocation of scarce resources.").

[105] *Id.* (finding that "transparency improves firms' access to lower cost external financing"); James Choi & Hongjun Yan, *Information Asymmetry Raises the Cost of Capital for Corporations*, Ctr. for Econ. Pol'y Rsch. (Jan. 25, 2013), https://perma.cc/XZZ2-6B2N (reviewing three studies of information asymmetry in capital markets and concluding that "there are societal benefits to levelling the information playing field across investors").

[106] SEC Guidance, *supra* note 65, at 6.

[107] *Id.* at 7. *See also* Circular A-4, *supra* note 68, at 15 ("This baseline should be the best assessment of the way the world would look absent the proposed action.").

The proposed action's costs and benefits are then determined relative to this baseline. If, for example, the existing regulatory structure already creates an average compliance cost of $10,000 per firm, and the proposed climate risk disclosure regulation would increase the average compliance cost to $15,000, then the direct compliance cost for the purposes of the climate risk cost-benefit analysis would be $15,000 - $10,000 = $5,000 per firm.

Thus, the magnitude of the SEC's cost and benefit estimates for a climate risk disclosure rule will depend in large part on the disclosure-related expenditures and consequences that the Commission deems part of the status quo. To illustrate the types of effects that the SEC should be sure to include in its baseline analysis, we highlight four relevant categories of already-occurring costs: (1) costs incurred by issuers to gather and disclose climate risk information in accordance with voluntary disclosure commitments; (2) costs incurred by issuers as a result of the recent uptick in enforcement of the SEC's 2010 Climate Disclosure Guidance; (3) costs incurred by issuers to comply with climate risk disclosure requirements imposed by regulators other than the SEC; and (4) costs incurred by investors (including lenders) to gather climate risk information themselves or through third parties in the absence of adequate disclosure by issuers.

1. Costs to Issuers of Providing Voluntary Disclosure

First, the SEC's baseline should reflect the extent to which issuers are already voluntarily assessing and disclosing climate-related risks. As noted earlier, voluntarily disclosed information is often of little value to investors,[108] but understanding the nature of these disclosures necessary predicate to assessing the marginal cost of compliance of any mandatory disclosure requirements. If, for example, most companies already disclose their Scope 1 and 2 greenhouse gas emissions, then a rule mandating such disclosures would impose relatively low information-gathering costs for most firms. That said, if issuers are currently disclosing this information in a different format than the SEC will require, firms may still incur modest costs to comply with the SEC's regulations.

Several studies indicate that companies have already dedicated considerable resources to sustainability reporting and climate risk disclosure. Last year, for example, the Governance Accountability Institute conducted a survey of the Russell 1000 index and found that 65 percent of the largest publicly-traded companies already issue sustainability reports.[109] The Task Force on Climate-Related Financial Disclosures (TCFD), one of the world's leading standard-setters, also reported that "42 percent of companies with a market capitalization greater than $10 billion disclosed at least some information in line with each individual TCFD recommendation in 2019."[110]

Additionally, many companies have made net-zero carbon emissions pledges; one study from Oxford Net Zero found that 21% of the 2000 largest publicly traded companies had made some form of net-zero commitment, and the majority of those commitments included some coverage of Scope 3 emissions.[111] Fulfilling these corporate pledges will necessar-

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[108] *See* text accompany notes 82–83.

[109] Governance & Accountability Inst., 2020 Flash Report Russell 1000 4, 24 (2020) (explaining that 65% of the Russell 1000 companies had issued sustainability reports, where the Russell 1000 companies are "the largest (approximately 1,000) U.S. publicly-traded companies by size of their market capitalization").

[110] Task Force on Climate-Related Fin. Disclosures, 2020 Status Report 8 (2020), https://perma.cc/55QE-4RFL. Additionally, a 2018 study reported that 78% of S&P 500 companies issue sustainability reports, with 95% of these reports including quantitative environmental performance. Investor Responsibility Rsch. Ctr. Inst., State of Sustainability and Integrated Reporting 2018 4–5 (2018).

[111] Richard Black et al., Energy & Climate Intelligence Unit & Oxford Net Zero, Taking Stock: A Global Assessment of Net Zero Targets 19, 22 fig 5.b (2021), https://perma.cc/9SK4-MP5H.

ily entail some form of data-gathering on greenhouse gas emissions—data-gathering that would still take place in the absence of the proposed climate risk disclosure rule.[112]

In sum, the baseline should include an assessment of how much issuers are already spending to gather and produce climate risk information. The relevant comparison for determining the rule's costs and benefits is not a world with no climate risk disclosure, but instead the current world, in which issuers already assess and disclose some climate risks but fail to assess and disclose others.

2. Costs to Issuers of Complying with the SEC's 2010 Climate Risk Disclosure Guidance

The SEC should also treat the costs to issuers of complying with its 2010 Climate Risk Disclosure Guidance, as it is currently enforced, as part of the status quo. In 2010, the SEC issued a guidance clarifying that climate risks can be material financial risks in some circumstances, in which case they must be disclosed in the issuing company's annual report under Regulation S-K.[113] Until recently, this guidance had not resulted in significant changes to companies' climate change disclosures. One report by SEC staff found that there were no notable changes in the disclosures reviewed from the year before the guidance and the year after.[114] Nor was enforcement of the 2010 Climate Risk Disclosure Guidance a significant priority: another report by Ceres found that between 2010 and 2013, only 25 comment letters sent by SEC staff to issuers mentioned climate change disclosures; between 2016 and 2020, only six.[115]

However, in the past year, the SEC's Division of Corporate Finance has reversed course and stepped up its enforcement of the 2010 Climate Risk Disclosure Guidance.[116] The SEC has sent dozens of letters to public companies, asking them to provide more information about how the physical and transitional risks associated with climate change could affect their business.[117] Its sample comment letter, which was posted in September 2021, asks companies to disclose (among other items) "the material effects of transition risks," "any material litigation risks related to climate change," and, "to the extent material, . . . the indirect consequences of climate-related regulation or business trends."[118]

As the SEC internal guidance memorandum on economic analysis notes, the baseline, which represents "what the world will be like if the proposed rule is not adopted," should include "the existing regulatory structure."[119] Therefore, the baseline should account for the disclosures that companies would still provide absent the new rule as a result of increased 2010 Guidance enforcement.

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[112] *See* Lee Reiners & Mario Olczykowski, *Where the Rubber Meets the Road: How Can an SEC Climate Risk Disclosure Rule Survive Cost-Benefit Analysis?*, Duke FinReg Blog (Aug. 9, 2021), https://perma.cc/HR69-5UML ("[S]everal large banks have made net-zero commitments that can only be measured and assessed if they ask for, and receive, climate information from their customers, i.e. borrowers.").

[113] *See* Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290, 6291 (Feb. 8, 2010)

[114] *See* Michael Clements & J. Alfredo Gómez, U.S. Gov't Accountability Off., Climate-Related Risks: SEC Has Taken Steps to Clarify Disclosure Requirements 15 (2018), https://www.gao.gov/assets/gao-18-188.pdf ("SEC staff reported that they did not find any notable year-to-year changes in the [climate-related] disclosures reviewed from the year before the 2010 Guidance to the year after.").

[115] Jim Coburn & Jackie Cook, Ceres, Cool Response: The SEC & Corporate Climate Change Reporting, SEC Climate Guidance & S&P 500 Reporting – 2010 to 2013 (2014), https://perma.cc/4JE8-2DJP; Ceres, Addressing Climate as a Systemic Risk: A Call to Action for U.S. Financial Regulators 31 (2020), https://perma.cc/U6HK-2QQW. Comment letters are used by the SEC staff to promote compliance where "the staff believes a company can significantly enhance its compliance with the applicable requirements." *Filing Review Process*, SEC (last visited Dec. 19, 2021), https://perma.cc/4T9M-5XEX.

[116] Paul Kiernan, *SEC Asks Dozens of Companies for More Climate Disclosures*, Wall St. J. (Sept. 22, 2021), https://www.wsj.com/articles/regulators-ask-dozens-of-companies-for-more-climate-disclosures-11632341672.

[117] *Id.*

[118] Div. of Corp. Fin., *Sample Letter to Companies Regarding Climate Change Disclosures*, SEC (Sept. 2021), https://www.sec.gov/corpfin/sample-letter-climate-change-disclosures.

[119] SEC Guidance, *supra* note 65, at 6 n.21 (quoting Circular A-4, *supra* note 68, at 2); *id.* at 7.

3. *Costs to Issuers of Complying with Disclosure Regulations in Other Jurisdictions*

The SEC, consistent with *American Equity*, should also ensure that its baseline accounts for existing disclosure regulations in other jurisdictions.[120] In *American Equity*, the court held that the Commission failed to adequately consider the costs and benefits of its rule because it did not determine the baseline level of efficiency and competition under state regulations. In the case of climate risk disclosure, there are also relevant state-level regulations to consider, as well as regulations in foreign jurisdictions.

The New York Department of Financial Services, for example, has issued guidance requiring New York domestic insurers to "disclose how climate risks are integrated into their corporate governance, risk management, and business strategies," and "address how physical and transition risks (including liability risks) might affect insurers' underwriting, investment, and strategies."[121] New York domestic insurers are also expected to "engage with the TCFD framework . . . in developing their approach to climate-related financial disclosures."[122] A proper baseline should account for New York's regulations, which would affect New York-based insurers like MetLife and AIG in the absence of the Commission's climate risk disclosure rule.

Additionally, many other countries have begun to require forms of sustainability reporting that are likely to significantly overlap with the SEC's potential disclosure requirements. In particular, the European Commission has proposed the Corporate Sustainability Reporting Directive, which would strengthen the reporting requirements previously laid out in the Non-Financial Reporting Directive.[123] The UK has developed a four-year plan that will require most UK registered companies, pension funds, banks, insurance companies, and asset managers to disclose their climate risk by 2025.[124] New Zealand has also recently implemented a mandatory climate risk disclosure regime, requiring all investment funds and banks with over $1 billion in assets and all listed companies on New Zealand's Exchange (NZX) to disclose climate risks.[125] Taking stock of these international disclosure regulations will help ensure that the baseline reflects the market as accurately as possible. Multinational firms may be subject to other countries' disclosure requirements, and if the foreign disclosure regimes overlap with the SEC's disclosure requirements, the marginal cost of complying with the SEC's regulation may be lower for these firms.

4. *Costs to Investors of Independently Procuring Climate Risk Information*

Finally, the SEC should be careful to account for the costs investors and lenders accrue under the status quo. Investors are already spending money to procure climate risk information from issuers, and many support mandatory climate risk disclosures because the costs of obtaining this information are so high. For example, California Public Employees' Retire-

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[120] Am. Equity Inv. Life Ins. v. SEC, 613 F.3d 166, 176–79 (D.C. Cir. 2010).

[121] NY Dept. of Fin. Serv., Guidance for New York Domestic Insurers on Managing the Financial Risks from Climate Change 21 (Nov. 15, 2021), https://perma.cc/G8CD-FLCE.

[122] *Id.* at 22.

[123] Frances Schwartzkopff, *EU Wants Tougher Climate Disclosure Rule as Firms Lag Behind*, Bloomberg (Apr. 21, 2021), https://perma.cc/3FVY-U3TL; Charlotte Bancilhon, *What Business Needs to Know About the EU Corporate Sustainability Reporting Directive*, BSR (July 6, 2021), https://perma.cc/P6C7-7N6Q.

[124] Sara Feijao, *UK Paves Way for Mandatory TCFD Climate Disclosure for Companies and Other Organisations by 2025*, Linklaters (Nov. 12, 2020), https://perma.cc/SCK8-GCJL.

[125] *Mandatory Climate-Related Disclosures*, N.Z. Ministry for the Env't (last updated Dec. 1 2021), https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/mandatory-climate-related-financial-disclosures/.

ment System (CalPERS), the largest public pension fund in the United States, expends considerable time and resources to procure disclosures from the companies in which it invests.[126]

This information, which is often labeled as environmental, social and governance (ESG) data, is in high demand. One research firm has estimated that spending on ESG data products and metrics may surpass $1 billion in 2021[127]—a significant cost to investors that could be reduced with standardized disclosure rules. And when third-party ESG data is based on opaque methodologies and incomplete information,[128] it can further distort rather than better inform investment and lending decisions. The costs of such misallocation should also be reflected in the SEC's baseline analysis.

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By ensuring that its baseline scenario reflects the economic effects of these and other already-occurring activities related to the preparation and dissemination of climate risk information, the SEC can increase the accuracy—and legal defensibility—of its cost and benefits estimates for a climate risk disclosure rule.

C. Identifying Regulatory Alternatives

The SEC's internal guidance memorandum specifies that the Commission "should identify and discuss reasonable potential alternatives to the approach in the proposed rule" and respond to "reasonable alternatives raised during the rulemaking.[129] Such alternatives include those that are "neither frivolous nor out of bounds."[130] The Commission is not "required to consider 'every alternative, conceivable by the mind of man . . . regardless of how uncommon or unknown that alternative' may be."[131]

This language leaves some ambiguity as to what constitutes a sufficient reason for declining to analyze the costs and benefits of a suggested alternative relative to the SEC's preferred approach. Case law suggests, however, that the Commission should be particularly attentive to regulatory approaches it has employed in the past and to alternatives endorsed by its own commissioners and/or numerous commenters in prior climate risk-related proceedings.

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[126] *See* Cal. Pub. Emp. Ret. Sys., Comment Letter on Request for Public Input on Climate Change Disclosure 2–3 (Jun. 12, 2021), https://perma.cc/CKJ7-VKWW.

[127] Anne-Laure Foubert, *ESG Data Market: No Stopping Its Rise Now*, Opimas (Mar. 9, 2020), https://perma.cc/6BLC-XE38.

[128] *See* Florian Berg et al., *Aggregate Confusion: The Divergence of ESG Ratings* 2 (MIT Sloan School Working Paper 5822-19, May 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3438533 (observing that "ESG ratings from different providers disagree substantially"); Sakis Kotsantonis & George Serafeim, *Four Things No One Will Tell You About ESG Data*, 31 J. Applied Corp. Fin. 50 (2019) (finding a lack of transparency around how data providers define companies' peer groups, and observing "vast data gaps" that require analysts to use inconsistent imputation methods); Mike Zehetmayr & Natalie Brandau, *How Environmental, Social and Governance (ESG) Data Providers Compare*, EY (Oct. 18, 2021), https://perma.cc/RU9Z-QAPF (describing "a clear challenge with the quality and consistency of [ESG] data").

[129] SEC Guidance, *supra* note 65, at 8–9.

[130] *Id.* at 9 (internal quotations omitted).

[131] *Id.* (quoting *Chamber of Commerce*, 412 F.3d at 144).

1. *Case Law*

One of the "leading modern administrative law cases"[132] on the consideration of regulatory alternatives is *Motor Vehicle Manufacturers Association v. State Farm Mutual Automobile Insurance*.[133] In *State Farm*, the National Highway Traffic Safety Administration (NHTSA) fully rescinded a requirement that all cars be equipped with one of two passive restraints: airbags or automatic seatbelts.[134] It did so because it had determined that one of the two passive restraint options—automatic seatbelts—would not provide effective protection to passengers.[135] The Supreme Court found this rescission arbitrary and capricious because NHTSA had failed to consider the possibility of an airbags-only requirement.[136] Although the Court affirmed that agencies are not required to consider every policy alternative when reaching a decision, it also held that a failure to consider a policy alternative "within the ambit" of the existing policy was an arbitrary and capricious decision.[137]

The *State Farm* standard for the consideration of policy alternatives has been clarified in a pair of SEC-specific cases. In *Chamber of Commerce of the United States v. SEC*, the D.C. Circuit held that the SEC acted in an arbitrary and capricious manner "by failing adequately to consider a proposed alternative" to one of the two conditions in a final rule adopted in 2004.[138] In reaching that conclusion, the Court noted three factors that supported its determination that the alternative at issue should have been considered: (1) two dissenting Commissioners raised the alternative, (2) the alternative was "a familiar tool in the Commission's tool kit," and (3) several commenters had suggested the alternative.[139]

Contrast this with *Loan Syndications v. SEC*,[140] a 2016 case in which a rule adopted by the SEC was challenged in part due to its alleged insufficient consideration of a regulatory alternative. In this case, the plaintiffs alleged that the SEC had "failed to squarely address the concerns of . . . comments" criticizing the agency for adopting a particular "fair value" framework for measuring credit risk.[141] The plaintiffs identified a number of alternatives to the fair value approach that were raised by commenters, and argued that these alternatives were insufficiently addressed, and would have better served the goals of the rulemaking.[142]

However, the district court ruled in favor of the SEC, holding that "though the agencies did not necessarily address each and every concern raised by these comments, '[t]he failure to respond to comments is significant only insofar as it demonstrates that the agency's decision was not based on a consideration of the relevant factors.'"[143] Because the agency had "repeatedly justified their reasonable use of [the fair value framework] . . . at multiple points in the rulemaking process," and there was a rational connection between the facts before the agency and the policy decisions that it made, the comments "presented nothing that required some explanation beyond that already contained within the rulemaking

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[132] Dep't of Homeland Sec. v. Regents of the Univ. of Cal., 140 S. Ct. 1891, 1912 (2020).
[133] 463 U.S. 29 (1983).
[134] *Id.* at 37–38, 46.
[135] *Id.* at 38.
[136] *Id.* at 51.
[137] *Id. See also* Nat'l Shooting Sports Found. v. Jones, 716 F.3d 200, 215 (D.C. Cir. 2013) (holding that "an agency must consider only 'significant and viable' and 'obvious' alternatives") (quoting City of Brookings Mun. Tel. Co. v. FCC, 822 F.2d 1154, 1169 (D.C. Cir. 1987)).
[138] Chamber of Commerce of the U.S. v. SEC, 412 F.3d 133, 136 (D.C. Cir. 2005).
[139] *Id.* at 144.
[140] 223 F. Supp. 3d 37 (D.D.C. 2016), *rev'd on other grounds*, 882 F.3d 220 (D.C. Cir. 2018).
[141] *Id.* at 64.
[142] Opening Brief of Appellant at 48–50, Loan Syndications v. SEC, 882 F.3d 220 (D.C. Cir. 2018) (No. 17-5004).
[143] *Loan Syndications*, 223 F. Supp. 3d at 64.

record."[144] In this case, the court concluded that the SEC satisfied the APA "by noting in the final rule that commenters questioned the use of [the fair value framework] in several contexts."[145]

2. *Applying Case Law to Climate Risk Disclosure*

The above cases offer multiple lessons for the SEC to consider in identifying reasonable alternatives to its preferred climate risk disclosure rule.

First, the Commission should give careful attention to any alternative approaches supported by its own commissioners and explain why its selected approach is consistent with, or differs from, those approaches. As noted above, in *Chamber of Commerce*, the D.C. Circuit vacated the mutual fund regulations in part because the SEC failed to analyze an alternative raised by two dissenting commissioners.[146] The Commission should avoid any such oversight here. For example, Commissioner Elad Roisman, a skeptic of the SEC's climate risk initiatives, has spoken publicly in support of a variety of "tailored" disclosure policies that would lower costs for companies. Roisman's policy recommendations include weaker disclosure requirements for smaller companies, legal safe harbors for issuers, and gradual phase-ins of disclosure requirements.[147] If the SEC chooses to adopt a different approach, it should nonetheless identify these policies as "reasonable alternatives" and explain why they were not chosen, as outlined in the agency's guidance.[148]

Second, while the SEC need not consider every alternative raised by every commenter, it should consider those that have received wide support. In *Chamber of Commerce*, the mutual fund rules were also vacated in part because several commenters had raised the same alternative policy that the dissenting commissioners had raised.[149] Thus, in proposing its climate risk disclosure rule, the SEC should be sure to address approaches that received significant support in responses to the Commission's March 2021 Request for Input on Climate Change Disclosures.[150] For example, a survey of comments on the SEC's March 2021 Request for Public Input conducted by the law firm Davis Polk found that many trade associations and other business groups support *furnishing*, rather than *filing*, climate risk disclosures with the SEC—a policy that would limit companies' liability for making false or misleading statements under the Exchange Act.[151] If the SEC declines to include a furnishing option in its proposed rule, it should explain why it believes furnishing is more costly and/or less beneficial than filing in this context.

Third, the SEC should discuss the advantages and disadvantages of its approach relative to other "familiar tool[s] in the Commission's tool kit," as the court expected the Commission to do in *Chamber of Commerce*.[152] Furnishing, for example, would qualify as such a tool, because the SEC has previously asked issuers to furnish information related to resource extraction payments.[153]

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[144] *Id.*

[145] *Id.* (quoting *Thompson v. Clark*, 741 F.2d 401, 409–10 (D.C. Cir. 1984)).

[146] Chamber of Commerce of the U.S. v. SEC, 412 F.3d 133, 144 (D.C. Cir. 2005).

[147] Speech, Commissioner Elad L. Roisman, SEC, Putting the Electric Cart Before the Horse: Addressing Inevitable Costs of a New ESG Disclosure Regime (June 3, 2021), https://perma.cc/TM8U-HWG7.

[148] SEC Guidance, *supra* note 65, at 8–9.

[149] *Chamber of Commerce*, 412 F.3d at 144.

[150] Comments on Climate Change Disclosures, SEC, https://www.sec.gov/comments/climate-disclosure/cll12.htm (last visited Dec. 27, 2021).

[151] Cohen et al., *supra* note 2.

[152] *See Chamber of Commerce*, 412 F.3d at 144.

[153] *See* Press Release, *SEC Adopts Final Rules for the Disclosure of Payments by Resource Extraction Issuers*, SEC (Dec. 16, 2020), https://perma.cc/EX4U-2CBA.

Finally, although this issue does not come up explicitly in the case law, the SEC should evaluate suggestions from its advising committees. In 2020, one set of proposed proxy advisor rules received high-profile pushback from the SEC Investor Advisory Committee. The Committee criticized the Commission's economic analysis for almost exclusively considering alternatives that were more restrictive or burdensome than the proposed rule.[154] In its final rule, the SEC ultimately heeded the advice of the Committee, considering more lenient alternatives as well and adopting a rule that offered significantly more flexibility to proxy advisors than the proposed rule.[155]

In sum, there are several measures that the SEC could take to show that it considered a set of reasonable alternative approaches to its preferred design for a climate risk rule. The SEC should address policy alternatives that are "familiar tool[s]" in its toolkit,[156] as well as alternatives that have been raised publicly by commissioners. It should also take care to include consideration of the most viable alternatives raised by commenters in response to its Request for Public Input. Lastly, the Commission should address any concerns raised by its advisory committees and consider rule alternatives that are both more and less restrictive than the rule it has chosen.[157]

D. Evaluating Costs and Benefits

The fourth and final step—in which regulators identify the positive and negative impacts of a rule and its main alternatives and decide whether and how to quantify those effects—is the heart of regulatory cost-benefit analysis. For the SEC in particular, this task has been fraught with controversy. As the Commission itself acknowledges, "the difficulty of reliably estimating the costs of regulations to the financial services industry and the nation has long been recognized, and the benefits of regulation generally are regarded as even more difficult to measures."[158] And while D.C. Circuit case law requires the SEC to conduct a cost-benefit analysis, neither SEC-specific nor more generally applicable APA case law obligates the agency to prepare a *fully quantified* analysis. If some of the benefits and costs cannot be readily quantified, the SEC can satisfy its obligations by conducting qualitative analyses of the relevant impacts.

The SEC's internal guidance memorandum lays out four steps for analyzing the consequences of a proposed rule:

> (1) Identify and describe the most likely economic benefits and costs of the proposed rule and alternatives; (2) quantify those expected benefits and costs to the extent possible; (3) for those elements of benefits and costs that are quantified, identify the source or method of quantification and discuss any uncertainties underlying the estimates; and (4) for those elements that are not quantified, explain why they cannot be quantified.[159]

This section of the report follows roughly the same structure, focusing on (1) categorizing the types of costs and benefits a climate risk disclosure rule would produce; (2) determining whether—and how—these costs and benefits can be quantified; and (3) discussing how the SEC might address costs and benefits that are too difficult to quantify.

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[154] Recommendation of the SEC Investor Advisory Committee (IAC) Relating to SEC Guidance and Rule Proposals on Proxy Advisors and Shareholder Proposals 8 (Jan. 24, 2020), https://perma.cc/N5ZC-U6PK.

[155] Brian V. Breheny et al., *SEC Adopts Proxy Rule Amendments Relating to Proxy Voting Advice Businesses*, Skadden (July 27, 2020), https://perma.cc/Z958-KAQL.

[156] *Chamber of Commerce*, 412 F.3d at 144.

[157] *See also* Circular A-4, *supra* note 6872, at 16 ("Where there is a 'continuum' of alternatives for a standard (such as the level of stringency), you generally should analyze at least three options: the preferred option; a more stringent option that achieves additional benefits . . . and a less stringent option that costs less (and presumably generates fewer benefits) than the preferred option.").

[158] SEC Guidance, *supra* note 65, at 10 (internal citation omitted).

[159] *Id.* at 9–10.

1. *Identifying Potential Impacts*

As noted previously, the scope and stringency of the SEC's climate risk disclosure rule are not yet known. It is thus impossible at present to comprehensively catalog the rule's likely costs and benefits. Instead, this subsection identifies several broad categories of impact (both direct and ancillary) that could arise from a climate risk disclosure rule. Notably, we do not attempt to classify each of these categories as relating distinctly to "efficiency," "competition," or "capital formation."[160] Given the substantial overlap between those "impossibly capacious" terms,[161] such classifications "can result in redundancy and unnecessary parsing of economic effects."[162] Accordingly, we follow the Commission's approach of "discuss[ing] the economic consequences in a more comprehensive manner."[163]

a) Costs

The SEC's internal guidance separates costs into three categories:

1. Compliance costs, which "may include in-house personnel time and resources and outside accounting or legal fees."[164]
2. Direct costs, which include "costs arising from intended changes to the behavior of regulated firms or persons in response to the reporting requirement."[165]
3. Indirect costs, which are "costs arising from changes to the behavior of regulated firms or persons beyond those that the rule was intended to achieve, or costs arising from changes in behavior by parties other than regulated firms or persons."[166] Common types of indirect cost include "distributional and competitive effects," "the potential misuse of newly created rights," and "a misallocation of resources resulting from regulatory arbitrage."[167]

In practice, however, the SEC often groups compliance costs and direct costs together.[168] Our discussion does the same.

i. Direct Costs

In general, the SEC can anticipate that companies will have to hire additional staff—as well as outside lawyers, accountants, and consultants—to prepare and review any newly required climate risk disclosures. Companies may also face costs from building and maintaining information systems to record climate risk information. The magnitude of these expenditures will, of course, depend on the type of information the SEC requires to be disclosed—as well as the extent to which the required information differs from information covered by baseline disclosure practices and the extent to which the required disclosures will be subject to third-party auditing and assurance.[169]

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[160] 15 U.S.C. § 77b(b).
[161] Jackson, *supra* note 4, at 63.
[162] SEC Guidance, *supra* note 65, at 14.
[163] *Id.* at 15; *see also* SEC Off. of Inspector Gen., Off. of Audits, No. 499, Follow-Up Review of Cost-Benefit Analyses in Selected SEC Dodd-Frank Act Rulemakings 30 n.74 (2012) (noting its expert's view that the D.C. Circuit "equated [an assessment of effects on efficiency, competition, and capital formation] with cost-benefit analysis" and suggesting that it thus "might be reasonable for the SEC . . . to combine the [previously separate] cost-benefit analysis and ECCF sections [of its rulemakings] into a single section").
[164] *Id.* at 11.
[165] *Id.*
[166] *Id.*
[167] *Id.*
[168] *See, e.g.*, Disclosure of Payments by Resource Extraction Issuers, 86 Fed. Reg. 4662, 4703, 4710–12 (Jan. 15, 2021).
[169] *See generally* Samantha Ross, *The Role of Accounting and Auditing in Addressing Climate Change*, Ctr. for Am. Progress (Mar. 1, 2021), https://perma.cc/3E6Y-NFMY.

ii. Indirect Costs

Indirect costs are harder to anticipate and more speculative, but commenters responding to the Request for Public Input have alleged several types of indirect costs that the SEC should address in its cost-benefit analysis. Some trade groups have voiced support for scaled disclosure for smaller reporting companies, arguing that smaller companies would have greater difficulty meeting the SEC's climate risk disclosure regulations.[170] Accordingly, the SEC should either explain why it does not believe its rule will disproportionately burden smaller firms or consider any harms associated with such burden, such as a reduction in competition.[171] Other industry groups and investors have supported safe harbors and furnishing as ways to limit companies' exposure to strict liability for statements made in good faith.[172] The support for these policies indicates that potential increases in litigation risk and its attendant costs are also consequences that the SEC should consider.[173] That said, companies already face an increasing number of lawsuits related to climate risk disclosure,[174] and the SEC should thus be careful not to attribute baseline litigation activity—i.e., suits that would occur even under the legal status quo—to the climate risk disclosure rule.

Furthermore, a significant share of comments supported requiring private companies to disclose climate risks, both because it would be beneficial to investors and because it would mitigate the risk of regulatory arbitrage.[175] If the SEC does not ultimately require private companies to disclose climate risks, then it should acknowledge any costs associated with creating an additional incentive for companies to go (or remain) private or for public companies to sell greenhouse-gas emitting assets to private issuers.

Lastly, the SEC should address—and reject—an alleged indirect cost that has been raised by one of its commissioners. In a speech to the Brookings Institution, Commissioner Hester Peirce warned of the possibility that climate risk disclosure could backfire and result in financial instability, describing mandatory disclosure as a "regulatory thumb on the scale" that "transform[s] the SEC . . . into an active participant in shifting capital flows."[176] Peirce argues that this "growing global concentration of capital in certain sectors or issuers deemed to be green could destabilize the financial system."[177] There are reasons to be skeptical of this view,[178] especially when the vast majority of economists agree that the world should

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[170] *See, e.g.*, Chamber of Commerce, Comment Letter on Request for Public Input on Climate Change Disclosure 1, 5 (Aug. 23, 2021), https://perma.cc/4U9X-CJ9S.

[171] *See* Étienne Farvaque et al., *Corporate Disclosure: A Review of Its (Direct and Indirect) Benefits and Costs*, 128 Int'l Econ. 5, 16–18 (2011) (observing that the costs of the Sarbanes–Oxley Act disclosure regulations fell "more than proportionally on small and medium-sized enterprises," causing smaller firms "to withdraw their stock market listing or abandon market entrance, anticipating the costs of complying").

[172] Cohen et al., *supra* note 2.

[173] For a discussion of litigation risks and other costs, *see* Christian Leuz & Peter Wysocki, *The Economics of Disclosure and Financial Reporting Regulation: Evidence and Suggestions for Future Research*, 54 J. Acct. Rsch. 525, 551–53 (2016); Edmund W. Kitch, *The Theory and Practice of Securities Disclosure*, 61 Brook. L. Rev. 763, 840 (1995).

[174] *See* Benjamin Berringer, *Securities-Based Climate Litigation in the United States: What Is the Status?*, Clifford Chance (May 4, 2020), https://www.cliffordchance.com/insights/resources/blogs/business-and-human-rights-insights/securities-based-climate-litigation-in-the-united-states-what-is-the-status.html (noting the "continuing significance of climate-related lawsuits against corporations" and summarizing relevant cases).

[175] Cohen et al., *supra* note 2; *see also, e.g.*, Mandating Disclosure, *supra* note 9, at 28–31; Nat'l Res. Def. Council, Comment Letter on Request for Public Input on Climate Change Disclosure 30 (June 11, 2021), https://perma.cc/TTM8-QC9M; BlackRock, Comment Letter on Request for Public Input on Climate Change Disclosure 2 (June 11, 2021), https://perma.cc/ZUF7-FNEY; and Inv. Co. Inst., Comment Letter on Request for Public Input on Climate Change Disclosure 15–16 (June 7, 2021), https://perma.cc/6BVZ-3R44.

[176] Speech, Commissioner Hester M. Peirce, SEC, Chocolate-Covered Cicadas (July 20, 2021), https://perma.cc/RME2-MQ6T.

[177] *Id.*

[178] See, for example, studies showing that ESG funds have outperformed the wider market over the past ten years. Siobhan Riding, *Majority of ESG Funds Outperform Wider Market over 10 Years*, Fin. Times (June 13, 2020), https://www.ft.com/content/733ee6ff-446e-4f8b-86b2-19ef42da3824.

be taking more drastic action to address the costs of climate change.[179] Moreover, because disclosure can prevent greenwashing (i.e., selectively disclosing information to deceive audiences into believing that a corporation is more sustainable than it actually is), it should also mitigate the risks of inefficient capital allocation toward companies that are only nominally sustainable.[180] But, in order to ensure it does not "fail[]to consider an important aspect of the problem," the SEC should provide an explanation for why disclosures are unlikely to lead to destabilization.[181]

b) Benefits

As with costs, the SEC's internal guidance instructs rulewriting staff to consider both direct and ancillary benefits.[182] Though the SEC's document does not define these terms, Circular A-4 defines an ancillary benefit as "a favorable impact of the rule that is typically unrelated or secondary to the statutory purpose of the rulemaking."[183] Arguably no benefit discussed below is unrelated to the SEC's broad mandate to promulgate disclosure rules "in the public interest"—i.e., those that "promote efficiency, competition, and capital formation"—or "for the protection of investors."[184] Furthermore, classifying a benefit as ancillary does not preclude the SEC from considering it when assessing a climate risk disclosure rule's net economic impacts.[185] Courts have consistently required agencies to take indirect costs into account when making regulatory decisions,[186] and there is no logical reason for agencies to treat indirect benefits differently from indirect costs.[187] In fact, doing so may be arbitrary and capricious.[188] All of that said, for purposes of the discussion below, we assume that the SEC's statutory justification for its rule will focus on benefits to market participants and that benefits to third parties will thus be deemed ancillary.

i. Direct Benefits

A climate risk disclosure rule could offer at least six categories of benefits to market participants. Most obviously, by increasing the amount and quality of climate risk information available to investors, mandatory disclosure could enable investors to allocate capital in better accordance with their risk preferences (i.e., more efficiently).[189]

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[179] Peter Howard & Derek Sylvan, Inst. for Pol'y Integrity, Gauging Economic Consensus on Climate Change i-ii (2021), https://perma.cc/3PPT-NFTJ.

[180] Mandating Disclosure, *supra* note 9, at 37–38; *Sustainable Finance Is Rife with Greenwash. Time for More Disclosure*, The Economist (May 22, 2021), https://perma.cc/B76L-EL9E.

[181] Motor Vehicle Mfrs. Ass'n v. State Farm Ins., 463 U.S. 29, 43 (1983).

[182] SEC Guidance, *supra* note 65, at 10 ("In addition to the direct benefits and costs, the economic analysis should address significant ancillary economic consequences.").

[183] Circular A-4, *supra* note 68, at 26.

[184] Mandating Disclosure, *supra* note 9, at 33-34 (quoting provisions of Securities Act of 1933, Securities Act of 1934, and National Securities Market Improvement Act of 1996).

[185] *See* U.S. Sugar Corp. v. EPA, 830 F.3d 579, 625–26 (D.C. Cir. 2016) (finding agency's consideration of a regulatory "co-benefit" permissible where doing so was neither expressly precluded by the operative statute nor inconsistent with that statute's purpose).

[186] *See, e.g.*, Am. Trucking Ass'ns v. EPA, 175 F.3d 1027, 1051–52 (D.C. Cir. 1999) (holding that EPA must consider the indirect health costs of reducing a pollutant), *rev'd on other grounds sub nom.* Whitman v. Am. Trucking Ass'ns, 531 U.S. 457 (2001); Competitive Enter. Inst. v. Nat'l Highway Traffic Safety Admin., 956 F.2d 321, 326–27 (D.C. Cir. 1992) (remanding a fuel efficiency standard for failing to consider indirect costs in the form of safety risks associated with the smaller size of more fuel-efficient cars).

[187] Samuel J. Rascoff & Richard L. Revesz, *The Biases of Risk Tradeoff Analysis: Towards Parity in Environmental and Health-and-Safety Regulation*, 69 U. Chi. L. Rev. 1763, 1793 (observing that indirect benefits "are simply mirror images" of indirect costs); Christopher C. DeMuth & Douglas H. Ginsburg, *Rationalism in Regulation*, 108 Mich. L. Rev. 877, 888 (2010) ("There appear to be no legal, political, or intellectual . . . impediments to treating ancillary benefits and countervailing risks equally in cost-benefit analysis.").

[188] *See* Ctr. for Biol. Diversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172, 1198 (9th Cir. 2008) (agencies conducting cost-benefit analysis "cannot put a thumb on the scale by undervaluing the benefits and overvaluing the costs").

[189] *Mandating Disclosure*, *supra* note 9, at 30; *see also* Commodity Futures Trading Comm'n Climate-Related Market Risk Subcomm. of the Market Risk Advisory Comm., Managing Climate Risk in the U.S. Financial System 11 (2020), https://perma.cc/UT9M-FG2Y ("Investors can use climate-related disclosures to assess risks to firms, margins, cash flows, and valuations, allowing markets to price risk more accurately and facilitating the risk-informed allocation of capital.")

More accurate pricing of climate risk could, in turn, reduce the likelihood of macroeconomic disruptions associated with a burst "climate bubble."[190] Because the costs of a financial crisis would be enormous, even a small reduction in its probability would carry significant benefits for investors.[191]

Mandatory climate risk disclosure could also benefit disclosing companies' shareholders and lenders by facilitating and incentivizing better risk-management decisions. Under the status quo, "cognitive biases and [short-term] incentives can result in managers underestimating or failing to foresee the risks that climate change poses for the long-term fiscal well-being of their companies."[192] Accordingly, "improved mandatory disclosures could force corporations to engage in careful and systematic analyses of their exposures to climate risk, preventing them from ignoring worst-case scenarios or unfavorable information."[193] These analyses could, in turn, help companies develop resilience against the physical and transition risks associated with a changing climate.

Finally, standardizing the disclosure process could: reduce disclosure costs for issuers who might otherwise be pressed to disclose information under competing voluntary approaches;[194] reduce information-gathering costs for investors who might otherwise procure climate risk information themselves or through third parties;[195] and reduce the cost of capital for some issuers by increasing investor confidence in the accuracy of the issuers' climate risk disclosures and, in turn, reducing the risk premium that investors demand.[196]

ii. Ancillary Benefits

Mandatory climate risk disclosure could also generate significant benefits beyond capital markets. For example, disclosure may also help inform risk management and adaptation efforts at entities other than issuers, such as state, local, and federal regulatory bodies.[197] In a recent report, the Financial Stability Oversight Council recognized "the critical importance of taking prompt action to improve the availability of data and measurement tools."[198] The report observed that

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[190] Mandating Disclosure, *supra* note 9, at 30; *see also* text accompanying notes 100–102.

[191] *See* Cass R. Sunstein, *Maximin*, 37 Yale J. on Reg. 940, 944 (2020) (arguing that "costly efforts to reduce the risk of a financial crisis" can be reasonable, even if the worst-case outcomes are "improbable," because these worst-case scenarios "are so bad that it may make sense to eliminate them under conventional cost-benefit analysis"). Other agencies have routinely taken action to address high-risk, low probability events. *See, e.g.*, Hazardous Materials: Security Requirements for Offerors and Transporters of Hazardous Materials, 68 Fed. Reg. 14,510, 14,518 (Mar. 25, 2003) (requiring shippers of hazardous waste to develop security plans in order to address the threat of terrorist attacks); Mitigation Strategies to Protect Food Against Intentional Adulteration, 81 Fed. Reg. 34,166, 34,174 (May 27, 2016) (concluding that the regulation was "prudent" even though "the likelihood of an incident is low" because "a successful intentional adulteration of food" would "cause wide scale public health harm").

[192] Mandating Disclosure, *supra* note 9; *see generally* Condon, *supra* note 84.

[193] Mandating Disclosure, *supra* note 9, at 27.

[194] *See* John Coates, Acting Director, Division of Corp. Fin., SEC, ESG Disclosure—Keeping Pace with Developments Affecting Investors, Public Companies, and the Capital Markets (Mar. 11, 2021), https://perma.cc/B6EW-TTTH ("Companies face higher costs in responding to investor demand for ESG information because there is no consensus ESG disclosure system. Rather, they are faced with numerous, conflicting, and frequently redundant requests for different information about the same topics.").

[195] *See supra* Part II.B.4.

[196] *See* Mandating Disclosure, *supra* note 9, at 34 (citing Cynthia A. Williams & Jill E. Fisch, Request for Rulemaking on Environmental, Social, and Governance, 3–6 (Oct. 1, 2018), https://perma.cc/NDW4-3NW9); Christopher S. Armstrong et al. *When Does Information Asymmetry Affect the Cost of Capital?* 49 J. Acct. Rsch 1 (2011); SEC Guidance, *supra* note 65, at 10 (explaining that enhanced disclosure can result in "greater investor trust in the markets, lower risk premiums, and ultimately, better allocation of capital").

[197] *See, e.g.*, Heather McTeer Toney, Testimony Before the House of Representatives Committee on Financial Services, Subcommittee on Investor Protection, Entrepreneurship, and Capital Markets, Climate Change and Social Responsibility: Helping Corporate Boards and Investors Make Decisions for a Sustainable World (Feb. 25, 2021), https://perma.cc/5L6Q-Q4PR ("[T]he transparency of climate risk and subsequent preparation will be an asset to public planning.").

[198] FSOC Report, *supra* note 8, at 3.

"regulators need better data and information, including enhanced and transparent disclosures . . . to help gauge risks to individual institutions and markets and to financial stability."[199]

Improved disclosure requirements may also play a role in combatting climate change by encouraging corporations to reduce greenhouse gas emissions and transition to a low-carbon economy. In one study of the effects of climate-related disclosures, researchers found that "UK-incorporated firms reduced their [Scope 1] emissions by an average of 14 to 18% after the government mandated that companies disclose their emissions in 2013."[200] Greenhouse gas mitigation provides health and welfare benefits to society by, for example, reducing the harms of air pollution, the spread of infectious disease, the severity of extreme weather events, and the disruption of global supply chains.[201] And because "many climate damages . . . are disproportionately borne by low-income communities and communities of color,"[202] emissions reductions would advance equity.

Table 1 summarizes the categories of possible costs and benefits described in this subsection:

Table 1: Possible Costs and Benefits of Mandatory Climate Risk Disclosure

	Costs	Benefits
Direct	Increased accounting, legal, and information-gathering costs for issuers	More efficient allocation of capital Reduced probability of financial crisis Improved corporate management of climate risk Reduced costs of producing climate risk information Reduced costs of procuring climate risk information Increased investor confidence/reduced risk premiums
Indirect	Adverse effects on competition Increased litigation risk for issuers Increased regulatory arbitrage	Improved management of climate risk by governments and other non-corporate entities Reduced greenhouse gas emissions

[199] *Id.* at 4.

[200] Mandating Disclosure, *supra* note 9, at 39 (citing Benedikt Downar et al., *The Impact of Carbon Disclosure Mandates on Emissions and Financial Operating Performance* (working paper, May 2020), https://perma.cc/ET7A-52TV).

[201] Iliana Paul et al., Inst. for Pol'y Integrity, The Social Cost of Greenhouse Gases and State Policy 2–4 (2017), https://perma.cc/K3S7-RLXV.

[202] Mandating Disclosure, *supra* note 9, at 31.

2. *Quantifying Impacts or Explaining Why They Cannot Be Quantified*

The SEC's internal guidance recommends that rulewriting staff "work closely with [Division of Economic and Risk Analysis] economists so that they may attempt to monetize or otherwise quantify potential costs and benefits of the rule whenever such quantification is practicable."[203] However, in many (if not most) cases, quantification is difficult due to the absence of data and empirical studies that are directly on point.[204] In an ideal world, the SEC would conduct its own economic analyses to fill any gaps in its understanding, but the agency cannot practicably model all of the benefits and costs of every policy in a world with limited time, resources, and personnel. The case law recognizes this reality: *Chamber of Commerce* and *Investment Company Institute* demonstrate that agencies are not expected to conduct studies or gather data to fill every gap in their institutional knowledge.[205]

This section explores two situations that the SEC will likely encounter when quantifying costs and benefits:

(1) the Commission has some quantitative data on a particular cost or benefit, but must rely on extrapolation and assumptions to estimate the effect's total magnitude; and

(2) the Commission has no means of identifying even a reasonable range of quantified estimates for a particular cost or benefit.

In such circumstances, case law suggests that it is more important to make a good-faith *attempt* at quantification than to arrive at a precise dollar amount. Also, where full quantification is not possible, the Commission should explain why that is the case, and provide any quantitative information that is available. Courts have acknowledged the difficulties of conducting financial regulation cost-benefit analyses, but nonetheless ask that regulators make an effort to explain their reasoning and analysis.[206]

a) Scenario 1: Estimating Using Limited Data

In many instances, the Commission may have limited studies or data on which to base an estimate. In these cases, courts have repeatedly granted agencies deference to make reasonable judgments with the information that is available.

Extrapolate from readily available data. First, the SEC can attempt to produce an estimate using data from analogous regulations, or by extrapolating from reasonable assumptions. Reviewing courts are generally deferential to agency's methodological choices.[207] And the D.C. Circuit has held, in the context of an EPA rulemaking, that an agency is "free to rely on theoretical or model-based approaches" as long as there is "some indication of a reasonable concurrence between

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[203] SEC Guidance, *supra* note 65, at 12.

[204] *Id.* at 10 ("As others have noted, the difficulty of reliably estimating the costs of regulations to the financial services industry and the nation has long been recognized, and the benefits of regulation generally are regarded as even more difficult to measure.") (internal quotation omitted).

[205] Chamber of Commerce of the U.S. v. SEC, 412 F.3d 133, 142 (D.C. Cir. 2005); Inv. Co. Inst. v. CFTC, 720 F.3d 370, 379 (D.C. Cir. 2013).

[206] *See, e.g.*, *Business Roundtable II*, 647 F.3d at 1150 ("Because the agency failed to '*make tough choices* about which of the competing estimates is most plausible, [or] to *hazard a guess* as to which is correct, we believe it neglected its statutory obligation to assess the economic consequences of its rule.") (citations omitted) (emphasis added); *Chamber of Commerce*, 412 F.3d at 144 ("[U]ncertainty may limit what the Commission can do, but it does not excuse the Commission from its statutory obligation to do what it can to apprise itself . . . of the economic consequences of a proposed regulation. . . .").

[207] Caroline Cecot & W. Kip Viscusi, *Judicial Review of Agency Benefit-Cost Analysis*, 22 Geo. Mason L. Rev. 575, 601 (2015) ("[C]ourts are particularly deferential when reviewing an agency's [cost-benefit analysis] assumptions or methodology. Rarely was disagreement with an agency's choice of model, assumption, or estimate enough to invalidate a rule, especially when there existed some evidence to support the agency's choice.").

model and reality."[208] The court also acknowledged, in Chamber of Commerce, that back of the envelope calculations may be the only way to monetize costs and benefits in many circumstances.[209] Accordingly, the SEC has encouraged this approach in its internal guidance, noting that "[e]ven without hard data, quantification may be possible by making and explaining certain assumptions."[210]

This approach may be particularly useful when attempting to estimate the compliance costs associated with climate risk disclosure. Although climate risk disclosure will create new compliance challenges for issuers, the SEC has issued numerous other disclosure requirements that have imposed similar *types* of compliance cost. For example, legal fees and accounting costs are common types of compliance cost in any disclosure regulation. The SEC could procure compliance cost estimates from other disclosure regulations as a starting point, and modify those estimates by making reasonable assumptions and inferences. Alternatively, the SEC could look to available data on the costs associated with voluntary climate risk disclosure regimes like the TCFD as a starting point for disclosure costs. It could then make predictions about how those costs might be modified and expanded in the context of a mandatory disclosure regime.

On the benefits side, the SEC could consider looking to the revenues of private climate analytics firms as a proxy for the information-gathering costs that investors will avoid under a climate risk disclosure rule. The total spending on climate risk data and analytics, which most sources estimate to be in the billions of dollars, could function as a useful "back of the envelope" estimate of some fraction of the value of climate risk information that would be generated by a disclosure rule.[211]

Explain the methodology behind the estimate. Transparency is another consistent theme throughout the SEC's guidance on cost-benefit analyses. In SEC and non-SEC case law, courts have struck down regulations as arbitrary and capricious when the accompanying economic analysis fails to explain where the agency's estimates come from. For example, in *Mayor of Baltimore v. Azar*, the Fourth Circuit blocked a rule that would have prevented physicians in Title X programs from sharing physical space and staff with abortion providers, because the final rule estimated that the regulation could cost Title X providers $30,000 each—a figure "pulled from thin air" with "no justification."[212] Notably, however, an agency is not required to "produce empirical evidence" to justify all of its assumptions; it need only provide a "reasoned explanation" for them.[213]

One implication of this transparency requirement is that the SEC is not obligated to—and indeed cannot reasonably—credit cost estimates provided by regulated entities if it cannot independently explain the assumptions underlying those estimates. A similar issue was litigated in *Clean Wisconsin v. EPA*, a case where EPA relied on data from the state of Wisconsin in its rulemaking, despite the fact that "[s]ome aspects of [Wisconsin's] claims are difficult to fully evaluate be-

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[208] Am. Petroleum Inst. v. EPA, 862 F.3d 50, 69 (D.C. Cir. 2017). *See also* Lands Council v. Martin, 529 F.3d 1219, 1226 (9th Cir. 2008) ("We find no legal requirement that a methodology be peer-reviewed or published in a credible source.") (internal quotations omitted).

[209] *See* text accompanying *supra* notes 25 to 38.

[210] SEC Guidance, *supra* note 65, at 12.

[211] *See* Foubert, *supra* note 127 (estimating total ESG data spending to surpass $1 billion in 2021). *See also Moody's Closes on Acquisition of Risk Modeler RMS for $2 Billion*, Ins. J. (Sept. 16, 2021), https://perma.cc/4GA8-6MCA.

[212] 973 F.3d 258, 282 (4th Cir. 2020).

[213] Stillwell v. Off. of Thrift Supervision, 569 F.3d 514, 519 (D.C. Cir. 2009) ("The APA imposes no general obligation on agencies to produce empirical evidence. Rather, an agency has to justify its rule with a reasoned explanation."). *See also* Jerry Ellig, *Implications of Mozilla for Agency Economic Analysis*, Yale J. Reg. Notice & Comment (Oct. 10, 2019), https://perma.cc/WJS5-TCB2 (summarizing the D.C. Circuit's review of the FCC's cost-benefit analysis, observing that "[o]n multiple occasions the court approvingly noted how the FCC forthrightly acknowledged the limitations of some of the studies it relied on and was careful not make excessive claims about what they proved," and concluding that "honesty is the best policy").

cause EPA does not have the details necessary to fully review the . . . analyses that these claims are based on."[214] The D.C. Circuit struck down the rule because it found EPA's reliance to be inappropriate, reasoning that because Wisconsin "did not provide any details" on the modeling techniques it used, EPA could not fulfill "its affirmative burden of promulgating and explaining a non-arbitrary, non-capricious rule."[215]

Therefore, when the Commission has to make assumptions, "[i]t is important to make [those] assumptions (and the rationales for the assumptions) explicit."[216] Transparency and consistency around assumptions and methodologies can prevent a rehash of *Business Roundtable II*, where the D.C. Circuit struck down an SEC regulation for using contradictory assumptions and methodologies when estimating costs versus benefits.[217]

Similarly, if the SEC chooses to discount a particular piece of evidence, or chooses to give greater weight to a particular perspective, it should "clearly state the reason(s) for doing so";[218] this could prevent courts from concluding that the SEC "opportunistically" relied on studies that support its conclusions, as the *Business Roundtable II* court did.[219]

b) Scenario 2: Addressing Unquantifiable Costs and Benefits

In *Investment Company Institute*, the D.C. Circuit held that the "law does not require agencies to measure the immeasurable."[220] And sometimes, despite best efforts, there is no way to responsibly estimate the magnitude of a cost or benefit.

In these cases, courts will typically permit a qualitative analysis that describes a given cost or benefit in non-monetized terms. For example, in *Michigan v. EPA*,[221] the Supreme Court declined to require that EPA conduct a "cost-benefit analysis in which each advantage and disadvantage is assigned a monetary value."[222] And in *Labor Council for Latin American Advancement v. EPA*, the Second Circuit concluded that an EPA regulation's "qualitative assessments of the costs to retailers, distributors, and commercial end users were reasonable."[223] Finally, in *Nicopure Labs, LLC v. FDA*, the U.S. District Court for the District of Columbia rejected claims that the FDA could not "realistically determine that a rule's benefits justify its costs" without quantifying some of the benefits, noting that the agency's analysis, while qualitative, had "provided substantial detail on the benefits of the rule, and the reasons why quantification was not possible."[224]

Executive orders governing regulatory impact analysis also explicitly instruct agencies to consider unquantifiable effects when analyzing proposed rules. EO 12,866, for example, specifies that "costs and benefits shall be understood to include both quantifiable measures . . . and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider."[225] And Circular A-4 acknowledges that when there are unquantifiable costs and benefits at play, the most efficient rule is not always the rule with the "largest quantified and monetized net-benefit estimate."[226]

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[214] 964 F.3d 1145, 1172–73 (D.C. Cir. 2020).
[215] *Id.* at 1174.
[216] SEC Guidance, *supra* note 65, at 13.
[217] *Business Roundtable II*, 647 F.3d at 1152–54.
[218] SEC Guidance, *supra* note 65, at 14.
[219] *Business Roundtable II*, 647 F.3d at 1148–49, 1151.
[220] Inv. Co. Inst. v. CFTC, 720 F.3d 370, 379 (D.C. Cir. 2013).
[221] 576 U.S. 743 (2015).
[222] 576 U.S. 743, 759 (2015).
[223] 12 F.4th 234, 250 (2d Cir. 2021).
[224] 266 F. Supp. 3d 360, 406–07 (D.D.C. 2017), *aff'd*, 944 F.3d 267 (D.C. Cir. 2019).
[225] Exec. Order No. 12,866 § 1(a), 76 Fed. Reg. 51,735, 51,735 (Sept. 30, 1993).
[226] Circular A-4, *supra* note 6872, at 2.

If the SEC determines that some of the costs and benefits of climate risk disclosure are too uncertain or speculative to be quantified, it should thus explain with specificity why this is the case and also provide any relevant quantitative information that is available.

Explain why quantification is not possible. The SEC guidance stipulates that, if costs or benefits are not quantified, "the release should include an explanation of the reason(s) why quantification is not practicable."[227] Oftentimes, there simply may not be enough empirical research available that can be used to draw meaningful inferences. In a recent literature review on the economic effects of financial reporting regulation, Professors Christian Leuz and Peter Wysocki found that

> [E]vidence on the causal effects of disclosure and financial reporting regulation is often difficult to obtain and still relatively rare. Studies often struggle to identify counterfactuals, unaffected control groups, and/or natural experiments that would allow a clean identification of the regulatory effects and their economic consequences. . . . Thus, while we have a lot of evidence that is *qualitatively* useful, we are still far from being able to perform *quantitative* cost-benefit analyses.[228]

In these instances, where the relevant literature is too sparse or the evidence of causality is weak, the SEC can reasonably demonstrate that a largely or entirely qualitative assessment of a particular regulatory effect may be more appropriate than a fully quantitative analysis.

Provide any available quantitative information. In *Chamber of Commerce*, the SEC argued that it could not provide an estimate of the aggregate cost of its regulation to the mutual fund industry, because it could not predict how many funds would respond to the regulation by appointing independent directors.[229] However, in the absence of such an estimate, the D.C. Circuit held that the SEC should have provided a compliance cost estimate for an *individual* mutual fund that chose to appoint an independent chair.[230] Therefore, the SEC should take care to provide any relevant estimates that *are* quantifiable, even if the aggregate estimate is not.

Accordingly, the SEC internal guidance advises that "[w]here particular benefits or costs cannot be monetized, the release should present any available quantitative information: for example, quantification of the size of the market(s) affected, or the number and size of market participants subject to the rule." [231] For example, when the SEC conducted its economic analysis for the *Regulation Best Interest* rules, which sought to provide retail investors with more information about investment advisers and broker-dealers, it acknowledged that the full compliance costs could not be determined.[232] However, the Commission did not stop there—instead, it provided disaggregated estimates of the costs to small and large broker-dealers, respectively.[233] In the case of climate risk disclosure, the SEC should also try to estimate costs (or benefits) to specific stakeholders if it cannot estimate the aggregate costs (or benefits) of the rule.

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[227] SEC Guidance, *supra* note 65, at 13.
[228] Leuz & Wysocki, *supra* note 173, at 529.
[229] Chamber of Commerce of the U.S. v. SEC, 412 F.3d 133, 144 (D.C. Cir. 2005).
[230] *Id.*
[231] SEC Guidance, *supra* note 65, at 12.
[232] Regulation Best Interest: The Broker-Dealer Standard of Conduct, 84 Fed. Reg. 33,318, 33,443 (July 12, 2019).
[233] *Id.* at 33,443 & n.1231.

Identify and request missing data in the proposal. Sometimes, the SEC cannot quantify certain costs and benefits associated with a rule because it lacks information that other parties have. For example, institutional investors are more likely to have the data necessary to estimate the cost, under the status quo, of procuring climate risk information from individual issuers. Corporations, in turn, are more likely to have the data necessary to estimate the cost of responding to these requests. Both sets of information are relevant to estimating the incremental economic impacts to of mandating and standardizing climate risk disclosures.

In such a circumstance, SEC guidance stipulates that "staff should identify any specific data that would be necessary for or that would assist in quantification, and should consider various mechanisms by which to seek such data. The proposing release should also include a request for such data."[234] In its final rule release, the SEC should incorporate any data that it has received from stakeholders and make a new determination as to whether it has enough information to quantify the relevant effect(s).

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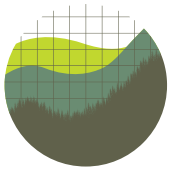
In sum, qualitative analyses can be an appropriate substitute for economic analysis when important data is unavailable. However, the same principles that courts value when reviewing quantitative analyses—reason-giving, transparency, and good faith—apply with equal force when quantification is not possible. By explaining why quantification is not possible, providing available quantitative information, and identifying and requesting missing data, the SEC can demonstrate that it has complied with relevant case law and its own standards for economic analysis.

[234] SEC Guidance, *supra* note 65, at 12.

Conclusion

By enabling more accurate pricing of securities, a climate risk disclosure rule could protect investors and promote efficiency, competition, and capital formation in a variety of ways. As we have noted repeatedly, the SEC has not yet proposed such a rule, and the specific costs and benefits associated with the Commission's preferred policy cannot be estimated until its details are known. Regardless of the rule's content, however, our analysis of the case law governing cost-benefit analysis reveals a number of practices that should increase the likelihood of the Commission's economic analysis withstanding judicial scrutiny.

In particular, the SEC should ensure that its baseline incorporates the costs to issuers of complying with voluntary disclosure pledges and existing disclosure regulations both in the United States and abroad, as well as the costs to investors of procuring climate risk information themselves. The SEC should also identify alternative policy designs that are practicable or obvious—especially if they have been raised by commentators and commissioners—and should provide a reasoned explanation if it chooses not to adopt them. The SEC should attempt to quantify costs and benefits in as transparent a manner as possible; it should provide explanations for any assumptions it must make to arrive at an estimate. Lastly, the SEC can engage in qualitative analyses of some costs and benefits, but it should explain why quantification is not possible and acknowledge any relevant quantitative information that is readily available.



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