INCORPORATING MARKET REACTIONS INTO AGENCY RULEMAKING

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The Article proposes a novel mechanism by which financial regulatory agencies, such as the U.S. Securities and Exchange Commission ("SEC"), can engage in a more empirically informed rulemaking process from an ex ante *perspective. Suppose an agency is considering adopting a rule that applies to a wide group of firms, but lacks reliable data to gauge its likely effects. This Article suggests that, to the extent investors' reactions to unexpected rule-related developments can provide information about the rule's effects on the firms, the agency should examine the stock market's reactions to such events that arise during the rulemaking process. In some cases, such events may arise without any act on the part of the agency—for example, as a result of certain unforeseen acts of Congress. In other cases, they may arise from the agency's carefully planned rule-related announcements or previously unannounced changes in the scope of the rule. The agency's event study should then constitute the default starting point of discussion for the regulatory dialogues that take place during the comment period, and the ensuing discussion should inform the agency's decision whether to adopt the rule as well as its final cost-benefit analysis. In advancing this proposal, this Article relies on the recently developed literature in financial economics that analyzes the "feedback effects" of financial*

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markets. This Article concludes by discussing specific issues for the agency to consider in implementing the proposal.

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I. INTRODUCTION

"Empirically informed regulation" is the buzz phrase of today's agency rulemaking and for good reason.[1] Regardless of how carefully a regulation is designed, it will have little value apart from the

1. *See, e.g.*, Cass R. Sunstein, *Empirically Informed Regulation*, 78 U. CHI. L. REV. 1349, 1349–50 (2011).

empirical and testable results it can generate.[2] In an ideal world, every agency regulation would be guided by meticulously designed empirical studies on point that are vetted by experts. But how about in the real world? How should a regulatory agency engage in an empirically informed rulemaking, for instance, in a setting where it seeks to adopt a rule of first impression—a rule for which the agency (as well as the industry) lacks data to support its position?

One approach is for the agency to reason by way of analogy: the agency can argue that its new rule will operate in much the same way as another known regulation that has been tried and tested.[3] Imperfect as it is, even this approach is not always available. Another approach is for the agency to rely on a trial regulation: the agency can adopt a version of the rule on an experimental basis, assess the rule's effectiveness and efficiency after some time, and then adopt a final version of the rule informed by the industry's compliance experience.[4] This would be an *ex post* approach in the sense that the agency would gather compliance data after the rule has been in effect for some time.[5] Although this approach is promising, it has limitations. In some instances, reliable compliance data may not be available for a long time. In addition, it is difficult to use this approach for decisionmaking purposes when the rule's effects are irreversible.[6]

The purpose of this Article is to suggest a mechanism by which financial regulatory agencies, such as the SEC, can engage in a more empirically informed rulemaking process from an *ex ante* perspective. The underlying premise is that an agency is seeking to adopt a rule that applies to a wide group of firms, but lacks reliable data to gauge the rule's likely effects or to engage in a quantitative cost-benefit analysis. The main proposal in this Article is that in such a case, the agency should begin by examining stock market reactions to any intervening events during the rulemaking process that present unexpected developments for the rule. These developments can include any unforeseen action undertaken by any party that can substantially affect either the likelihood that the rule will get adopted or the scope of the rule to be adopted. In some cases, such events may arise without any act on the part of the agency—for example, as a

2. *See, e.g.*, Exec. Order No. 13,563, 3 C.F.R. 215 (2012), *reprinted in* 5 U.S.C. § 601 (2018) ("Our regulatory system . . . must measure, and seek to improve, the *actual* results of regulatory requirements.") (emphasis added).

3. For an example of this type of reasoning by analogy, see Bruce Kraus & Connor Raso, *Rational Boundaries for SEC Cost-Benefit Analysis*, 30 YALE J. ON REG. 289, 310–13 (2013) (discussing how the SEC and certain industry groups both attempted to analogize the agency's proposed rule to other existing forms of regulation). *See also* text accompanying notes 65–69.

4. For a discussion of this approach, see Zachary J. Gubler, *Experimental Rules*, 55 B.C. L. REV. 129 *passim* (2014). *See also* Yoon-Ho Alex Lee, *An Options Approach to Agency Rulemaking*, 65 ADMIN. L. REV. 881, 888 (2013).

5. Lee, *supra* note 4, at 891.

6. *See id.* at 909 (noting that the real-option approach to agency rulemaking "only makes sense when a rule is reversible").

result of certain unforeseen acts of Congress.[7] In other cases, the agency can strategically initiate intervening events through carefully planned rule-related announcements (of previously undisclosed information) or by means of clarifying the scope of the rule's application.[8]

The event study produced by the agency's staff economists should then constitute the default starting point, if not the centerpiece, of the regulatory dialogues that take place during the comment period. The ensuing discussion should in turn inform: (i) the agency's decision as to whether to adopt the rule, to abandon the rule, or to modify the rule; and (ii) the agency's final cost-benefit analysis in case it decides to adopt a version of the rule. Specifically, the discussions around the proposed rule should begin with the premise that positive (negative) market reactions to rule-related announcements constitute a *rebuttable presumption* that the regulation is expected to be net beneficial (costly) to the regulated firms and their investors. In this manner, the agency will have the relevant empirical data on point as well as commenters' critical assessments of the staff economists' interpretation of the data. Furthermore, if the agency's own study presents a finding that is adverse to the agency's position, the agency should state the grounds for rebutting the presumption afforded by the finding or the grounds for adopting the rule despite the adverse finding.[9]

None of this is to suggest that event studies are without flaws. Even carefully designed event studies can present interpretational challenges.[10] In many instances, they can also prove to be incorrect in their predictions.[11] Nevertheless, discussions that take place following such studies will almost certainly be more fruitful and constructive than those that take place in the absence of any empirical evidence. In addition, for many rules contemplated by financial regulatory agencies, event studies may be "the best available techniques" for "quantify[ing] anticipated present and future benefits and costs as accurately as possible."[12]

7. *See infra* Subpart IV.A.

8. *See infra* Subpart IV.A.

9. *See infra* Subpart VI.D.

10. For general concerns regarding the use of event studies to evaluate economic policy, see generally Maryam H.A. Beigi & Oliver Budzinski, *Reservations on the Use of Event Studies to Evaluate Economic Policy*, 48 INTERECONOMICS 174, 174–75 (2013), https://archive.intereconomics.eu/year/2013/3/reservations-on-the-use-of-event-studies-to-evaluate-economic-policy/ (criticizing the use of stock market events to inform regulatory decisionmaking).

11. *See infra* Subpart VI.G.

12. Executive Order No. 13,563, *supra* note 2 (directing "each agency . . . to use the best available techniques to quantify anticipated present and future benefits and costs as accurately as possible"). While this Order is not binding on independent regulatory agencies, President Obama issued a subsequent order to encourage independent regulatory agencies to comply with these guidelines as

That said, the proposed mechanism is not intended for every instance of agency rulemaking. Instead, the mechanism is most suitable when (i) there are genuine disagreements about the effects of the proposed rule; (ii) firm values, as measured by stock prices, reveal useful information about the rule; and (iii) the agency lacks other reliable empirical data from which to make valid inferences.[13] While these conditions are most likely to hold for certain SEC rules, to the extent they hold for rules being considered by other financial regulatory agencies, the mechanism can be equally employed by those agencies as well.

The rest of the Article proceeds as follows. In Part II, I describe briefly the regulatory framework for informal rulemaking under Section 553 of the Administrative Procedure Act of 1946 ("APA")[14] and discuss the challenges regulatory agencies face in conducting a traditional cost-benefit analysis. In Part III, I discuss (as a case study) the SEC's failed attempt to regulate shareholders' access to corporate proxy ballots in 2010 ("proxy access rule") and consider certain innovations that have been suggested in lieu of the traditional rulemaking approach under Section 553. In Part IV, I consider the value of stock market reactions as *ex ante* empirical evidence of regulatory effects. In particular, I take a close look at four published empirical studies that examine the events surrounding the SEC's adoption of the proxy access rule and use them to motivate a rulemaking mechanism that can incorporate market reactions. In this Part, I also provide a brief survey of the "feedback effects" literature from financial economics, which introduces models of policymaking based on stock market reactions. In Part V, I describe the proposed mechanism and its benefits. In Part VI, I discuss various issues the agency should consider in implementing the proposal. In Part VII, I conclude.

II. ADMINISTRATIVE RULEMAKING AND COST-BENEFIT ANALYSIS

The APA requires all regulatory agencies to follow, among other things, a certain procedure in proposing and adopting rules and avails judicial review of agency actions.[15] The most prominent requirement

well. *See* Exec. Order No. 13,579, 3 C.F.R. 13,579 (2011), https://obamawhitehouse.archives.gov/the-press-office/2011/07/11/executive-order-13579-regulation-and-independent-regulatory-agencies ("Executive Order 13563 set out general requirements directed to executive agencies concerning public participation, integration and innovation, flexible approaches, and science. To the extent permitted by law, independent regulatory agencies should comply with these provisions as well.").

13. *See infra* Subpart VI.A.

14. *See* 5 U.S.C. § 553 (2018).

15. *See generally* Administrative Procedure Act, Pub.L. 79–404, 60 Stat. 237 (1946) (providing procedures for reporting activity in federal agencies, rulemaking, agency adjudication and investigation, and judicial review of agency activity).

is the "notice-and-comment" process for informal rulemaking under Section 553.[16] Although Section 553 does not formally require each agency to conduct a cost-benefit analysis, it does require each agency to provide a "basis and purpose" for its rule adoption.[17] Therefore, if an agency's primary intention is to promote efficiency through discretionary rulemaking, it would make sense for the agency to include at least some discussion of the costs and benefits of its rule. Apart from the APA's requirement, many agencies also have their own statutory requirements to consider the economic effects of their actions.[18] This Part reviews the basics of the notice-and-comment rulemaking process and the challenges these agencies face in conducting reliable cost-benefit analyses.

A. The Notice-and-Comment Rulemaking Process

When an agency observes a need for a regulation, it must begin the notice-and-comment rulemaking process by publishing a "notice of proposed rulemaking" ("NPRM") in the *Federal Register*.[19] The NPRM should state why the agency believes a regulation is necessary, what it proposes to require through regulation, and when it plans to issue the regulation.[20] Although the term "notice" might suggest a brief document, in practice, an NPRM can get quite extensive and even exceed a couple hundred pages.[21]

Once the agency publishes the notice, the "comment" part follows. The agency is required to give "interested persons an opportunity to participate in the rulemaking through submission of written data, views, or arguments with or without opportunity for oral presentation."[22] A comment period typically lasts for thirty to sixty

16. *See* 5 U.S.C. § 553(b)–(c).

17. *Id.*

18. For example, the SEC is subject to a statutory requirement to consider the effects of its action on "efficiency, competition, and capital formation." Securities Exchange Act of 1934, 15 U.S.C. § 78c(f) (2018); Investment Company Act of 1940, 15 U.S.C. §§ 78c(f), 80a-2(c) (2018). For an in-depth discussion of this statutory provision and its effects, see Yoon-Ho Alex Lee, *The Efficiency Criterion for Securities Regulation: Investor Welfare or Total Surplus?*, 57 ARIZ. L. REV. 85, 85 (2015) (discussing the "efficiency, competition, and capital formation" provision from the perspective of investor welfare and total surplus). In addition, the Consumer Financial Protection Bureau must "consider the potential benefits and costs of a regulation to consumers and covered persons, including the potential reduction of access by consumers to consumer financial products or services." Dodd-Frank Act, 15 U.S.C. § 5512(b)(2)(A) (2012).

19. 5 U.S.C. § 553(b).

20. *See id.*

21. In the case of the SEC's proxy access rule, the notice of proposed rulemaking itself was 250 pages long. *See* SEC. & EXCH. COMM'N, FACILITATING SHAREHOLDER DIRECTOR NOMINATIONS, PROPOSED RULE RELEASE No. 33-9046, (2009), https://www.sec.gov/rules/proposed/2009/33-9046fr.pdf.

22. 5 U.S.C. § 553(c).

days.[23] During this period, any interested individual or institution can submit a comment letter to the agency to offer his or her own view on the proposed regulation. Interested parties can include those who support the rule, those who oppose the rule, or those who may otherwise desire the agency to modify the rule.[24] Commenters are free to supplement their comments with extensive data and empirical studies to ensure the agency makes an informed decision. Most often, however, they might do so in order to *influence* the agency's decision.[25] Because the submitted comments become part of the official rulemaking record, which the agency must carefully consider in its decisionmaking process, those wishing to influence the rule's outcome will tend to include all possible arguments in their comments either in support or in opposition of the rule.[26]

After the comment period closes, the agency must review all the relevant comments and decide whether to (i) abandon the proposed rule, (ii) adopt the rule as proposed, or (iii) adopt a modified rule.[27] If the agency decides to adopt any version of the rule, then concurrently with rule adoption, it must publish the final rule and must "incorporate in the rules adopted a concise general statement of their basis and purpose."[28] The agency's "basis" will often include its consideration of various costs and benefits that would accrue from the rule.[29]

23. OFFICE OF THE FED. REGISTER, A GUIDE TO THE RULEMAKING PROCESS, https://www.federalregister.gov/uploads/2011/01/the_rulemaking_process.pdf (last visited Dec. 20, 2019). Executive agencies are subject to even longer comment periods. *See also* Exec. Order No. 13,563, *supra* note 2 ("To the extent feasible and permitted by law, each agency shall afford the public a meaningful opportunity to comment through the Internet on any proposed regulation, with a comment period that should generally be at least 60 days.").

24. *Id.*; *see also* Donald J. Kochan, *The Commenting Power: Agency Accountability Through Public Participation*, 70 OKLA. L. REV. 601, 601 (2018).

25. For a detailed discussion of the dynamics of interest groups and agencies during the comment period, see generally Wendy E. Wagner, *Administrative Law, Filter Failure, and Information Capture*, 59 DUKE L.J. 1321 (2010). *See also* WENDY E. WAGNER & WILL WALKER, INCOMPREHENSIBLE!: A STUDY OF HOW OUR LEGAL SYSTEM ENCOURAGES INCOMPREHENSIBILITY, WHY IT MATTERS, AND WHAT WE CAN DO ABOUT IT 158–203 (2019) (explaining how administrative rulemaking process can promote information overload). For documented evidence of businesses' lobbying efforts to influence agency rulemaking, see Yael V. Hochberg et al., *A Lobbying Approach to Evaluating the Sarbanes-Oxley Act of 2002*, 47 J. ACCT. & RES. 519, 523, 528–29 (2009). *See also* Brian Libgober & Daniel Carpenter, *Lobbying with Lawyers: Financial Market Evidence for Banks' Influence on Rulemaking*, 1–2 (Wash. Ctr. for Equitable Growth, Working Paper Series, 2018), http://equitablegrowth.org/wp-content/uploads/2018/01/01162018-WP-lobbying-w-lawyers1.pdf.

26. *See* Wagner, *supra* note 25, at 1362–65.

27. *See* 5 U.S.C. § 553(c) (2018).

28. *Id.*

29. *See, e.g.*, Craig M. Lewis, Chief Economist & Dir., Div. of Risk, Strategy, & Fin. Innovation, Sec. & Exch. Comm'n, Speech at the Pennsylvania Association

Once the agency adopts a rule, those who continue to oppose the rule can challenge the agency action in the hope that the reviewing court may vacate it.[30] The court may overturn a rule (i) if an agency has failed to comply with a procedural requirement,[31] (ii) if it deems that the agency has acted beyond its statutory authority,[32] or (iii) if it considers the agency's rule adoption to be "arbitrary [or] capricious."[33] Over the past few decades, well-funded industry groups have made it a practice to pursue the third route by attacking the soundness of the agency's cost-benefit analysis and claiming that the agency failed to predict the effects of the rule accurately.[34] It is then up to the court to determine whether the agency action—of adopting the rule—rises to the level of being "arbitrary [or] capricious."[35]

There is nothing intrinsically wrong with allowing interest groups or citizens to challenge a rulemaking agency's cost-benefit analysis. Judicial review is an integral part of effective administrative governance. But as with all forms of governance, there is a dilemma. On the one hand, if the court defers to the agency too readily, the agency can become irresponsible and adopt rules that are inefficient or otherwise undesirable for the general public. On the other hand, if the court habitually second-guesses the agency's decisions and demands empirical evidence for each judgment call it makes, the agency will find it too difficult to adopt rules even if they are efficient or otherwise beneficial. A sensible degree of judicial scrutiny would be one that is calibrated to the level of rigor and the amount of evidence that are within reach for each rulemaking.

From the agency's perspective, some caselaw-based principles govern how it should proceed during the rulemaking process. First, upon a rule challenge, the agency may not raise a new ground to justify its rule adoption.[36] As the Court stated in *SEC v. Chenery*[37] ("*Chenery I*"), "The grounds upon which an administrative order must be judged are those upon which the record discloses that its action was based."[38] Second, during the rulemaking stage, "the agency must examine the relevant data and articulate a satisfactory explanation

of Public Employee Retirement Systems Annual Spring Forum: Investor Protection Through Economic Analysis (May 23, 2013), https://www.sec.gov/news/speech/2013-spch052313cmlhtm.

30. 5 U.S.C. § 702 (2018).

31. 5 U.S.C. § 706(2)(D) (2018).

32. 5 U.S.C. § 706(2)(C).

33. 5 U.S.C. § 706(2)(A).

34. *See, e.g.*, Kraus & Raso, *supra* note 3, at 312–13 (2013) (chronicling a series of challenges to the SEC's rulemaking between 2000 and 2011 in which the petitioner is criticizing the Commission's cost-benefit analysis).

35. 5 U.S.C. § 706(2)(A).

36. *See* SEC v. Chenery Corp., 318 U.S. 80, 87 (1943).

37. 318 U.S. 80 (1943). This case is often referred to as *Chenery I*, to distinguish from SEC v. Chenery Corp., 332 U.S. 194 (1947), which is referred to as *Chenery II*.

38. *Chenery I*, 318 U.S. at 87.

for its action including a rational connection between the facts found and the choice made."[39] More specifically, the Court held in *Motor Vehicles Manufacturers Association v. State Farm*[40] as follows:

> [A]n agency rule [is to] be arbitrary and capricious if the agency relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.[41]

Third, the agency must disclose all data it relied upon in its decisionmaking.[42] In *United States v. Nova Scotia Products*,[43] the Second Circuit held that when an agency fails "to notify interested persons of the scientific research upon which the agency was relying . . . the agency may be held not to have considered all the relevant factors."[44]

Against this institutional background, I now turn to consider the challenges agencies face in conducting an informed cost-benefit analysis.

B. The Challenges of Prospective Regulatory Cost-Benefit Analysis

Although the term "cost-benefit analysis" can refer to any type of analysis considering costs and benefits together, in this Article, I am referring to one specific form: a rulemaking agency's consideration of costs and benefits of an administrative rule undertaken *before* adopting the rule and for the purposes of justifying the rule's adoption. In short, the subject of this Article is *prospective* regulatory cost-benefit analysis.[45] There is also a *retrospective* cost-benefit analysis, which assesses the effectiveness and efficiency of a rule that has been in effect for some time.[46] But in the context of the APA's notice-and-comment rulemaking process and the legal challenges

39. Motor Vehicles Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983) (quoting Burlington Truck Lines, Inc. v. United States, 371 U.S. 156, 168 (1962)).

40. 463 U.S. 29 (1983).

41. *Id.* at 43.

42. *See* United States v. Nova Scotia Food Prods. Corp., 568 F.2d 240, 251 (1977).

43. 568 F.2d 240 (1977).

44. *Id.* at 251.

45. *See* Lee, *supra* note 4, at 893 (discussing three different stages in which an agency can conduct a cost-benefit analysis).

46. *See, e.g.*, Executive Order No. 13,563, *supra* note 2 ("To facilitate the periodic review of existing significant regulations, agencies shall consider how best to promote retrospective analysis of rules that may be outmoded, ineffective, insufficient, or excessively burdensome . . . ."). This is an aspirational goal for independent regulatory agencies. *See, e.g.*, Lee, *supra* note 4, at 896.

that can be raised by rule opponents, what matters is the agency's prospective cost-benefit analysis.[47]

All prospective cost-benefit analyses must proceed in two stages. In the first stage, the agency must predict the new equilibrium state of the economy that will likely be achieved if the proposed rule were to be adopted.[48] This prediction requires a consideration of how the new rule may change the affected parties' incentives and behavior. In the second stage, the agency must try to quantify all the costs and benefits that would accrue to various parties in that new equilibrium as compared to the status quo.[49] These parties will include—but are not limited to—the industry participants that must comply with the new rule.

By design, every prospective regulatory cost-benefit analysis suffers from two informational defects. The first defect is that the agency must produce an informed analysis *before* adopting the rule, but it must do so in the absence of any compliance data. Compliance data needed to assess the costs and benefits will not become available until *after* the agency adopts the rule, and the rule has been in force for some time. In fact, during the oral argument for *Business Roundtable v. SEC*,[50] when the petitioner criticized the SEC's cost-benefit analysis for being "speculative," one judge responded that anything the agency can supply about the rule being challenged "would have to be speculative" because the rule had never been in place before.[51]

The second defect is information asymmetry: both the knowledge of industry practice needed to predict the new equilibrium and the data needed to quantify costs and benefits will primarily be in the hands of industry participants rather than in the hands of the agency.[52] Therefore, if industry participants oppose the rule on the ground that the agency's predicted equilibrium is incorrect or that the compliance costs will in fact be much higher (or that the benefits will be much lower), the agency may find it difficult to credibly refute such claims before the court.

The practical implication of these two defects is that cost-benefit analysis is ultimately a discipline in which an agency can do little

47. *See supra* Subpart II.A.

48. *See* Lee, *supra* note 4, at 893 ("[In conducting a CBA, t]he agency must make assumptions about the future state of the world that would materialize post-implementation.").

49. *See* Executive Order No. 13,563, *supra* note 2 (instructing agencies to use the "best available techniques to quantify anticipated present and future benefits and costs" in order to consider "values that are difficult or impossible to quantify").

50. 647 F.3d 1144 (D.C. Cir. 2011).

51. Oral Argument at 10:00–10:30, Bus. Roundtable v. SEC, 647 F.3d 1144 (D.C. Cir. 2011) (No. 10-1305), http://www.cadc.uscourts.gov/recordings/recordings2011.nsf/5C8B06FFC599CAA285257BE000503486/$file/04071110-1305.mp3.

52. *See* Lee, *supra* note 4, at 892.

better than simply foster a good-faith qualitative and speculative discussion.[53] It is from this perspective that one should understand the ramification of *Business Roundtable v. SEC*.

III. CASE STUDY: THE SEC'S PROXY ACCESS RULE

A. The SEC's Proxy Access Rule and Business Roundtable v. SEC

In 2010, the SEC adopted the proxy access rule that was designed to grant access to proxy ballots to all shareholders who own a certain percent of shares.[54] Due in large part to the controversy surrounding the rule's likely effect, the SEC's adoption took place more than a year after the rule was proposed.[55] At the time, there were strong views both in support of and in opposition to the rule.[56] On the one hand, the SEC and many commenters believed the proposed rule would facilitate effective corporate governance and promote greater shareholder protection.[57] On the other hand, certain industry groups, including the Business Roundtable and the U.S. Chamber of Commerce, argued the rule would have costly unintended consequences.[58] One prominent argument raised by the opponents was that if the rule is adopted, firms would be targeted by "public and union pension funds and activist investors, whose interests they

53. *See* John C. Coates IV, *Cost-Benefit Analysis of Financial Regulation: Case Studies and Implications*, 124 YALE L.J. 882, 919 (2015).

54. For the details of this rule, see generally Facilitating Shareholder Director Nominations, 75 Fed. Reg. 56,668 (Sept. 16, 2010) (detailing the final rule, which adopted several changes to the federal proxy rules). For an excellent discussion of this rule and *Business Roundtable*, see Kraus & Raso, *supra* note 3 *passim*.

55. For the details of the rule proposal, see generally Facilitating Shareholder Director Nominations, 74 Fed. Reg. 29,024 (June 18, 2009) (detailing proposed changes to the federal proxy rules designed to remove impediments to shareholder director nominations).

56. *See* Facilitating Shareholder Director Nominations, 74 Fed. Reg. at 29,026–27; Facilitating Shareholder Director Nominations, 75 Fed. Reg. at 56,670–71.

57. *See* Facilitating Shareholder Director Nominations, 75 Fed. Reg. at 56,760 n.908 ("Many commenters agreed that the new rules may result in the benefit of more accountable, more responsive, and generally better-performing boards."); *see also* Kraus & Raso, *supra* note 3, at 308–11 (describing the SEC's comment period for the proxy access rule).

58. *See* Kraus & Raso *supra* note 3, at 310 ("The Business Roundtable and the U.S. Chamber of Commerce mounted a highly professional joint attack on the proposed rule . . . ."); Letter from Alexander M. Cutler, Chair, Corp. Leadership Initiative, Bus. Roundtable, to Elizabeth M. Murphy, Sec'y, SEC *passim* (Aug. 17, 2009), https://www.sec.gov/comments/s7-10-09/s71009-267.pdf. *See generally* ELAINE BUCKBERG & JONATHAN MACEY, REPORT ON EFFECTS OF PROPOSED SEC RULE 14a-11 ON EFFICIENCY, COMPETITIVENESS AND CAPITAL FORMATION (2009), http://www.nera.com/upload/Buckberg_Macey_Report_FINAL.pdf (contending the proxy access rule "would impose substantial efficiency costs on public companies, impair their competitiveness, and further undermine the attractiveness of U.S. equity markets").

claimed diverged systematically from those of other shareholders."[59] The concern was that these shareholders would prefer labor-friendly corporate policies rather than policies that increase firm values.

The SEC, while acknowledging these concerns, considered the rule to be of value to shareholders and sought to adopt the rule despite heavy opposition from these groups.[60] After all, Congress had just granted the SEC specific authority to adopt appropriate rules in this area, thereby extinguishing any doubt regarding the SEC's jurisdiction to regulate proxy ballots.[61] In addition, having recently lost a number of cases before the D.C. Circuit, the agency was careful to observe all procedural requirements.[62] In short, by the time the SEC adopted the rule, the only plausible legal argument against it was that the agency's consideration of costs and benefits was inadequate. Anticipating this challenge, the SEC gave its best effort (to date) to conduct what it considered to be a thorough cost-benefit analysis.[63] The agency was careful to "recognize[] the possibility that some investors might use the nomination process to extract private gain through board decisions at the expense of other shareholders."[64]

The agency's discussion in the final rule document included citations to, and evaluations of, a number of peer-reviewed empirical studies.[65] The opposing sides also submitted empirical studies to support their position.[66] Nevertheless, the fact was that none of the studies cited by either side were directly on point. Because the SEC had never adopted this rule before, there was no reliable data from which to draw valid inferences. As a result, both the agency and the opposing side had to resort to analogizing the prospective effect of the rule to other existing institutions that conceptually resemble granting access to proxy ballots.[67] The opposing side argued that the rule would have the effect of helping dissident shareholders run proxy contests in a more cost-effective manner, and cited a study that documented negative effects of such proxy contests.[68] In response, the SEC cited a later-published study that challenged the validity of

59. *See* Kraus & Raso, *supra* note 3, at 310. Facilitating Shareholder Director Nominations, 75 Fed. Reg. at 56,671.

60. *See* Kraus & Raso, *supra* note 3, at 311.

61. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 971, 124 Stat. 1376, 1915 (2010) (codified as amended at 15 U.S.C. § 78n(a) (2018)).

62. For a discussion of these cases, see Kraus & Raso, *supra* note 3, at 298–99, 301–07.

63. *See* Lee, *supra* note 18, at 99 ("[T]he SEC supplemented its final rule release with its most heavily invested economic analysis to date, citing multiple peer-reviewed publications.").

64. Kraus & Raso, *supra* note 3, at 310.

65. *See id.* at 312.

66. *See, e.g.*, *id.* at 310–11.

67. *See id.* at 313.

68. *See id.* at 311.

this particular study's result.[69] For its own part, the SEC argued that the effect of the rule should be compared to having hybrid boards and cited studies showing that hybrid boards "were associated with improved shareholder value."[70] The court ultimately sided with the petitioners.[71] In a serious blow to the SEC, the court held that the agency gave an uneven consideration of the conflicting data presented before it.[72]

Legal scholars have criticized the D.C. Circuit's holding in *Business Roundtable* as requiring too much from the agency.[73] The trouble with *Business Roundtable* was that it was seen as raising the bar not just for the SEC but for all independent agencies that have statutory requirements to consider costs and benefits in rulemaking.[74] Professor Cass Sunstein described the outcome as "an excessively aggressive exercise of the power of judicial review, with undue second-guessing of the administrative record."[75] Others have emphasized the enormous difficulty of conducting an accurate cost-benefit analysis in the context of financial regulation.[76]

B. Some Proposed Ex Post *Mechanisms of Agency Rulemaking*

Regardless of one's view of the court's decision in *Business Roundtable*, one positive outcome was the heightened appreciation for empirically informed regulation among rulemaking agencies as well as legal scholars.[77] In response to *Business Roundtable*, legal scholars have proposed innovative rulemaking methods to facilitate

69. *See id.* at 312.

70. Kraus & Raso, *supra* note 3, at 309, 312. *See also* Facilitating Shareholder Director Nominations, 75 Fed. Reg. 56,668, 56,762 n.921–22 (June 18, 2009) ("We found to be relevant the empirical evidence cited in our Proposing Release and by commenters regarding the effect on shareholder value of so-called 'hybrid boards' . . . . Such boards are a close, but not perfect, analog to the results . . . .").

71. *See* Bus. Roundtable v. SEC, 647 F.3d 1144, 1156 (D.C. Cir. 2011).

72. *See id.* at 1148–49; *see also* Kraus & Raso, *supra* note 3, at 313 ("[A] unanimous panel of the D.C. Circuit handed down an opinion vacating the rule, finding the [SEC] to have acted arbitrarily and capriciously.").

73. *See Bus. Roundtable*, 647 F.3d at 1148; Jeffrey N. Gordon, *The Empty Call for Benefit-Cost Analysis in Financial Regulation*, 43 J. LEGAL STUD. S351, S367–68 (2014); *see also* Coates, *supra* note 53, at 919; Cass R. Sunstein & Adrian Vermeule, *Libertarian Administrative Law*, 82 U. CHI. L. REV. 393, 435 (2015).

74. *See, e.g.*, Jonathan D. Guynn, *The Political Economy of Financial Rulemaking After Business Roundtable*, 99 VA. L. REV. 641, 642 (2013) ("*Business Roundtable* is significant because it gives cost-benefit mandates real teeth, at least those that apply to independent agencies."); Lee, *supra* note 4, at 885 ("*Business Roundtable* is thought by many to have raised the bar for rulemaking for *all* agencies whose substantive economic analyses could be subject to judicial review.").

75. Sunstein & Vermeule, *supra* note 73, at 441.

76. *See, e.g.*, Coates, *supra* note 53, at 898 n.34; Gordon, *supra* note 73, at S353–54.

77. Guynn, *supra* note 74, at 642–45.

empirically informed regulation. Professor Zachary Gubler suggests that agencies should proceed with an experimental approach to rulemaking, with a greater emphasis on *ex post* cost-benefit analysis.[78] In my own work, I suggest that in the presence of uncertainty, the rulemaking agency should strategically build into its rule a sunset provision and then justify the rule adoption on the basis of the real-option value of its rule.[79] The idea is that the sunset provision would provide the option of repealing the rule if it proves to be inefficient—while preserving the rule if it proves to be efficient—and this consideration should increase the expected value of moving forward with the rule.[80] Yet another suggestion was to have the agency adopt its rule initially with respect to a carefully selected group of companies only—those companies who would face comparatively smaller compliance costs—to ensure the rule's benefits would exceed its costs. If the rule proves to be successful, then with the new compliance data, the agency can seek to justify broadening the rule's scope.[81]

It is not the purpose of this Article to evaluate these innovations and compare their merits. I will just note that all of them accept the general scarcity of empirical evidence—prior to rule adoption—as a threshold matter and suggest ways to work with empirical evidence that would accumulate *after* rule adoption.[82] In other words, these innovations all take an *ex post* approach.[83] There are, however, two disadvantages with an *ex post* approach. First, because reliable compliance data may not be available for a long time, such an approach may end up significantly delaying the agency's final rule adoption.[84] Second, there is no easy way to apply the approach for decisionmaking purposes when rules are *de facto* irreversible—such as rules that would have the effect of changing the market so significantly that the cost of restoring status quo would be prohibitive.[85] The approach considered in this Article, by contrast, seeks to make use of market data—specifically, stock market reactions to rule-related announcements—that are available *before* rule adoption. Because the proposed mechanism takes an *ex ante* approach, it can work as a complement to the *ex post* approaches discussed above.

78. *See* Gubler, *supra* note 4, at 137 ("[T]he optimal approach seems to be a process by which the policy decision is divided into multiple stages, or in other words, an experimental approach.").

79. *See* Lee, *supra* note 4, at 909 (proposing an alternate mechanism of rulemaking in cases where there can be no reliable predictions regarding the future states).

80. *See id.* at 881.

81. *See id.* at 923–25.

82. *See, e.g.*, *id.* at 892.

83. *See id.* at 881.

84. *See id.* at 939.

85. *See id.* at 888.

IV. MARKET REACTIONS AS *EX ANTE* EMPIRICAL EVIDENCE OF REGULATORY EFFECTS

The practice of examining market reactions to announcements to study the effects of a regulation dates back to a study conducted by Professor G. William Schwert.[86] The main idea is that, in an efficient stock market,[87] "unanticipated changes in a regulation result in a current change in security prices, and the price change is an unbiased estimate of the value of the change in future cash flows to the firm."[88] Economists have highlighted three requirements for a rule-related announcement to be useful as a natural experiment. First, "the event has to be unexpected."[89] Second, "the effect must affect stock prices—that is, it must be a relatively significant event."[90] Third, "evading the proposed regulatory reform must be difficult or impossible."[91] I would add one additional condition, which is that both the market's expectation leading up to the announcement and the market's expectation upon receiving the news have to be reasonably discernible. Given these conditions, a positive abnormal return in a firm's stock price would indicate that the investors anticipate the change to be net beneficial to the firm, and vice versa.[92]

Following this logic, scores of empirical studies in finance and accounting examined abnormal returns surrounding certain dates of regulatory announcements, legislative passages, or court holdings to assess the expected effects of government regulations. For example, a number of papers take this approach to analyze the effect of the proposed governance reforms from the Sarbanes-Oxley Act in 2002.[93] Importantly, even with the SEC's proxy access rule, at least four studies rely on market data to consider whether the SEC's rule would

86. *See* G. William Schwert, *Using Financial Data to Measure Effects of Regulation*, 24 J.L. & ECON. 121, 122 (1981).

87. *See generally* Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383 (1970) (describing various formulations of the Efficient Capital Market Hypothesis).

88. Schwert, *supra* note 86, at 121–22.

89. Bo Becker et al., *Does Shareholder Proxy Access Improve Firm Value? Evidence from the Business Roundtable's Challenge*, 56 J.L. & ECON. 127, 139 (2013).

90. *Id.*

91. *Id.*

92. *Id.* at 136.

93. *See, e.g.*, Vidhi Chhaochharia & Yaniv Grinstein, *Corporate Governance and Company Value: The Impact of the 2002 Governance Rules*, 62 J. FIN. 1789, 1790 (2007); Peter Iliev, *The Effect of SOX Section 404: Costs, Earnings Quality, and Stock Prices*, 65 J. FIN. 1163, 1164 (2010); Ivy Zhang, *Economic Consequences of the Sarbanes-Oxley Act of 2002*, 44 J. ACCT. & ECON. 74, 74–76 (2007). In comparison, relatively few studies examine the industry's actual experience of complying with the regulation. For an example of this type of *ex post* study, see Cindy R. Alexander et al., *Economic Effects of SOX Section 404 Compliance: A Corporate Insider Perspective*, 56 J. ACCT. & ECON. 267, 267–68, 275 (2013) (analyzing survey data collected from managers and compliance officers after firms have complied with the Sarbanes-Oxley Act for more than five years).

have been beneficial to the affected firms.[94] Although their findings are not all consistent, a close examination of these studies reveals several important lessons about the potential use of event studies in agency rulemaking.

A. Lessons from the Event Studies Analyzing the Proxy Access Rule

I begin with a study conducted by economists Bo Becker, Daniel Bergstresser, and Guhan Subramanian ("Becker et al. (2013)"), which focuses on arguably the cleanest event.[95] For this study, the following dates are important. First, the SEC adopted the final version of its proxy access rule on August 25, 2010, and announced that it would go into effect on November 15, 2010.[96] Second, on September 29, 2010, the U.S. Chamber of Commerce and the Business Roundtable filed a petition with the D.C. Circuit to challenge the rule.[97] Third, in response, the SEC announced on October 4, 2010, it would delay the rule's implementation until the Business Roundtable's challenge was resolved.[98] Significantly, this last announcement, according to the authors, "surprised most observers."[99] The authors speculate that "the stock market perceived the stay as a reduced likelihood of proxy access in the short run as well as in the long run, perhaps seeing the stay as an indication of the SEC's own perception of its ability to defend the rule in court."[100] Fourth, on July 22, 2011, the D.C. Circuit handed down its decision from *Business Roundtable* and vacated the rule.[101]

The study's most important finding concerns the third date, which is the main event. The authors report that "firms that would have been most vulnerable to proxy access, as measured by institutional ownership and activist institutional ownership, lost value on October 4, 2010."[102] The authors interpret this finding to be "consistent with the view that financial markets placed a positive value on shareholder access, as implemented in the SEC's 2010 rule."[103] The strength of this study is that there is little dispute as to the market's expectation as of October 3, 2010. The SEC had just

94. *See* Ali C. Akyol et al., *Shareholders in the Boardroom: Wealth Effects of the SEC's Proposal to Facilitate Director Nominations*, 47 J. FIN. & QUANTATATIVE ANALYSIS 1029, 1029 (2012); Becker et al., *supra* note 89, at 127–28; Jonathan B. Cohn et al., *On Enhancing Shareholder Control: A (Dodd-)Frank Assessment of Proxy Access*, 71 J. FIN. 1623, 1623 (2016); David F. Larcker et al., *The Market Reaction to Corporate Governance Regulation*, 101 J. FIN. ECON. 431, 431–42 (2011).

95. *See* Becker et al., *supra* note 89, *passim*.

96. *Id.* at 128.

97. *Id.*

98. *Id.*

99. *Id.*

100. *Id.* at 129.

101. *Id.* at 128.

102. *Id.* at 127.

103. *Id.* at 129.

adopted the rule a little over a month ago, and the rule's substance was made known.[104] The public's expectation of the rule's effects on the market would have reached an equilibrium. Then, the announcement to stay the rule came as a surprise to the market.[105] The study analyzes another event, which is the date of the D.C. Circuit's decision (July 22, 2011). For this date, the authors also "find results that are directionally similar to those of October 4, 2010, slightly smaller in magnitude, and statistically significant."[106]

One notable aspect of Becker et al. (2013) is that the authors had completed their initial analysis of the first event within just *one month* of the SEC's announcement. By early November of 2010, they had a working draft that was ready for circulation ("Becker et al. (2010)").[107] Despite Becker et al. (2010)'s timely analysis and favorable conclusion for the rule, however, the SEC could not possibly have relied on the finding to justify its rule adoption for one obvious reason: the event analyzed took place *after* the rule adoption.

The timing of Becker et al. (2010) raises a number of interesting questions. First, given the study's favorable finding, one may ask why the SEC did not return to the proxy access rule after the court vacated the rule. The agency could have chosen to issue another notice, reopen the comment period, introduce this study as an exhibit, and readopt the rule. Armed with empirical evidence, the SEC's second attempt would have been on a more solid footing. Had the SEC chosen to readopt the rule, it would not have been the first time the agency readopted a rule after the D.C. Circuit vacated it.[108] There is no good answer as to why the SEC did not take this route with the rule. It is possible that the commissioners at the SEC felt, after spending so much time and energy with *Business Roundtable*, that the agency really had no future with this rulemaking.[109]

Second, one may also ask whether the SEC *could* have made use of Becker et al. (2010) to defend its rule in *Business Roundtable*. Although the study's finding was not available prior to the rule's adoption, it certainly became available as of November of 2010, two months before the SEC had to submit its briefs.[110] Yet, neither the

104. *Id.* at 131–32.

105. *Id.* at 133.

106. *Id.* at 129.

107. Bo Becker et al., *Does Shareholder Proxy Access Improve Firm Value? Evidence from the Business Roundtable's Challenge* (The Harvard John M. Olin Discussion Paper Series, Discussion Paper No. 685, November 2010) (on file with author).

108. *See* Chamber of Commerce v. SEC, 443 F.3d 890, 893–95, 909 (D.C. Cir. 2006); Chamber of Commerce v. SEC, 412 F.3d 133, 136, 139, 145 (D.C. Cir. 2005).

109. *See* Kraus & Raso, *supra* note 3, at 308–13, 320.

110. The SEC submitted an initial brief and a final brief. The initial brief was filed on January 19, 2011 and the final brief was filed on February 25, 2011. *See*

SEC's initial brief nor its final brief made any mention of Becker et al. (2010)'s finding.[111] The counsel for the SEC also made no mention of the finding during his oral argument on April 7, 2011,[112] even though the panel took an unusual interest in learning about any available data or numbers pertaining to the rule.[113]

For sure, the SEC would not have been able to rely on the study to raise a new ground for justifying its decision to adopt the rule. That would amount to a violation of *Chenery I*.[114] But what if the SEC were to rely on the study, not to raise any new ground, but to argue merely that its original ground was reasonable? It may make sense to draw a distinction between the agency's job during the rulemaking stage and its job during the briefing stage. During the former, "the agency must . . . articulate . . . a rational connection between the facts found and the choice made."[115] During the latter, the agency's job is to argue that the connection it articulated was in fact a rational one. In the case of the proxy access rule, one of the SEC's main justifications for adopting the rule was that shareholders would find it beneficial for corporate governance purposes,[116] and the agency reasoned that the data it had on hybrid boards provided a plausible argument—though not necessarily a compelling one—for expecting improved firm performances.[117] Becker et al. (2010)'s finding would have provided

Initial Brief of the SEC, Respondent, Business Roundtable v. SEC, 647 F.3d 1144 (D.C. Cir. 2011) [hereinafter *SEC's Initial Brief*]; Final Brief of the SEC, Respondent, Business Roundtable v. SEC, 647 F.3d 1144 (D.C. Cir. 2011) [hereinafter *SEC's Final Brief*].

111. *See SEC's Initial Brief*, *supra* note 110.

112. *See Business Roundtable* Oral Argument, *supra* note 51.

113. The court was presumably unaware of Becker et al. (2010)'s finding. The panel's discussion was focused on the rule's specific thresholds and the number of proxy contests that would qualify under those thresholds. *See id.* at 17:25–18:00, 19:10–21:10, 21:30–22:30.

114. *See supra* text accompanying notes 36—37. Note also that *Nova Scotia Product's* publication requirement would not be an issue because the agency did not rely on the result in adopting the rule. *See supra* text accompanying note 43.

115. Motor Vehicles Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983).

116. *See* SEC's Proxy Access Rule, *supra* note 57, at 56,668 ("We are adopting changes to the Federal proxy rules to facilitate the effective exercise of shareholders' traditional State law rights to nominate and elect directors to company boards of directors . . . . We believe that these rules will benefit shareholders by improving corporate suffrage[.]"); *see also id.* at 56,760 ("[F]acilitating shareholders' exercise of these rights may have the potential of improving board accountability and efficiency and increasing shareholder value."); *SEC's Initial Brief*, supra note 110, at 14 ("the Commission . . . acted to benefit shareholders and protect investors by ensuring that proxies are used in a way that furthers, rather than frustrates, the rights to nominate and elect directors."); Oral Argument, *supra* note 51, at 21:10-21:30 ("The rationale of the rule is to make the federal proxy process a better approximation of the shareholders' rights that they have at a meeting. That rationale really hasn't been disputed.").

117. *See* Kraus & Raso, *supra* note 3, at 310–13.

merely a *post hoc* affirmation that the SEC's expectation was indeed a rational one. From this perspective, it is worth inquiring whether *post hoc* evidence supporting the validity of an agency's policy rationale can ever have any probative value in establishing the *ex ante* reasonableness of the stated rationale (which was itself predicated upon plausible but less compelling evidence that was previously available).[118]

Finally, the speed with which the authors completed their initial analysis offers a takeaway for agency rulemaking. These authors were three outside economists,[119] who were not working at the SEC. Presumably, they were themselves surprised by the October 4th announcement.[120] Nevertheless, they were able to design a study and complete its analysis within thirty days of the event. It seems plausible that, if the SEC were to coordinate its rule-related announcements with the Division of Economic and Risk Analysis, its staff economists would have an informational advantage over the public and should be able to finish similar studies in an even shorter period and well within the typical length of a comment period.

I now turn to a study conducted by Jonathan B. Cohn, Stuart L. Gillan, and Jay C. Hartzell ("Cohn et al. (2016)"). This study focuses

118. I have not found any case law that addresses this question directly. Most courts tend to frame this issue instead as one of permitting the agency to supplement its administrative record and to that extent, some courts have allowed exceptions to the general *Chenery I* principle. For example, the D.C. Circuit, while acknowledging *Chenery I*, has stated that an agency *may* supplement its administrative record as long as the new materials "[are] merely explanatory of the original record and [] contain no new rationalizations." Yale-New Haven Hospital v. Leavitt, 470 F.3d 71, 82 (D.C. Cir. 2006) (internal citations omitted). An event study documenting empirical evidence consistent with the agency's articulated rationale and proffered evidence could arguably fall within this category. Nevertheless, the court's holding in that case may be limited to interpretive rules. *See id.* ("We . . . hold that to the extent an agency may supplement the record on judicial review of the validity of a rule that is interpretive, it may do so only if the proffered evidence illuminates the original record and does not advance new rationalizations for the agency's action."). In Bunker Hill Co. v. EPA, 572 F.2d 1286 (1977), the Ninth Circuit, while affirming that "the courts [cannot] uphold regulations on the basis of *post hoc* rationalizations," nonetheless permitted the agency to augment its administrative record on the ground that "the augmenting materials were merely explanatory of the original record" and "[n]o new rationalization of the SO_2 regulations was offered by the EPA." *Id.* at 1292. By contrast, in Smith v. Office of Civilian Health and Med. Program of the Uniformed Servs., 97 F.3d 950 (7th Cir. 1997), the Seventh Circuit took a more firm stance by stating that "[i]n making [a judicial determination whether an agency decision was 'arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law,'] the court reviews the administrative record as it stood when the agency acted, not extra-record material produced later in court." *See id.* at 954–55.

119. As of the time of their first draft, all three of them were professors at Harvard University. *See* Becker et al. (2010), *supra* note 107, at 1.

120. *See supra* text accompanying note 99.

on four separate events.[121] The first event is the June 16, 2010, announcement of a proposal by Senator Christopher Dodd mandating the SEC to require an investor or group of investors to own *at least* five percent of a firm's shares to gain access to the firm's proxy ballots. Because this threshold was (at least for some companies) higher than the previous thresholds proposed by the SEC—which was one percent, three percent, or five percent depending on company size—the authors consider this as *limiting* the scope of proxy access.[122] The second event is the sudden withdrawal of this proposal on June 24, 2010, which likely had the effect of restoring the SEC's original set of thresholds.[123] The authors believe "neither of these events [had] been anticipated" by the market based on their "extensive search of news articles."[124] The third event is the SEC announcement on October 4, 2010, the same one studied by Becker et al. (2013). And finally, the authors also study the SEC's rule adoption on August 24, 2010.[125] They argue that because the final rule clarified that the minimum holding period would be three years (rather than two years), this clarification itself should be seen as limiting proxy access (from the market's prior expectation).[126] The authors interpret their results from these four events as suggesting, "[A]n increase in shareholder control from its current level would generally benefit shareholders."[127]

Like Becker et al. (2013)'s findings, Cohn et al. (2016)'s findings also would have been helpful to the SEC's rule. One key difference, however, is that two of the events Cohn et al. (2016) examine actually took place *before* the SEC's rule adoption.[128] Had the SEC conducted the same analysis within thirty days of the events and posted its findings for comments (e.g., as of July 24, 2010), the agency still would have had at least another month before its original rule adoption date (August 24, 2010). These empirical findings would have become part of the agency's basis for rule adoption and part of the record reviewable by the court. This was a missed opportunity for the SEC; with this empirical evidence, the SEC would have had a stronger case to adopt the rule. A takeaway from Cohn et al. (2016) is that, at least in some instances, legislative developments that take place prior to the agency's rule adoption can be used to provide useful information regarding the value of its proposed rule, and the agency should be mindful of these opportunities.

Two other studies—one by David F. Larcker, Gaizka Ormazabal, and Daniel J. Taylor ("Larcker et al. (2011)") and the other by Ali C.

121. Cohn et al., *supra* note 94, at 1663.
122. *See id*. at 1624–25.
123. *Id.* at 1625.
124. *Id.*; *see also id.* at 1625 n.1.
125. *Id.* at 1626–29, 1631–32.
126. *Id.* at 1643.
127. *Id.* at 1623.
128. *Id.* at 1624–25.

Akyol, Wei Fen Lim, and Patrick Varwijmeren ("Akyol et al. (2012)") predict effects of the proxy access rule that are inconsistent with Becker et al. (2013) and Cohn et al. (2016).[129] The main reason for this difference is that these two studies focus on different sets of events. Larcker et al. (2011) examines ten different events between 2007 and 2009, which culminate with the issuance of the SEC's NPRM on June 10, 2009.[130] Akyol et al. (2012) examines seventeen different events, including all ten examined by Larcker et al. (2011). It ends by considering the filing of the petition by the U.S. Chamber of Commerce and the Business Roundtable (September 29, 2010).[131] Neither of these studies devotes much discussion to the degree to which their events are clean. Cohn et al. (2016) and Becker et al. (2013) argue that at least one event analyzed by both of these two studies allows for an ambiguous interpretation.[132] In addition, Larcker et al. (2011) and Akyol et al. (2012) do not examine the three main events—those on June 16, 2010, June 24, 2010, and October 4, 2010—analyzed by Cohn et al. (2016) and Becker et al. (2013).[133]

Regarding their choice of events, Cohn et al. (2016) explains:[134]

> While the SEC made a number of announcements when considering the proxy access rule, discussions with current and former SEC staff indicate that, throughout its rulemaking processes, there is substantial consultation and discussion with affected parties. This makes it difficult to determine whether an official announcement by the SEC about the proxy access rule would have caused investors to raise or lower their expectations as to the degree of shareholder control the rule would ultimately grant. Thus, rather than study such announcements, we focus on two events related to the evolution of the [Dodd-Frank Act] that affected expectations about characteristics of the proxy access rule that the SEC ultimately passed but are *not likely to have been anticipated* by either investors or the SEC itself. In addition, we study two other SEC events that appear to have contained *surprising details* about the proxy access rule.

There are several important points raised here. First, Cohn et al. (2016), like Becker et al. (2013), highlights the importance of unexpected elements in these rule-related announcements.[135] Presumably, for this reason, they chose not to include the SEC's

129. *See* Akyol et al., *supra* note 94, at 1030, 1055; Larcker et al., *supra* note 94, at 432–34.

130. *See, e.g.*, Larcker et al., *supra* note 94, at 436–38.

131. *See, e.g.*, Akyol et al., *supra* note 94, at 1032–35.

132. *See* Becker et al., *supra* note 89, at 137; Cohn et al., *supra* note 94, at 1627–28.

133. *See* Becker et al., *supra* note 89, at 129, 138; Cohn et al., *supra* note 94, at 1631.

134. Cohn et al., *supra* note 94, at 1624 (emphases added).

135. *Id.* at 1658.

issuance of the NPRM as one of their events. Second, Cohn et al. (2016) counsels against incautiously relying on all rule-related announcements to make inferences.[136] Third, Cohn et al. (2016)'s choice of the fourth event reveals that, even in instances where many elements of the rule were either known or expected by the market, the agency's rule-related announcement can still contain an unexpected element. In particular, this unexpected element can even arise when the agency does nothing more than clarify the scope of the rule's applicability and thereby eliminate any underlying uncertainty.[137]

Taken together, these studies suggest a possible way for a rulemaking agency to make use of event studies in rulemaking. The idea is to have the agency task its staff economists to conduct event studies based on its rule-related announcements and take the results into consideration in its rule adoption decisions. Certainly, to the extent some events can later be used by outside economists to estimate the effect of a rule, such events might as well be used expeditiously by the agency itself in its deliberation.

With all that said, however, there is a concern that the agency's reliance on market reactions might influence the way the market reacts to these announcements. One might argue that some of the aforementioned studies were informative only because the market was *not* expecting the SEC to rely on its reaction to guide the agency's rule adoption decision. If an agency were to routinely rely on market reactions to guide its policymaking, one might worry that this very arrangement—and the market's awareness of it—could change how investors choose to trade. For example, speculators who would normally trade on a rule proposal might refrain from trading out of the concern that there is a high degree of uncertainty as to whether the rule will get adopted. Alternatively, one might worry about the possibility of market manipulation—the possibility that traders may transact specifically to influence the regulatory outcome. One must therefore inquire how effective the proposed rulemaking mechanism would be if the investing market were to anticipate the agency's potential reliance on such data. Fortunately, this question has been studied, in various settings, by a number of recent studies in financial economics that analyze the feedback effects of financial markets.

B. An Interlude on the Feedback Effects of Financial Markets

Under the traditional view of the stock market, stock prices reflect expected firm cash flow. Meanwhile, the traditional view of the secondary financial markets is that their operation has little effect on the real economy "or else affects the real economy only to the extent to which *ex post* liquidity affects firms' cost of capital in

136. *Id.* at 1624.
137. *Id.* at 1658.

primary markets."[138] Recent literature[139] in financial economics challenges this passive role of the secondary stock market by taking seriously the "real effects" or the "feedback effects" of financial markets.[140]

The main idea is that stock price movements—while capturing valuable information—can in turn *provide* valuable information to various market participants in their decisionmaking process, which can affect corporations' investment decisions and the real economy. For example, a corporate board making a corporate investment decision may take feedback from the stock market's reactions to the corporation's previous announcements.[141] Professors Alex Edmans, Itay Goldstein, and Wei Jiang ("Edmans et al. (2015)") illustrate this idea with a real-world example.[142] Consider their description of Coca-Cola's attempted acquisition of Quaker Oats in 2000:

> On November 20, 2000, the Wall Street Journal reported that Coca-Cola was in talks to acquire Quaker Oats. Shortly thereafter, Coca-Cola confirmed such discussions. The market reacted negatively, sending Coca-Cola's shares down 8 percent on November 20 and 2 percent on November 21. Coca-Cola's board rejected the acquisition later on November 21, potentially due to the negative market reaction. The following day, Coca-Cola's shares rebounded 8 percent. [143]

A plausible interpretation of these events is that the Coca-Cola board had initially considered the acquisition to be a valuable investment opportunity (based on information it had internally) but

138. Philip Bond et al., *The Real Effects of Financial Markets*, 4 ANN. REV. FIN. ECON. 339, 340 (2012).

139. *See id.*; *see also* Philip Bond & Itay Goldstein, *Government Intervention and Information Aggregation by Prices*, 70 J. FIN. 2777, 2804 (2015); Philip Bond et al., *Market-Based Corrective Actions*, 23 REV. FIN. STUD. 781, 782 (2010); James Dow & Gary Gorton, *Stock Market Efficiency and Economic Efficiency: Is There a Connection?*, 52 J. FIN. 1087, 1088 (1997); James Dow et al., *Incentives for Information Production in Markets Where Prices Affect Real Investment*, 15 J. EUR. ECON. ASS'N 877, 896 (2017); Alex Edmans et al., *Feedback Effects, Asymmetric Trading, and the Limits to Arbitrage*, 105 AM. ECON. REV. 3766, 3767 (2015) [hereinafter Edmans et al., *Feedback Effects*]; Alex Edmans et al., *The Real Effects of Financial Markets: The Impact of Prices on Takeovers*, 67 J. FIN. 933, 936 (2012) [hereinafter Edmans et al., *The Real Effects of Financial Markets*]; Antoine Faure-Grimaud, *Using Stock Price Information to Regulate Firms*, 69 REV. ECON. STUD. 169, 172 (2002); Itay Goldstein & Alexander Guembel, *Manipulation and the Allocational Role of Prices*, 75 REV. ECON. STUD. 133, 134 (2008); Avanidhar Subrahmanyan & Sheridan Titman, *The Going-Public Decision and the Development of Financial Markets*, 54 J. FIN. 1045, 1047–49 (1999).

140. *See generally* Edmans et al., *Feedback Effects*, *supra* note 139 (explaining how prices can influence investment decisions that affect firm value and how decisionmakers can take advantage of the informativeness of financial markets).

141. *Id.* at 3766–67.

142. *Id.* at 3767.

143. *Id.*

then received additional information from observing the stock market's reaction. Based on this new information, the board concluded that the acquisition was not a worthwhile opportunity. Notice that, for this story to go through, it is not necessary for the market to be a superior assessor of Coca-Cola's investment opportunity than the board. All that is necessary is that, while the market may lack some information the board has, the board may also lack other information the market has regarding this investment opportunity. Thus, the board can still benefit from learning from the market. Edmans et al. (2015) describes a similar instance with Hewlett-Packard's proposed-but-cancelled acquisition plan of Compaq.[144]

In a simplistic scenario, one can imagine a corporate board that makes its investment decision exclusively based on the stock market's reaction to the proposed merger announcement. For example, a board will proceed with the investment opportunity, given a positive price movement or no movement, but abandon it otherwise. But no one expects the board to behave with this degree of dependence on the market. The reason is that the corporation is nearly always in possession of some key information regarding the prospect of the merger that the market does not possess.[145] In a more complex and realistic scenario, one might view the board's role as merely gleaning the relevant information from the market by observing market reactions. Because no board is likely to possess all relevant information, at least partly conditioning the corporate decision on stock market reactions may be salutary for the corporation.[146]

Thus far, I have been discussing the feedback effects of financial markets in the context of corporate decisionmaking. Yet, the value of learning from financial markets may be even greater for government regulators, who often have less complete information for policymaking than corporate managers or directors have for their corporate decisionmaking.[147] The basic idea that regulators may condition certain regulatory decisions on stock prices has been discussed in the literature. For example, Philip Bond and Itay Goldstein ("Bond & Goldstein (2015)") reference the following quote from Ben Bernanke:

> Central bankers naturally pay close attention to interest rates and asset prices, in large part because these variables are the principal conduits through which monetary policy affects real activity and inflation. But policy makers watch financial markets carefully for another reason, which is that asset prices and yields are potentially valuable sources of timely

144. *See id.* at 3786.

145. *See* Edmans et al., *The Real Effects of Financial Markets*, *supra* note 139, at 936.

146. *Id.*

147. Bond & Goldstein, *supra* note 139, at 2777–79.

> information about economic and financial conditions. *Because future returns on most financial assets depend sensitively on economic conditions, asset prices . . . should embody a great deal of investors' collective information and beliefs about the future course of the economy.*[148]

In this above passage, Bernanke is plainly suggesting that the Federal Reserve may determine its monetary policy based in part on the price movements in financial markets.[149] In a similar vein, the general concept of how a regulator might rely on financial markets to guide its regulatory policy has been explored in a number of theoretical models.[150] The main result relevant for agency rulemaking, however, comes from Bond and Goldstein (2015).[151] In their study, the authors build a market microstructure model to examine the following research question: *Can the government make use of market prices to determine its policy choices when price informativeness is endogenous to the government's policy choices?*[152] The authors show that, although stock prices continue to remain informative to an extent, "in some cases, it is optimal for a government to commit to *limit* its reliance on market prices to avoid harming the aggregation of information."[153] Bond and Goldstein (2015)'s result is important because it establishes that even when the market is aware of the regulator's strategy, the feedback effect from the regulator's reliance does not entirely dissipate the informativeness of stock prices; in other words, the regulator should be able to infer useful information from market reactions. In addition, the result goes further to establish that the market's reactions will better reflect the speculators' information when the regulator is only partially committed to following market reactions in its policymaking.[154] Note, however, the tradeoff between *ex ante* efficiency and *ex post* efficiency here: an agency's decision to limit its reliance on market reactions may increase stock price

148. *Id.* at 2779 (emphasis added).

149. *Id.*

150. *See generally* Faure-Grimaud, *supra* note 139, at 172–73 (examining how a price cap regulator of a monopoly industry can rely on stock price to gather information about the cost structure of the firm and use the information to finalize its regulation); Oliver Hart & Luigi Zingales, *A New Capital Regulation for Large Financial Institutions*, 13 AM. L. & ECON. REV. 453 *passim* (2011) (proposing a capital regulation for large financial institutions whose operations depend on the price movement of institutions' credit default swaps); Rafael Di Tella & Fabio Kanczuk, *Stock-Price Based Regulation* 4 (Univ. of Brasilia, Dept. of Econ., Working Paper No. 300, 2003) (proposing a price cap regulation for regulated firms that follow a simple linear scheme that punishes the firm for stock market gains during review periods).

151. Bond & Goldstein, *supra* note 139.

152. *Id.*

153. *Id.* at 2777 (emphasis).

154. *Id.* at 2780–82.

informativeness *ex ante*, but it would commit the agency to take a course of action that may be *ex post* inefficient.[155]

In the next Part, I lay out the main proposal consistent with these ideas. The concern regarding the potential for market manipulation is discussed later.

V. INCORPORATING MARKET REACTIONS INTO AGENCY RULEMAKING

The models discussed in the previous Part contemplate various ways for a regulator to rely on the stock price of a *single* firm to inform its regulatory decision (for that firm). The mechanism discussed in this Part extends those models by having the regulator rely on the *aggregate* stock market reaction in the context of adopting a rule that can affect an entire industry.

A. The Proposed Mechanism

Recall that under the notice-and-comment rulemaking process, the agency must begin by issuing an NPRM.[156] One important question, therefore, will be whether the issuance of an NPRM can constitute a clean event. The answer is that it may or may not depending on how much information may have leaked to the public. In instances where the agency can tightly control its communication with outsiders, the issuance of the NPRM may mark the first time the market learns about the terms of the proposed rule. In other instances, the market may have come to anticipate the proposed rule prior to the issuance of the NPRM.[157] This was precisely the point of dispute in the studies we examined in Subpart IV.A: two of the four studies chose to examine the SEC's issuance of the NPRM as an event, while the other two did not.[158]

But as we also saw, even where the SEC's rule may have been anticipated, unexpected elements can still arise either because legislative developments arise or because the SEC makes an announcement that has the effect of modifying or clarifying the scope of the rule's applicability.[159] Therefore, the most important first step for the agency's staff economists is either identifying elements of surprise that have arisen in rule-related announcements or guiding the agency to structure announcements to ensure that there are elements of surprise to the market.

Suppose that in a given rulemaking, the agency's issuance of the NPRM marks an unexpected event. Then the stock market—more specifically, those who trade an affected firm's stocks—should react accordingly to reflect the speculators' assessment of the rule proposal.

155. *Id.* at 2792–96.
156. *See supra* Subpart II.A.
157. *See* text accompanying notes 132–39.
158. *See supra* Subpart IV.A.
159. *See supra* Subpart IV.A.

This data can in turn be used to estimate the expected value of the regulation for the firm. This expected value should have two components: (i) the economic effect of the rule on the firm value conditional on rule adoption, and (ii) the probability of rule adoption. As such, if the proposed rule is expected to increase (decrease) the firm's value, investors will buy (sell) the stocks, and the firm's stock price will increase (decrease). At the same time, because a rule proposal indicates only that there is a positive probability that the rule as proposed will get adopted, one would expect the stock market reaction to *understate* the true economic effect of the rule. Nevertheless, we would still expect the *direction* of the price movement to be consistent with the overall effect of the rule.

A more rigorous analysis of the expected stock price movement in the presence of feedback would require a formal model. In a companion paper,[160] I build on Professors James Dow, Alexander Guembel, and Itay Goldstein's model to analyze the dynamics of stock price movements in a setting where the regulator conditions its rule adoption decision partly on the aggregate market price movements. The finding of the model in that paper is consistent with Bond and Goldstein (2015)'s conclusion: when the agency's rule adoption decision is only partly conditioned on positive aggregate stock market reactions and the investing public is aware of this policy, the stock prices can still be relied upon to provide useful information to the agency.[161] One important difference from Bond and Goldstein (2015), however, is that because the agency relies on the aggregate market reaction in this case—rather than a single firm's stock price movement—there is less of a concern that noisy trading may mislead the agency.[162]

To implement this proposal, the agency can proceed in the following manner:

- First, to the extent possible, the agency should consider refraining from discussing the potential terms of the rule with the public until the issuance of the NPRM. Note, however, that sometimes the agency may find it beneficial to communicate with outsiders prior to issuing the NPRM in order to draft and propose a sensible rule.[163] Hence, if certain terms of the rule have been

160. Yoon-Ho Alex Lee, *A Model of Stock Market-Based Rulemaking* 3 (Aug. 20, 2019), (working paper), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3440321.

161. The main results are based on Lemma 5 and Proposition 4. *See id.* at 12–17.

162. *See id.*

163. While not directly applicable to independent regulatory agencies, Executive Order 13,563 actually encourages each executive agency to "seek the views of those who are likely to be affected, including those who are likely to benefit from and those who are potentially subject to such rulemaking" even "[b]efore issuing an [NPRM]." Exec. Order 13,563, *supra* note 2.

discussed with outsiders, then the agency should consider introducing a new element—to the extent one makes sense—in its NPRM or subsequent announcements.

- Prior to issuing the NPRM, the agency should coordinate ahead with its staff economists to figure out the group of firms that will be most affected by the rule proposal and design testable hypotheses.

- If the issuance of the NPRM qualifies as a clean event, then upon issuing the NPRM, the agency should task its economists to examine the abnormal returns—of either the entire market or a group of preselected firms—following the event ("Study"). As the rulemaking process takes off, the staff economists should also keep track of other rule-related announcements—including legislative developments—that can unexpectedly change the market's expectation of either the proposed rule's scope or the probability that the proposed rule will get adopted. Should one arise, staff economists should study that event as well.

- The agency should then post the Study as well as the data for public comments within the first thirty days of the rule proposal and leave open the comment period for an additional thirty days upon posting the Study. The comment period can be used as an opportunity to invite comments on the Study's methodology and findings. The agency should also extend the comment period as necessary to give commenters sufficient time to review and comment on the findings.

- After the comment period closes, the agency should review the entire record—including the results from the Study as well as the subsequent comments by the public—to decide its course of action. If the rule is adopted as proposed, the agency's "concise general statement" should include a consideration of quantifiable costs and benefits that can be inferred from the Study and the comments.[164] If the rule is modified, the agency's statement should include how the modification reflects the findings of its Study and the comments. The agency can also choose to abandon the rule in case the findings and the comments highlight significant adverse effects. Finally, the agency can also move forward with the rule even in the presence of adverse findings. But in this

164. *See* 5 U.S.C. § 553(c) (2018).

> latter case, the agency should clearly explain its reasons for going against the presumption.[165]

Following these steps will likely ensure that the event study and empirical data will become the focal point of dialogue between the agency and interested parties during the comment process.

B. The Benefits of Incorporating Market Reactions

The proposed rulemaking mechanism provides several benefits. First, the mechanism will facilitate a more empirically informed approach to rulemaking. Specifically, it will facilitate a more empirically informed approach to the agency's decision to adopt, abandon, or modify a rule. Market data can allow the agency to update and correct its initial expectation regarding the value of its proposed regulation, and this updating will become part of the agency's "basis" or "rational connection" for adopting the rule. In short, the end product should be far more defensible in court.

Second, the proposal would also allow for inclusion of more objective views as well as for broader participation of the investing public in the rulemaking process. While the APA's comment period already allows the agency to collect information, comments and studies submitted may be intrinsically biased. For example, there may be a selection bias in terms of those who choose to submit comments.[166] Because providing useful comments and submitting relevant studies may be an expensive way to participate in rulemaking, many commenters who would otherwise voice their support or concerns for the proposed rule may choose to remain silent. In addition, even among the comments submitted, there may be a systematic bias in the substance of the comments; those who oppose the rule may try to exaggerate the costs of compliance, while those who support the rule may try to exaggerate the rule's benefit.[167] By contrast, the stock market's reaction is the outcome of an aggregation of countless speculators' assessments of the value of the regulation. As a result, with the proposed mechanism, the agency can gather the sentiments of the investors at large simply by examining their transaction patterns. Importantly, the proposed mechanism will provide useful *quantitative* data in a discipline where a mere qualitative speculation has thus far been the norm.

Third, another benefit—specific to the SEC—is that the proposal will play to the SEC's staff economists' strengths. The SEC has a number of highly trained economists in its Division of Economic and Risk Analysis, but most of these economists have Ph.D.s in finance or

165. *See infra* Subpart VI.D.

166. For a detailed discussion of the selection bias generated by the comment period, see Wagner, *supra* note 25.

167. *See, e.g.*, *id.* at 1386, 1396.

accounting, rather than in welfare economics.[168] As such, their training is not well-suited for conducting a traditional total-surplus-based cost-benefit analysis. On the other hand, they are well-equipped to run regressions and they in fact conduct event studies routinely in their own academic publications.[169] Identifying unexpected elements and analyzing market reactions would come very naturally to these economists. The agency can even incentivize these economists to perform high quality work by permitting them to publish their results in peer-reviewed journals after the rulemaking closes.

VI. ISSUES TO CONSIDER IN IMPLEMENTING THE PROPOSAL

In this Part, I consider several issues the agency should consider in implementing the proposal.

A. The Scope of the Mechanism

The proposed mechanism is not intended for every agency rulemaking. In fact, an agency can proceed with many rules without relying on market data. For example, if Congress instructs an agency to adopt a very specific rule and leaves little discretion to the agency, the agency is unlikely to face significant rule challenges for simply doing what it is required to do. Some rules may also be plainly uncontroversial because the costs are not significant enough or the benefits are obviously significant. An agency may also decide to rely on extensive studies it has already conducted.[170] In such cases, the agency may already be in possession of critical data that can justify its new rule. Finally, the mechanism would be of little value in instances where stock market reactions would offer no useful information about the rule. Below is a list of factors an agency can consider before deciding to collect market data for rulemaking purposes:

- Whether the contemplated rule is a discretionary rule or a mandated rule;

168. The SEC's staff economists' bios are available at https://www.sec.gov/page/dera_economists. *Economist Bios*, U.S. SEC. & EXCH. COMM'N, https://www.sec.gov/page/dera_economists (last visited Dec. 20, 2019).

169. The economists from the SEC's Division of Economic and Risk Analysis routinely publish their studies in peer-reviewed academic journals. *See, e.g.*, Alexander et al., *supra* note 93.

170. An agency can choose to conduct a study of its own regulation. For example, in 2009, the SEC completed a study of the effects of Section 404 of the Sarbanes-Oxley Act and the agency's own reform effort in 2007. *See* U.S. SEC. & EXCH. COMM'N, OFFICE OF ECON. ANALYSIS, STUDY OF THE SARBANES-OXLEY ACT OF 2002 SECTION 404 INTERNAL CONTROL OVER FINANCIAL REPORTING REQUIREMENTS (2009), https://www.sec.gov/news/studies/2009/sox-404_study.pdf.

- Whether there are genuine disagreements regarding the likely effect of the proposed rule;
- Whether the agency otherwise has access to reliable empirical data on point;
- Whether the rulemaking process is likely to be prolonged so that there is a sufficient delay between the agency's issuance of the NPRM and the target date of rule adoption; and
- Whether changes in firm values, as measured by stock market reactions, would provide any useful information regarding the rule's effects.[171]

Note that many of these factors are correlated. For example, genuine disagreements about the effect of a rule are more likely to arise when there is no reliable empirical data on point. Furthermore, in such cases, the rulemaking process is more likely to be prolonged because both the commenters and the agency would be eager to submit long and comprehensive comments.[172] Likewise, discretionary rules will tend to attract stronger comments because commenters know that they have an opportunity to influence the course of the agency.

B. Accretive Announcements and Adjusting for Market Expectations

There are times when an agency issues a series of rule-related announcements that are accretive.[173] For example, if the SEC were to make a general statement to the public that it will soon be proposing a rule to improve corporate governance through a particular disclosure rule and later issues the NPRM containing the terms of the rule, there are two potential events to study. One problem in this case is that interpreting the market's reaction—whichever way the market moves—to the second event poses

171. Note that firm values need not provide definitive criteria for adopting the rule. The only requirement is that firm values provide some useful information. In theory, it is possible to consider cases in which the proposed rule's effectiveness is presumptively established by a *negative* market reaction. For example, one might imagine an agency rule that is not intended to improve the efficiency of the capital markets but instead intended to promote some environmental or social values—not captured by stock prices—at the expense of corporations. In that case, a positive (or zero) market reaction may signal that the rule is too lenient, and therefore, compliance with the rule will entail neither significant costs nor significant benefit.

172. *See, e.g.*, Stuart Shapiro, *Does the Amount of Participation Matter? Public Comments, Agency Responses and the Time to Finalize a Regulation*, 41 POL'Y SCI. 33, 45–46 (2008) ("Highly complex rules are also likely to take a long time to finalize when there are many public comments.").

173. *See, e.g.*, *supra* text accompanying notes 135–37.

difficulties because it will depend on the level of expectation the first announcement set for the market. For instance, the market may react positively to the first announcement in anticipation of an aggressive governance rule but may react negatively once the rule is proposed because the terms are not as aggressive as the market had initially predicted. In this case, the negative market reaction in response to the second event would not necessarily indicate that the value of such a proposal will be net negative for the affected firms—only that the anticipated value may not be as large as the market had previously predicted. This illustration highlights the importance of having a clear understanding of the market's expectation leading up to the studied event.

C. Choosing the Sample

One question arises as to how to choose the sample of firms to be included in the event study. As a preliminary matter, the study should be designed to compare a control group and a treatment group. For the proposed mechanism to go through, it is not necessary for the treatment group to include the entire universe of affected firms. The study can instead be conducted with a representative sample of firms.

There are, however, several benefits of working with a large data set. First, the larger the data set, the more reliable the study's findings. Specifically, noisy transactions will likely cancel out when averaged across the firms.[174] Second, the larger the data set, the greater flexibility the study's findings will allow in terms of the agency's option of moving forward with the rule. A large data set may, for example, exhibit a certain price-movement pattern that indicates that the market expects the rule to be net beneficial only for a certain identifiable subset of the firms. In that case, the agency may be able to modify the scope of its rules to reflect the findings. In addition, working with a large data set can also ensure that the agency does not simply cherry-pick the firms after the fact (i.e., potentially misleading the public by working with only the set of firms whose price movements were positive).[175]

On the other hand, the agency can also consider working with a smaller set of firms, as long as this information is not disclosed to the market prior to posting the study. One benefit of working with a smaller set is that the agency can potentially create a matched sample of companies. Another benefit is that, because the market would not know which firms will be included in the agency's study, the possibility of market manipulation may be reduced.[176]

174. *See* Lee, *supra* note 160, at 11–12.

175. *See id.* at 12 (describing how a large sample size promotes accurate feedback from speculators based on the perceived effect of a regulation).

176. *See infra* Subpart VI.F. The idea is that those trading a firm's stocks would not know whether their firm will be included in the sample and this

One tempting approach to using an event study in the case of a controversial rule is to begin by considering the entire universe of affected firms first and then adopt the rule by limiting the scope of regulation to those firms whose stock prices react positively. At first blush, this approach has an intuitive appeal because it might effectively ensure that the regulation's expected value (on the affected firms) is net positive. In other words, it might seem like a practical way for the agency to establish the efficiency of its rule. Nevertheless, this approach also comes with serious drawbacks. First, it will be administratively difficult to keep track of those companies whose stock prices reacted positively. Second, due to noisy trading, the set of companies defined by such characteristics will be both overinclusive and underinclusive. Third, and most importantly, the interpretation of the results may no longer be valid once the universe of firms is reduced in such a manner. For example, in the case of certain SEC disclosure rules, the primary benefit comes from positive externality: one company's disclosure can benefit other companies who are in a similar position. Consequently, it may not be sensible to apply the rule only to those firms that reacted positively to the rule proposal: some positive externalities may have been expected precisely because the mix included those other firms whose values were negatively affected. For these reasons, to the extent that the agency considers modifying the scope of its rule after observing mixed stock market reactions, a more cautionary approach would be to follow cruder categorizations of companies, such as categorizations based on size or industry classification.

D. The Relationship Between Cost-Benefit Analysis and Market Reactions

Suppose the stock market were accurate in predicting the effects of a rule. What, then, is the relationship between cost-benefit analysis and stock market reactions? Specifically, would a significant and positive aggregate market reaction necessarily imply that the rule will be beneficial on net?[177] The answer is somewhat complicated, and this issue merits some discussion.

In the case of the SEC, when the agency conducts a cost-benefit analysis of its rule, the agency tends to consider whether the quantitative and qualitative benefits that would accrue to investors can justify compliance expenses.[178] This approach effectively amounts to taking investors' perspective in analyzing costs and

uncertainty may chill their incentives to try to manipulate the outcome. But a potential countervailing effect is that, conditional on being included in the sample, one firm's stock price movement may have a greater effect.

177. I have previously written on this topic. *See* Yoon-Ho Alex Lee, *SEC Rules, Stakeholder Interests, and Cost-Benefit Analysis*, 10 CAPITAL MKTS L.J. 311, 311 (2015); Lee, *supra* note 18, at 88–89.

178. *See* Lee, *supra* note 18, at 109–14.

benefits. This approach works reasonably well in the context of corporate disclosure regulations.[179] For example, if the SEC were to regulate issuers and try to improve firm values by reducing agency costs, the SEC's approach works well because investors are expected to reap most of the benefits of the rule, and the compliance expenses, initially born by the issuers, will also be passed on to the investors. For these types of rules, an event study that examines stock market reactions will likely correlate well with the SEC's approach to cost-benefit analysis. But if the agency were to regulate brokers or dealers, the link between stock market reactions and cost-benefit analysis will be more attenuated.[180] In this case, the compliance expenses that are borne by brokers and dealers may or may not pass on to investors.[181] If the agency wants to consider interests other than investors' welfare, the story will be still more complicated.[182] In such cases, a total-surplus approach to cost-benefit analysis would make more sense because an event study based on market reactions will only capture one aspect of the total-surplus cost-benefit analysis.

There are two implications for the proposed rulemaking mechanism. First, the agency's strong reliance on market reactions will be most justifiable in the context of rules that are intended to regulate issuers and reduce agency costs and do not exhibit significant externalities. Second, consideration of costs and benefits accruing to other stakeholders, which are not captured by market reactions, would be a legitimate reason for the agency to depart from the result of the event study.

E. Partial Reliance

As mentioned already, in order for market reactions to be sufficiently informative, it is important that the agency does not condition its rule adoption exclusively on market reactions.[183] More precisely, it is necessary that *the market* expects the agency to rely only partially on its reactions.[184] This feature raises two related questions. First, does the mechanism require the agency to artificially build in partial reliance—effectively forcing the agency to,

179. *See id.* at 111.

180. *See id.* at 112.

181. *See id.*

182. *See* Lee, *supra* note 177, at 313 (discussing how the concept of efficiency may vary once we consider various other stakeholder interests in addition to investors' welfare).

183. *See supra* text accompanying note 154.

184. *See id.*; *see also* Lee, *supra* note 160, at 12–13. Partial reliance can be achieved in two ways. One way is for the agency to sometimes rely on market reactions and sometimes not rely on them. The other way—much more intuitive—is for the agency to take market reactions as simply one important factor of consideration in its deliberation. Either approach will have the effect of setting the expectation for the market that the agency's reliance on its reaction will be only probabilistic.

at times, ignore perfectly useful information provided by the market? Second, would partial reliance imply a necessary tradeoff between *ex ante* price efficiency and *ex post* rule efficiency as theory suggests?[185] Fortunately, the answers to these questions are both "no" in practice because there are several institutional reasons why the agency's reliance can only be partial.

First, the agency cannot rely on market reactions exclusively in rulemaking because it must also take into consideration any comments received during the rulemaking process.[186] Indeed, the agency would be expected to modify the terms of the proposed rule to reflect the concerns raised during the comment stage,[187] and the market should be aware of this possibility. Second, as discussed above, stock price movements and firm values capture only certain benefits and costs that would flow to investors and do not capture benefits and costs that would accrue to other stakeholder interests.[188] In its rule adoption decision, the agency can—and in many instances should—consider economic effects not captured by stock prices.[189] As a result, a positive (negative) price movement will not always translate to an efficient (inefficient) rule from the perspective of society at large. As a result, the agency, at times, should do well to deviate from the results suggested by stock market reactions. Third, it is also possible that the agency has private information about the market and regulation, which, the agency believes, is not yet reflected in stock prices.[190] If the agency believes such information should play a critical role upon adopting the rule, this would be another appropriate reason for the agency to deviate from the outcome suggested by the market's reaction.

Collectively, these reasons suggest that the agency's rule adoption should only be informed by, but not governed by, the market's reaction. Even when the market is efficient, the agency's deviation from the policy choice favored by the market's reaction will not necessarily indicate *ex post* inefficiency. By the same token, even if the agency is keen on gathering information from the market, the market should still expect the agency's commitment to be at most partial,[191] and as such, the agency need not artificially build in partial reliance.

185. *See supra* text accompanying note 155.
186. *See* 5 U.S.C. § 553(c) (2018).
187. *See supra* Subpart II.A.
188. *See, e.g.*, *supra* Subpart VI.D.
189. *See id.*
190. *See supra* text accompanying notes 141–46; Bond & Goldstein, *supra* note 139, at 2795–97.
191. *See* Lee, *supra* note 18, at 97.

F. The Potential for Market Manipulation

One potential concern with the proposed mechanism is that the very fact that the agency will rely on market reactions may change the incentives of those who trade strategically and may encourage market manipulation.[192] A canonical example would be someone who holds a short position in the company and stands to benefit from a decrease in the firm's stock price. In that case, one might worry that the position holder who learns that the regulation is beneficial for the company may be motivated to *sell* a large quantity of the firm's stocks in the hope that his trading behavior can affect the market and the agency will choose to abandon the rule. Likewise, the same position holder, if he were to learn that the regulation is costly for the firm, may be motivated to *buy* a large quantity of the firm's stocks in order to ensure the rule will be adopted. This type of trading behavior, if significant, can be a problem because it can mislead the regulator.

In practice, however, there are several reasons to believe that the possibility of manipulation will be low in the context of the proposed mechanism. First, because the agency's event study will analyze the movement of stock prices across a large group of firms, one speculator's possibility of influencing the agency's policy decision will be miniscule, and possibly even zero (e.g., if the firm is not included in the sample studied by the agency). As such, it would be unwise for the speculator to trade based on the prospect that his transaction might influence the agency's rule adoption.[193] Instead, if the rule is net beneficial, a speculator selling shares will most likely be unable to make a profitable trade afterward.[194] Second, as mentioned before, the agency's decision following the event study is not limited to adopting the rule or abandoning it; the agency may choose to adopt a modified version of the rule, a version that addresses some of the concerns raised during the comment period.[195] In the face of this third option, the speculator's strategy is unclear because, even if his trade could affect the regulatory outcome, it will be largely unknown to the speculator what the agency's course of action would be. Third, we have already established that it would be sensible to have the agency not rely exclusively on market prices.[196] The proposal in this Article, which suggests merely that the event study should be the *default* place to begin the regulatory dialogue, is specifically designed to preserve a degree of autonomy for the agency in terms of how it can proceed with rulemaking. Because the agency can always exercise

192. Although the possibility of manipulation in the presence of feedback has been analyzed by Goldstein and Guembel (2008), application of their model to the proposed rulemaking mechanism is limited because they do not explicitly model position holders. *See* Goldstein & Guembel, *supra* note 139, at 139–51.

193. *See* Lee, *supra* note 160, at 17–18.

194. *See id.*

195. *Cf. id.* at 18.

196. *See*, *e.g.*, Lee, *supra* note 18, at 124–28.

independent judgment apart from market reactions, the speculator's incentive to manipulate will be further reduced.

G. The Reliability of Short-Window Event Study Findings

Another potential objection to the proposed mechanism is that a short-window event study based on rule-related announcements, even if carefully designed, can fail to provide reliable empirical evidence to predict the rule's long-term impact. This criticism would amount to a claim that the stock market is inefficient. After all, "a well-specified event study may reveal how investors *think* the law will impact a set of firms," but may still turn out to be "a poor predictor of the actual impact of the law on the firms."[197]

A number of recent studies examine this issue in various contexts and find that short-window event studies indeed often fail to accurately estimate the long-term effects of the studied events.[198] Although these studies illustrate the danger of drawing too great a conclusion from short-window event studies, the extent to which their findings should counsel against making use of short-window event studies altogether is far from clear. We still do not know the degree to which—how and when—the stock market fails to be efficient. To be sure, if there were *no* correlation between short-window event study findings and long-term effects of the studied events, it would be difficult to justify relying on such event studies. In fact, the entire academic discipline would be of little value. But no such claim is being made by these recent studies. Instead, as one study explains, "[our finding] does not mean that the market is inefficient, but rather that the market is more efficient with respect to some events than others."[199] As such, the study's recommendation is that "short-

197. Kara M. Reynolds, *Anticipated vs Realized Benefits: Can Event Studies Be Used to Predict the Impact of New Regulations*, 34 E. ECON. J. 310, 323 (2008) (emphasis in original).

198. In one such study, K.B. Hendricks and V.R. Singhal Hendricks examine the long-run stock price performance of firms with effective "total quality management" programs. *See* K.B. Hendricks & V.R. Singhal, *The Long-Run Stock Price Performance of Firms with Effective TQM Programs*, 47 MGMT. SCI. 359, 359 (2001). They find that, while firms that win quality awards significantly outperform firms in various control groups in the long run (from thirty-eight to forty-six percent), the mean abnormal stock price response to the announcement of winning quality awards was only about 0.64%. *Id.* at 359–60. *See also* Derek K. Oler et al., *The Danger of Misinterpreting Short-Window Event Study Findings in Strategic Management Research: An Empirical Illustration Using Horizontal Acquisitions*, 6 STRATEGIC ORG. 151, 151 (2008) (examining a sample of horizontal acquisitions from 1975 to 1999 and find "that the positive initial market response to an acquisition announcement is contradicted by negative long-run post acquisition returns"); Reynolds, *supra* note 197, at 310 (analyzing unexpected changes in U.S. antidumping law in 2000 and finding that "event study estimates of the abnormal returns accruing to each firm suggest that the market significantly underestimated the value of the law for most beneficiary firms").

199. Oler et al. *supra* note 198, at 153.

window event study results . . . should be interpreted with caution and supplemented with other, longer-term measures."[200]

In other words, ignoring opportunities to engage in short-window event studies—out of the concern that they might prove to be inaccurate *ex post*—is not a prudent approach for the regulator. We must not let the perfect become the enemy of the good here. Instead, the regulator, as well as the public, should be mindful of the potential shortcomings of these event studies and should treat these findings merely as the best available evidence *ex ante* and follow up with *ex post* approaches, such as those discussed in Subpart III.B. In this sense, the mechanism proposed in this Article is best seen as a complement to, rather than a substitute for, those *ex post* approaches.

VII. CONCLUSION

This Article argues that financial regulatory agencies should make greater use of stock market data to guide and shape their rulemaking process. In certain instances of rulemaking, analyzing market reactions to rule-related developments may be the most important job for the agency's staff economists. If such an analysis is feasible and can be completed in a timely manner, the agency's cost-benefit analysis should incorporate the findings of the event study. The agency's rationale for adopting, modifying, or abandoning the rule should in turn reflect these findings as well as the discussions that take place during the comment period. At the same time, this Article also cautions against relying exclusively on market reactions. To this extent, it suggests several grounds based on which the rulemaking agency can and should depart from the rulemaking outcome suggested by market reactions.

200. *Id.* at 174.