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Cost-Benefit Analysis of Financial Regulation: Case Studies and Implications

ABSTRACT. Some members of Congress, the D.C. Circuit, and the legal academy are promoting a particular, abstract form of cost-benefit analysis for financial regulation: judicially enforced quantification. How would CBA work in practice, if applied to specific, important, representative rules, and what is the alternative? Detailed case studies of six rules—(1) disclosure rules under Sarbanes-Oxley section 404; (2) the SEC’s mutual fund governance reforms; (3) Basel III’s heightened capital requirements for banks; (4) the Volcker Rule; (5) the SEC’s cross-border swap proposals; and (6) the FSA’s mortgage reforms—show that precise, reliable, quantified CBA remains unfeasible. Quantified CBA of such rules can be no more than “guesstimated,” as it entails (a) causal inferences that are unreliable under standard regulatory conditions; (b) the use of problematic data; and/or (c) the same contestable, assumption-sensitive macroeconomic and/or political modeling used to make monetary policy, which even CBA advocates would exempt from CBA laws. Expert judgment remains an inevitable part of what advocates label “gold-standard” quantified CBA, because finance is central to the economy, is social and political, and is non-stationary. Judicial review of quantified CBA can be expected to do more to camouflage discretionary choices than to discipline agencies or promote democracy.

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ARTICLE CONTENTS

INTRODUCTION	885
I. WHAT DO PEOPLE MEAN BY “COST-BENEFIT ANALYSIS”?	890
A. Policy Versus Law	890
B. Quantities (or Guesstimates) Versus Concepts	891
C. Camouflage Versus Discipline	898
D. Alternatives to Quantified CBA/FR	902
1. The “Alternative” of Expert Judgment	903
2. Monetary Policy: A Limiting Example	905
II. A CRITICAL ASSESSMENT OF JUDICIAL REVIEW OF CBA/FR	909
A. Existing CBA/FR Law	909
B. A Critical Assessment of Judicial Review of CBA/FR	912
C. Congressional Oversight, Regulatory Initiatives, and Proposed Legislation	920
III. HOW MIGHT CBA OF FINANCIAL REGULATION WORK?	926
A. Case Study #1: Control Disclosures for Public Companies	927
1. The SEC’s CBA of Rules Implementing SOX 404	928
2. An Overview of CBA/FR of SOX 404	931
3. Estimating the Incidence of Fraud and Its Direct Costs	932
4. How Should Transfers Be Treated?	933
5. Measuring the Externalities and Psychological Costs of Fraud	934
6. Estimating Causal Effects of SOX 404	938
7. What Baseline and Set of Counterfactuals Should Be Used?	941
8. How Do Compliance Costs Vary Across Firms and over Time?	942
9. Modeling and Measuring Chilling Effects of Financial Regulation	943
10. Summary and Illustrative Integrated Assessment Model	944
B. Case Study #2: Independent Boards for Mutual Funds	948
1. The Rules	949
2. The Aftermath of <i>Chamber of Commerce II</i>	950
3. What Would CBA of the Mutual Fund Governance Rules Require?	951
4. The Aftermath of the Aftermath	954
C. Case Study #3: Heightened Capital Requirements for Banks	955
1. Regulatory Response	957

2. CBA/FR of Basel III	959
3. Costs of a Financial Crisis	960
4. Frequency of Financial Crises	968
5. Effects of Higher Capital Requirements on Financial Crises	970
6. Costs of Higher Capital Requirements: Less Lending?	972
D. Case Study #4: The Volcker Rule	974
E. "Gold Standard" Examples of CBA/FR	978
1. The SEC's Cross-Border Rules on Swaps	979
2. The FSA's Mortgage Market Reforms	985
a. The FSA's CBA/FR	985
b. Assessing the FSA's CBA/FR	990
F. Summary of Case Studies	994
IV. WHAT ARE THE IMPLICATIONS OF THESE CASE STUDIES?	997
A. Why Is Quantified CBA/FR So Unreliable?	998
1. Finance Is Central to the Economy	999
2. Finance Is Social and Political	1001
3. Finance Is Non-Stationary	1002
B. New CBA/FR Mandates Should Be Passed Only If CBA/FR Satisfies CBA	1003
C. Existing CBA/FR Laws Are Little Better in Practice	1006
D. CBA/FR Remains a Potentially Valuable Component of Policy Analysis	1008
CONCLUSION	1011

INTRODUCTION

A movement is afoot to impose cost-benefit analysis (CBA) on financial regulation (CBA/FR).¹ The housing and financial crises of 2008 led to the Dodd-Frank Act,² which restructured the financial regulatory agencies, mandated more than 200 new rules, and required changes to many older rules.³ The sweep of regulatory change has reignited criticism for failure to base the changes on adequate CBA/FR.⁴ Bills have been introduced to provide explicit authority for the President to require CBA/FR from independent agencies,⁵ even as critics argue that existing law already requires the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC) to conduct a particular form of CBA/FR: judicially enforced quantification.⁶ One panel of the United States Court of Appeals for the District of Co-

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1. Throughout, I use the awkward acronym “CBA/FR” to flag that the analysis focuses on CBA of financial regulation, and that my conclusions may but do not necessarily carry over to CBA in other regulatory domains. Part IV.A, *infra*, discusses potential differences between financial and other regulation.
 2. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) [hereinafter Dodd-Frank Act]. A trade group recently sued to enjoin the most prominent rule under the Dodd-Frank Act, the Volcker Rule, in part on grounds that the agencies ignored economic effects of one small part of the rule on small banks. Matthew Goldstein & Peter Eavis, *Banks’ Suit Tests Limits of Resisting Volcker Rule*, N.Y. TIMES: DEALBOOK (Dec. 24, 2013, 8:13 PM), <http://dealbook.nytimes.com/2013/12/24/banks-suit-tests-limits-of-resisting-volcker-rule> [<http://perma.cc/Y78M-CKY7>]. For the plaintiff’s motion for an emergency stay in the case, see Emergency Motion of Petitioners for Stay of Agency Action Pending Review, Am. Bankers Ass’n v. Fed. Reserve, No. 13-1310 (D.C. Cir. Dec. 24, 2013). On the current state of the law of CBA/FR, see *infra* Part II.A; for a discussion of the Volcker Rule and the trade group’s lawsuit, see *infra* Part III.D.
 3. See *Regulatory Tracker*, DAVIS POLK & WARDWELL LLP, <http://www.davispolk.com/dodd-frank/regulatory-tracker> [<http://perma.cc/G7PQ-5LHZ>].
 4. See, e.g., COMM. ON CAPITAL MKTS. REGULATION, A BALANCED APPROACH TO COST-BENEFIT ANALYSIS REFORM 3, 9 (2013) [hereinafter CCMR REPORT] (citing the Dodd-Frank Act as the reason for Congress to pass a law requiring CBA by independent agencies and noting that “the SEC and the CFTC still often fall short of conducting meaningful cost-benefit analysis of new regulations”); see also Hester Peirce, *Economic Analysis by Federal Financial Regulators*, 9 J.L. ECON. & POL’Y 569 (2013).
 5. See, for example, the Independent Agency Regulatory Analysis Act of 2013, S. 1173, 113th Cong., described *infra* Part II. For other bills, see *infra* note 146.
 6. CCMR REPORT, *supra* note 4, at 4 (using legislative history to argue that the National Securities Markets Improvement Act of 1996, Pub. L. No. 104-290, 110 Stat. 3416 (codified as amended in scattered sections of 15 U.S.C.) requires the SEC to conduct CBA based on the statutory requirement that the SEC consider “efficiency” as one of a number of factors in rulemaking); PAUL ROSE & CHRISTOPHER WALKER, CTR. FOR CAPITAL MKTS. COMPETITIVENESS, THE IMPORTANCE OF COST-BENEFIT ANALYSIS IN FINANCIAL REGULATION 24-33 (2013) [hereinafter CCMC REPORT]. Critics also point to an efflorescence of decisions by the D.C.

lumbia Circuit, composed entirely of Republican-appointed judges, held that existing law requires the SEC to quantify the costs and benefits of its proposed rules,⁷ while another judge—appointed by President Obama to the D.C. Circuit—subsequently held that such quantification is not mandatory, at least when the SEC is required by statute to adopt a rule, and the benefits sought to be achieved are humanitarian and not economic in nature.⁸

This Article critiques efforts to impose judicially reviewed, quantified CBA on independent financial agencies, while also attempting both to explore how conceptual CBA/FR could lead to better policy and to advance the substantive project of quantitative CBA/FR itself. This combination of objectives represents a moderate stance, between the polar positions that often characterize de-

Circuit striking down SEC regulations as “arbitrary and capricious” under the Administrative Procedure Act (APA), 5 U.S.C. §§ 500-596 (1946), because of the agency’s failure to “consider” certain costs as part of its “efficiency” analysis; these cases are discussed in Part II below. Critics also note that the Commodity Exchange Act, Pub. L. No. 74-675, 49 Stat. 1491 (1936) (codified as amended at 7 U.S.C. §§ 1-27f) requires the CFTC to “consider the costs and benefits” of its regulatory actions. *Id.* § 19(a)(1). The Consumer Financial Protection Bureau is required to consider the “potential benefits and costs” as part of its rulemaking authority. Dodd-Frank Act § 1022.

7. *Bus. Roundtable v. SEC*, 647 F.3d 1144 (D.C. Cir. 2011). I discuss this case in more detail in Part II below. See *infra* notes 116-127 and accompanying text. The decision was written by Judge Douglas Ginsburg, joined by Chief Judge David Sentelle and Judge Janice Brown, each appointed by a Republican President. Commentators have extensively criticized this decision, see *infra* note 116, but it remains a binding precedent. For completeness, I note that the U.S. Chamber of Commerce, a party to the case, paid two professors who wrote a report defending the decision. See CCMC REPORT, *supra* note 6, at ii (discussing “financial and administrative support” for the report).
8. *Nat’l Ass’n of Mfrs. v. SEC*, 956 F. Supp. 2d 43 (D.D.C. 2013), *aff’d in part*, 748 F.3d 18 (D.C. Cir. 2014). The trial court decision was by Judge Robert L. Wilkins, who was subsequently nominated to the D.C. Circuit by President Obama, only to have his nomination filibustered by Senate Republicans. Todd Ruger, *Senate Blocks Robert Wilkins’ Nomination to D.C. Circuit*, LEGAL TIMES: BLT (Nov. 18, 2013, 6:44 PM), <http://legaltimes.typepad.com/blt/2013/11/senate-blocks-robert-wilkins-nomination-to-dc-circuit.html> [<http://perma.cc/75P8-PYM6>]. This occurrence helped prompt the Senate to abolish filibusters of lower court appointments. Jeremy W. Peters, *In Landmark Vote, Senate Limits Use of the Filibuster*, N.Y. TIMES, Nov. 21, 2013, <http://www.nytimes.com/2013/11/22/us/politics/reid-sets-in-motion-steps-to-limit-use-of-filibuster.html> [<http://perma.cc/68ME-L8VL>]. Judge Wilkins was confirmed to the D.C. Circuit under the Senate’s new rules. Pete Kasperowicz, *Senate Confirms Third Judicial Nominee*, THE HILL (Jan. 13, 2014, 6:22 PM), <http://thehill.com/blogs/floor-action/votes/195305-senate-confirms-wilkins-to-dc-court> [<http://perma.cc/6GA5-84ZW>]. Earlier, a panel of the D.C. Circuit upheld a decision of the Office of Thrift Supervision against a CBA-based challenge, *Stilwell v. Office of Thrift Supervision*, 569 F.3d 514 (2009), and another Obama-appointed judge upheld a decision of the CFTC against a CBA-based challenge in 2012, despite the CFTC’s not having quantified the benefits or certain costs of the rule, *Inv. Co. Inst. v. Commodity Futures Trading Comm.*, 891 F. Supp. 2d 162 (2012).

bates over CBA; the Article neither rejects it utterly nor embraces it naively. Rather, the Article explores how CBA is likely to function in the near term as applied to financial regulation and assesses the costs and benefits of using CBA/FR. In other words, the Article begins to develop a CBA of CBA/FR itself. The results of the exploration not only call into question simplistic efforts to mandate CBA—particularly quantified CBA, and particularly when enforced through judicial review by generalist courts—but also should help those who favor economic analysis of law to appreciate how CBA might advance and clarify policy analysis of financial regulation, rather than retard or obscure it.

Part I analyzes CBA generally, noting that it (a) can be either a framework for policy analysis or a legal means to discipline agencies and (b) can consist of either conceptual analysis or efforts at quantification. Part I also briefly reviews CBA's origins in U.S. legal history to show that it can be used to camouflage as well as to discipline, referring to the Taylor Rule to explain why even CBA's advocates do not propose to require CBA for monetary policy. Often, CBA is defended in part on the grounds that supposed alternatives—such as expert discretionary judgment—are no better, and often worse, than CBA. In fact, Part I suggests, CBA may turn out not to be an alternative to reliance on judgment: instead, expert judgment is a core and necessary component of CBA, as it is for any process of assessing and adopting financial regulations.

Part II describes existing law relevant to CBA/FR and investigates ongoing efforts to promote quantified CBA/FR. Chief among these efforts has been a string of high-profile CBA cases over the last decade in which courts have struck down financial regulations. Part II critically assesses those cases, showing they have been poorly reasoned, premised on mistakes, inconsistent with precedent, and based on misunderstandings about what CBA/FR can reasonably be expected to do. Nevertheless, those decisions have fueled efforts in the agencies themselves to undertake more CBA/FR. More problematically, those cases have also fueled efforts in Congress to give courts an even more expanded role in enforcing a general mandate for the independent agencies to include *quantified* CBA in rulemaking.

Part III develops case studies of how quantified CBA/FR might be conducted on six significant and representative financial regulations, drawing on relevant academic research to outline the tasks that need to be tackled to conduct CBA/FR on those rules. The case studies show that quantified CBA/FR amounts to no more than “guesstimation,” entailing: (a) causal inferences that are unreliable under standard regulatory conditions; (b) the use of problematic data; and/or (c) the same kinds of contestable, assumption-sensitive macroeconomic or political modeling used to make monetary policy.

Part IV concludes by reviewing the implications of the case studies. Anyone who supports CBA should agree that CBA should be conducted only to the extent it passes its own test—that is, only if CBA itself will produce more benefits

than costs. Perhaps surprisingly, given that CBA has been part of administrative law for decades, CBA of CBA has itself never been adequately conducted, leaving the first-stage choice of when to perform CBA/FR itself in the realm of judgment rather than science. Part IV begins the task of outlining a CBA of CBA, both generally and in the context of financial regulation. It argues that the benefits of CBA/FR have been low in the past and are likely to remain low in the near future, while its costs will depend on the precise institutional and legal context in which it is pursued.

CBA/FR's benefits are likely to remain low because it is by definition about finance: finance is at the heart of the economy; is social and political; and is characterized by non-stationary relationships that exhibit secular change (that is, long-term structural changes). These features undermine the ability of science to precisely and reliably estimate the effects of financial regulations, even retrospectively. Whenever agencies face such sensitive and speculative forecasting abilities, quantified CBA is not capable of disciplining regulatory analysis. It will generate low benefits in the form of reduced agency costs (in part by counteracting cognitive biases) or increased transparency. Moreover, CBA/FR will produce costs: resources consumed, regulatory delay, diffusion of regulatory focus, and potential decreases in regulatory transparency—particularly if regulatory agencies and courts involved in reviewing agency action do not have strong incentives to be honest about the limits of the results.

At the same time, CBA/FR is a useful conceptual framework, and quantified CBA/FR is a worthy long-term research goal. *Attempts* to quantify may advance the research needed to achieve reliable, precise estimates, and this makes quantified CBA/FR a worthwhile project for agencies to pursue. But the current benefits of CBA/FR remain low, because their real effects remain far off in time; like any regulatory benefits, the benefits of CBA/FR should be discounted to present value.

Completing a full, quantified CBA of CBA would require evidence and new research methods: studies of the degree to which CBA results in better regulations or more transparency in the regulatory process, as well as quantified estimates of the costs—delay, confusion, camouflage, partisanship—that CBA can introduce. Until evidence is developed to illuminate when CBA/FR passes its own test, courts and secondary agencies (that is, agencies other than those charged with rulemaking responsibility) should have no role in second-guessing the choice of when to conduct CBA/FR, or the details of CBA/FR when it is used.⁹ Not only should new legal CBA/FR mandates be resisted as

9. For a different but consistent critique of judicial review of agency decisions under conditions of uncertainty, see Adrian Vermeule, *Rationally Arbitrary Decisions (in Administrative Law)* (Harvard Law Sch., Working Paper No. 13-24, 2013), <http://ssrn.com/abstract=2239155>

likely to worsen policy outcomes, but existing interpretations of the Administrative Procedure Act (APA) and financial agencies' governing statutes should also be reversed. A safe harbor should be created to shelter the CBA/FR that the agencies choose to conduct, so as to reduce the influence of concentrated interests through litigation and of politically partisan but unaccountable judges on regulatory outcomes.¹⁰ In sum, CBA/FR remains a potentially valuable regulatory tool, but only if implemented with a light touch.

As reflected in Part IV, this Article's critique of CBA/FR is not sweeping. Rather, it is focused on one specific institutional arrangement for CBA/FR: mandates (whether through new statutes or judicial interpretations of existing statutes) for judicially reviewed, quantified CBA. Other arrangements that include CBA—such as the use of conceptual CBA on a voluntary basis by independent agencies—are much more promising. In between are a wide variety of possible arrangements, such as interagency review of CBA/FR (whether conceptual or quantitative) by a separate agency, as is currently done for rule-makings by executive agencies. Each such arrangement deserves its own fact-specific analysis. For example, for any interagency process, one should ask: How much of the interagency dialogue would become part of the public record, available for use in a subsequent judicial challenge? What real resources could the alternative agency bring to bear on the discussion? Would that other agency face genuinely different incentives in evaluating a given regulation, and how much value would participation by such an agency add if included in pre-rulemaking discussions? How important is it to achieve uniformity on specific kinds of CBA inputs, and alternatively, how important is it to allow for flexibility in such inputs over time and across agencies? As a result of the complexity of these questions, the full range of possible alternative institutional arrangements is not analyzed in detail in this Article. However, some of the reasons offered as to why judicially reviewed quantitative CBA/FR may not satisfy a cost-benefit test may also extend to those other arrangements, and the analysis here should at least illuminate policy debates over those alternatives.

[<http://perma.cc/5AY8-WN7L>] (arguing that courts should defer to agencies when agencies must act under conditions of uncertainty, even when the action is arbitrary).

10. In a related paper, I make further recommendations on how law and legal institutions can promote good CBA/FR as policy analysis, without risking the negative consequences of judicially enforced quantification. See John C. Coates IV, *Towards Better Cost-Benefit Analysis: An Essay on Regulatory Management*, 78 *LAW & CONTEMP. PROBS.* (forthcoming 2015), <http://ssrn.com/abstract=2471682> [<http://perma.cc/W5KF-44KT>].

I. WHAT DO PEOPLE MEAN BY “COST-BENEFIT ANALYSIS”?

The literature on cost-benefit analysis is voluminous and multidisciplinary.¹¹ Not surprisingly, writers often talk past one another when they discuss the topic. Three distinctions are often elided: whether by CBA one means policy analysis or law; whether by CBA one means a conceptual framework or quantification; and whether CBA is likely to camouflage or discipline regulation.¹² In this Part, I begin by presenting a brief typology of CBA and conclude by sketching the alternatives to CBA.

A. Policy Versus Law

Lawyers instinctively understand the difference between a norm or a policy, on the one hand, and a law, on the other—even when that law tracks a norm or policy. They know, for example, that the effects of a law (assumed to be justiciable) *requiring* an agency to act reasonably will not simply equate to the actions that an agency, acting reasonably, would take. A requirement imposes a set of burdens on the agency that the demands of reason do not. Law introduces new agents into the picture—usually, courts. Those agents are no more perfect than others, and their decisions will be uncertain. Agencies subject to court oversight will anticipate judicial error (or bias).

A law will lead an agency to keep more careful track of what it does, and why, than reason on its own would do. Agencies will incur costs to keep track in this way, just as they will incur costs to defend decisions against court challenges. They will refrain from acting when the expected cost of a challenge and record keeping falls below the expected benefit of the action, discounted for the risk that the court will wrongly overturn the decision. These consequences

11. For overviews outside the financial regulatory context, see MATTHEW D. ADLER & ERIC POSNER, *NEW FOUNDATIONS OF COST-BENEFIT ANALYSIS* (2006); CASS R. SUNSTEIN, *THE COST-BENEFIT STATE: THE FUTURE OF REGULATORY PROTECTION* (2002) [hereinafter SUNSTEIN, *THE COST-BENEFIT STATE*]; and CASS R. SUNSTEIN, *RISK AND REASON* (2003).

12. Supporters and critics of CBA alike tend to elide distinctions between different meanings of “cost-benefit analysis.” Supporters—who, ironically, often defend CBA as promoting transparency—elide these distinctions to make CBA look appealing to the broadest possible audience, including skeptics and optimists about quantification, advocates of regulation and deregulation, regulators and the regulated, and intended regulatory beneficiaries and taxpayers. Critics of CBA elide the distinctions because they see efforts to promote CBA as policy as a step on a slippery slope to CBA law. Of late, others have taken a more nuanced position, supporting CBA/FR as policy without supporting CBA/FR law. See, e.g., Bruce Kraus & Connor Raso, *Rational Boundaries for SEC Cost-Benefit Analysis*, 30 *YALE J. ON REG.* 289 (2013).

arise from enforcement and oversight by courts. Law changes behavior even when a law on its face only requires what someone would try to do anyway.¹³

Lawyers also know that a law requiring an agency to act reasonably will sound innocuous to most non-lawyers: who could be against acting reasonably? Lawyers know that non-lawyers systematically underestimate enforcement costs and their effects. They know that a clever way to shape regulation is to propose a law that tracks a general norm, the enforcement of which will have predictable effects that are not intuitive to non-lawyers. The asymmetry in perceived effect will allow political gains at a lower political cost than a straightforward law mandating or forbidding regulation.

These themes play themselves out when lawyers discuss CBA with non-lawyers. Specifically, non-lawyers typically mean by CBA the conduct of cost-benefit analysis itself—whether by researchers, regulators, or courts. Lawyers sometimes use CBA in the same way, referring to a particular type of policy analysis. But lawyers also often mean by CBA a set of legal requirements aimed at inducing regulatory agencies to conduct CBA exclusively or as part of their policy analysis in choosing to adopt or change regulations. When lawmakers, for example, describe a proposed law as requiring CBA, many non-lawyers will think of CBA as policy analysis and, if they favor using CBA in policy analysis, will assume that the law is a good idea. They will effectively conflate CBA as policy analysis with CBA as legal requirement. As with a requirement of reasonableness, however, a requirement of CBA will predictably have effects that diverge from those that would arise if CBA were simply used as a routine part of an agency's policy toolkit, without a legal requirement.¹⁴

B. Quantities (or Guesstimates) Versus Concepts

A second source of confusion arises even within CBA as policy analysis. Most advocates of CBA expect it to include quantification and monetization. This type of cost-benefit analysis—if supported by strong consensus theory, reliable research designs, and good, representative evidence—could properly be called *quantified CBA*,¹⁵ but—if supported only by weak, contested theory, un-

13. Lawyers negotiating contracts know the difference, too. For example, they do not view a clause requiring a party to act reasonably or the like as innocuous: it is a “get” by the counterparty and a “give” by the party subject to the requirement.

14. Part IV, *infra*, develops this point in further detail.

15. See Edward Sherwin, *The Cost-Benefit Analysis of Financial Regulation: Lessons from the SEC's Stalled Mutual Fund Reform Effort*, 12 STAN. J.L. BUS. & FIN. 1, 47 (2006) (arguing that “[t]he SEC's failure to express the costs and benefits of its proposed rulemakings in numerical terms represents a significant shortcoming in its analysis”); see also U.S. GOV'T ACCOUNTABILITY OFFICE, DODD-FRANK ACT REGULATIONS: IMPLEMENTATION COULD BENEFIT FROM

reliable research designs, or poor, unrepresentative evidence—better deserves the label *guesstimated CBA*. Robert W. Hahn and co-authors, for example, criticized executive agencies for failing to comply with Executive Orders requiring CBA,¹⁶ based on the authors' assessment that

agencies only quantified net benefits—the dollar value of expected benefits minus expected costs—for 29 percent of the forty-eight rules [reviewed by the authors], even though the Executive Order directs agencies to show that the benefits of a regulation “justify” the costs. . . . Although agencies may present reasons not to quantify and monetize benefits and costs, . . . we believe they should be able to meet the requirements of the Executive Order for a majority of regulations.¹⁷

Expectations of quantification have found their way into legal decisions overturning financial regulations, as discussed in Part II. For example, in *Chamber of Commerce v. SEC*, the D.C. Circuit held that the SEC acted arbitrarily and capriciously for failing to undertake some effort to quantify the costs of the mutual fund governance rule changes it had adopted.¹⁸

Others accept—indeed, often make rhetorical show of conceding¹⁹—that quantification or monetization is not possible in some policy areas but none-

ADDITIONAL ANALYSES AND COORDINATION 17-18 (Nov. 2011) (“Without monetized or quantified benefits and costs, or an understanding of the reasons they cannot be monetized or quantified, it is difficult for businesses and consumers to determine if the most cost-beneficial regulatory alternative was selected . . .”).

16. For a discussion of these Executive Orders, see *infra* text accompanying note 81.
17. Robert W. Hahn et al., *Assessing Regulatory Impact Analyses: The Failure of Agencies To Comply with Executive Order 12,866*, 23 HARV. J.L. & PUB. POL'Y 859, 861, 864 n.22 (1999-2000) (citing Exec. Order No. 12,866 § 6(a)(3)(C)(ii), 3 C.F.R. § 638, 645 (1993)). The authors acknowledge that the agencies were required to quantify costs and benefits only to “the extent feasible,” *id.* at 864 (citing Exec. Order No. 12,866, 3 C.F.R. § 645), and that “[i]t is arguably not always possible or desirable to monetize all benefits and costs,” *id.* at 864 n.18 (citing Exec. Order No. 12,866, 3 C.F.R. § 638-39; OFFICE OF MGMT. & BUDGET, ECONOMIC ANALYSIS OF FEDERAL REGULATIONS UNDER EXECUTIVE ORDER 12,866 (Jan. 11, 1996)). More recently, supporters of proposed legislative CBA mandates, including former commissioners of some of the independent agencies, have argued in favor of the bill on the ground that “not one of the 21 major rules issued by independent agencies in 2012 was based on a *complete, quantified*” CBA. Letter from Nancy Nord et al. to Thomas R. Carper, Chair of the Senate Homeland Sec. and Gov't Affairs Comm., and Thomas A. Coburn, Ranking Member of the Senate Homeland Sec. and Gov't Affairs Comm. 2 (June 18, 2013) (emphasis added), http://www.portman.senate.gov/public/index.cfm/files/serve?File_id=8eb0dbd9-5631-4878-bfb2-e040407cfoba [<http://perma.cc/BB9B-HER8>].
18. 412 F.3d 133, 144 (D.C. Cir. 2005).
19. Robert W. Hahn, *The Economic Analysis of Regulation: A Response to the Critics*, 71 U. CHI. L. REV. 1021, 1049-50 (2004) (rebutting critiques of CBA by noting that it “does not require that costs and benefits be expressed in the same units or that agencies monetize benefits that

theless believe that CBA can function as a disciplined framework for specifying baselines and alternatives, for ensuring that (at least conceptually) both costs and benefits of a rule are considered, and for encouraging reliance on “evidence” rather than *solely* on intuitive judgment.²⁰ These types of CBA are best distinguished from quantified or guesstimated CBA with the label *conceptual CBA*.

Transforming conceptual CBA into quantified CBA is not an all-or-nothing proposition. Some effects of a given rule might be reliably quantified and monetized, while others might not be. Some inputs to CBA may be quantified, for example, to “scope” the domain of a proposed rule—how many people, transactions, entities, and the like would be covered by the rule. But quantified CBA in its ideal form—which some of its advocates refer to as “complete” quantified CBA²¹—entails specification and quantification of all benefits and costs in a single, uniform bottom-line metric (typically, dollars) representing the net welfare effects of a proposed rule. Some CBA supporters acknowledge that such an idealized version will not be feasible in “some” instances and have conceded that in such instances a more limited CBA—guesstimated CBA—should not determine regulatory outcomes. For example, in a 1996 policy article in *Science*, Kenneth Arrow and ten other economists advocated CBA but were careful to note that

[b]enefits and costs of proposed policies should be quantified wherever possible. . . . In most instances, it should be possible to describe the effects of proposed policy changes in quantitative terms; however, not all impacts can be quantified, let alone be given a monetary value. There-

may not be quantifiable” and arguing that CBA should “be careful to reflect those uncertainties and account for qualitative factors”); Cass R. Sunstein, Nonquantifiable (May 1, 2013) (unpublished manuscript), <http://ssrn.com/abstract=2259279> [<http://perma.cc/H6N8-KZTT>].

20. Office of Management and Budget guidelines are not entirely consistent on whether CBA entails quantification. On the one hand, they emphasize that CBA should contain, in addition to quantification, the specification of baselines, alternatives, and a *qualitative* description of how a rule will produce benefits and what side effects it may have, *Circular A-4: Regulatory Analysis*, OFF. MGMT. & BUDGET 2 (2003) [hereinafter OMB Guidance], http://www.whitehouse.gov/sites/default/files/omb/assets/regulatory_matters_pdf/a-4.pdf [<http://perma.cc/TZ3F-S8UU>], and they explicitly provide that where full monetization of all costs and benefits is not feasible, agencies should relate what can be quantified to what cannot be, so as to specify how large unquantified benefits could be or how small unquantified costs could be before a rule would “yield zero net benefits,” *id.* On the other hand, the guidelines contain statements suggesting that CBA entails full quantification; for example, the guidelines state that “[a] distinctive feature of [CBA] is that both benefits and costs are expressed in monetary units, which allows you to evaluate different regulatory options with a variety of attributes using a common measure.” *Id.* at 6.

21. Letter from Nancy Nord et al. to Thomas R. Carper and Thomas A. Coburn, *supra* note 17.

fore, care should be taken to assure that quantitative factors do not dominate important qualitative factors in decision-making.²²

Particularly difficult to quantify or monetize are non-market goods and externalities. In non-financial regulatory domains, non-market goods, such as life, health, beauty, and biodiversity, have proven difficult to monetize with any degree of precision and confidence.²³

In financial regulation, relevant non-market goods include trust, investor confidence, liquidity, and the psychological consequences of unexpected financial losses.²⁴ In non-financial regulation, measurement of externalities has proven difficult, not only because these externalities are often non-market goods, but also because simply specifying and estimating their size is challenging. Financial regulation poses equally if not more difficult problems in measuring externalities, in part because financial markets are tightly interconnected systems (hence the now mainstream phrase “systemic risk”), in which one party’s losses can be rapidly transmitted to multiple related parties.²⁵ As explained in Part III and discussed further in Part IV, full quantification in CBA/FR is likely to be difficult because finance is at the heart of the economy, involves

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22. Kenneth J. Arrow et al., *Is There a Role for Benefit-Cost Analysis in Environmental, Health, and Safety Regulation?*, 272 *SCIENCE* 221, 222 (1996). Neither Arrow et al. nor Hahn et al., *supra* note 17, provide evidence or cite to research supporting their views that quantification “should be possible” in “most” instances as applied to executive agencies. Sunstein likewise asserts without evidence that quantification will be impossible only in “rare” instances: “In the most extreme (and admittedly rare) cases, agencies may be operating under circumstances of *ignorance*, in which they cannot specify either outcomes or probabilities.” Sunstein, *supra* note 19, at 7.
 23. For discussions, see, for example, FRANK ACKERMAN & LISA HEINZERLING, *PRICELESS: ON KNOWING THE PRICE OF EVERYTHING AND THE VALUE OF NOTHING* (2004); David S. Brookshire et al., *Valuing Public Goods: A Comparison of Survey and Hedonic Approaches*, 72 *AM. ECON. REV.* 165 (1982); David S. Bullock & Nicholas Minot, *On Measuring the Value of a Nonmarket Good Using Market Data*, 88 *AM. J. AGRIC. ECON.* 961 (2006); and Karl-Göran Mäler, *A Method of Estimating Social Benefits from Pollution Control*, 73 *SWEDISH J. ECON.* 121 (1971).
 24. See *infra* Part III for further discussion of the relevant non-market goods affected by financial regulation.
 25. *Consultative Document: Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions*, FIN. STABILITY BD. & INT’L ORG. SEC. COMM’NS 3 (Jan. 8, 2014), http://www.financialstabilityboard.org/publications/r_140108.pdf [<http://perma.cc/LS8E-TAHJ>] (identifying three transmission mechanisms for systemic risk: (1) direct exposure to failed institutions; (2) forced asset liquidations by failed institutions that disrupt trading or funding in key markets; and (3) disruption of a critical service or function without substitutes); see also Stephen L. Schwarcz, *Systemic Risk*, 97 *GEO. L.J.* 193 (2008) (identifying relationships between markets and institutions and noting how risk can spread through interconnected financial systems).

groups of people (firms, markets) interacting in complex, difficult-to-study ways, and is shaped by forces that change rapidly over time.

Short of full monetization, CBA can include efforts to estimate ranges of costs and benefits, to bound them, to conduct “threshold” analyses comparing a rule’s quantified costs to unquantifiable benefits (or vice versa), and, more generally, to use empirical methods and data to generate evidence relevant to quantified or conceptual CBA. While ranges, bounds, threshold analyses, and incomplete but relevant evidence may all be viewed as part of quantified CBA, they begin to move the final result of CBA toward guesstimation, leaving it a matter of judgment whether and how the results of CBA should influence decision making. For example, guidelines from the Office of Management and Budget (OMB) provide little help in determining how to conduct threshold analyses if important benefits and costs are both unquantifiable, simply suggesting that agencies “exercise professional judgment” in weighing unquantifiable elements in the CBA.²⁶ This recommendation is hard to criticize. But it also suggests that there may be circumstances in which a feasible but partial quantification will not be cost-justified. For example, it may be the case that the quantifiable elements are likely (based on judgment) to be trivial relative to the unquantifiable elements. It may also be that partial quantification is costly, or otherwise will undermine the value of a conceptual CBA, by—for example—conveying a false degree of precision to a general audience.

One also can draw a distinction within CBA law—analogue to the one between conceptual and quantified CBA—between *CBA mandates* and *CBA process*, although this is not typical in prior CBA scholarship. CBA mandates consist of efforts to require agencies to conduct some or all elements of CBA policy—presumably because legislators believe agencies must be forced to conduct it. CBA mandates include laws subjecting the CBA policy analysis itself to review by another agency (such as the Office of Information and Regulatory Affairs (OIRA), a unit of OMB), or by courts (as in review of rules as “arbitrary” and “capricious” under the APA).²⁷ The objectives of this review are to ensure that the agencies take statutory CBA mandates seriously and (in theory) to improve the quality of CBA analyses. CBA mandates encompass binding executive orders or other interagency guidelines that specify particular components of CBA policy analysis, such as discount rates, or methods to quantify benefits or costs, with the goal of achieving uniformity across governmental agencies.²⁸ Finally, CBA mandates can be a component of regulation itself—that is, an agency could require a private actor to demonstrate that a new activi-

26. OMB Guidance, *supra* note 20, at 2.

27. 5 U.S.C. § 706(2)(A) (2012).

28. *E.g.*, OMB Guidance, *supra* note 20.

ty or product would have greater benefits than costs before it could be permissibly sold.²⁹

CBA process, by contrast, includes requirements for agencies to publicly disclose any CBA they conduct, or the sources of their data, and to solicit public comment and feedback on their CBA analyses (as under the APA).³⁰ CBA process laws can require agencies to discuss how they took comments into account in their final rulemaking decision, to present their CBAs in particular or standardized formats, or to include specific kinds of information, such as standard statistics or data analyses that bear on the reliability of the primary findings of a quantified CBA. Such indicators of reliability include, for example, confidence intervals, *p*-values, test statistics, correlation matrices, sensitivity analyses, and the results of “Monte Carlo” simulations. Such “soft law” requirements may be viewed as a means of enhancing the quality of the agencies’ decisions by encouraging deliberation and care, or as a means of increasing public understanding and the legitimacy of adopted rules. These process requirements can also have less desirable effects, however, including delay, regulatory inertia, ill-informed judicial second-guessing, creation of incentives for agencies to engage in CBA for show, and waste of regulatory resources.

29. *E.g.*, Eric Posner & E. Glen Weyl, *Benefit-Cost Analysis for Financial Regulation*, 103 *AM. ECON. REV.: PAPERS & PROC.* 393, 397 (2013) (arguing that CBA “should be applied to the introduction of new [derivatives] products into markets by private participants”). This approach is close to the one currently used in regulation of mutual funds in both the United States and the European Union, which generally forbid innovation in the design of collective investments without prior regulatory approval; as a result, proponents are generally required to demonstrate that the benefits of the design will outweigh its risks to investors. See John C. Coates IV, *Reforming the Taxation and Regulation of Mutual Funds: A Comparative Legal and Economic Analysis*, 1 *J. LEGAL ANALYSIS* 591 (2009).

30. 5 U.S.C. § 553 (2012).

Table 1.
DIMENSIONS OF COST-BENEFIT ANALYSIS

	<i>Concepts</i>	<i>Quantification</i>
<i>Policy</i>	Framework Baselines Alternatives Pros, cons ³¹ “Evidence”	Point estimates Monetization Causal inferences Non-market goods Externalities ³²
	<i>Process</i>	<i>Mandates</i>
<i>Law</i>	Disclosure <ul style="list-style-type: none"> • Data sources • Format • Secondary statistics Solicitation of feedback	Requirements to conduct CBA policy Agent-monitors (courts, OIRA) Uniformity on key inputs: <ul style="list-style-type: none"> • Discount rates • Models of demand

Putting the first two dimensions of CBA together, Table 1 illustrates the multiple meanings that apparently synonymous uses of “cost-benefit analysis” might have for different speakers or audiences. Table 1 suggests that it is possible to be an advocate for CBA/FR—whether conceptual or quantified—as a form of policy analysis without wanting to entangle it in the legal system; or that it is possible to favor efforts to quantify CBA/FR without wanting to mandate quantification. One might even be skeptical that CBA/FR law will have any effect at all.³³ Alternatively, if CBA/FR has clear virtues as policy analysis, one might believe that those virtues would lead agencies to use it, at least sometimes, without being legally required to do so, just as private businesses adopt “best practices” on a voluntary basis. Likewise, one can favor CBA/FR process laws without agreeing that courts or any other agency should have any substantive role in evaluating or constraining the content of CBA/FR. Or one could imagine mandating that a second political agent (a specialized court or another agency) conduct the CBA/FR analysis itself; the analysis would then

31. See, e.g., CASS R. SUNSTEIN, VALUING LIFE: HUMANIZING THE REGULATORY STATE 199 n.1 (2014) (citing BENJAMIN FRANKLIN, MR. FRANKLIN: A SELECTION FROM HIS PERSONAL LETTERS (Whitfield J. Bell Jr. & Leonard W. Labaree eds., 1956)).

32. See ANDREU MAS-COLLEL ET AL., MICROECONOMIC THEORY 350 (1995).

33. See, e.g., Matthew D. Adler & Eric A. Posner, *Introduction, Cost-Benefit Analysis: Legal, Economic, and Philosophical Perspectives*, 29 J. LEGAL STUD. 837, 841 (2000) (“Much has been written about whether the cost-benefit analysis executive orders have actually influenced the behavior of agencies. Knowledgeable scholars in this area seem to doubt that the executive orders have had much influence.”).

have to be used by the primary agencies as inputs into their rulemaking decisions, without necessarily adding other process requirements to CBA/FR law.

C. Camouflage Versus Discipline

A third dimension along which CBA can vary is the motive of the person using it—and, relatedly, its effects on third parties. The conventional, optimistic view of CBA advocates—generally assumed or asserted rather than supported with evidence³⁴—is that CBA is an agency cost-control device, used by politically accountable representatives (Congress or the President) to discipline expert but less accountable agencies (made up of appointed bureaucrats) in their rulemaking efforts. In this view, CBA will improve the care that agencies exercise in deciding whether a possible rule change is good for society while limiting agencies' ability to adopt welfare-reducing rules.³⁵ CBA optimists tend to assume or assert that CBA will enhance public understanding of why regulations are adopted (increase transparency)³⁶ and engage more people in the

34. No published study examines empirically whether CBA produces benefits that outweigh its costs—whether CBA in practice passes its own test. Closest are studies assessing whether ex ante quantitative CBA by executive agencies produced CBA that was consistent with retrospective estimates. *E.g.*, ROBERT W. HAHN ET AL., DO FEDERAL REGULATIONS REDUCE MORTALITY? 19 (2000) (finding that nine of twenty-four rules passed a cost-benefit test); Winston Harrington et al., *On the Accuracy of Regulatory Cost Estimates*, 19 J. POLY ANALYSIS & MGMT. 297, 314 (2000) (finding that for fourteen of twenty-eight Occupational Safety and Health Administration or EPA rules, total costs were overestimated, while for only three were they underestimated, and overestimates were often due to difficulties in determining the baseline and incomplete compliance). These studies do not provide reliable evidence about whether CBA would pass its own test, because they do not model the counterfactual of interest: how does regulation under CBA compare to regulation without it? For that analysis, one would need to match rules subject to CBA with those not subject to CBA, and study which did better at achieving net benefits. One method may be to exploit the fact that “economically significant rules” (ESRs) are subject to more stringent CBA under OMB Guidance, *supra* note 20, than other rules, so one could compare outcomes for rules just above and below the ESR threshold. Any objection that this question is simply too hard to study should lead to a similar conclusion as the one reached by this Article—in other words, that CBA/FR itself is unreliable.

35. *E.g.*, Matthew D. Adler & Eric A. Posner, *Rethinking Cost-Benefit Analysis*, 109 YALE L.J. 165, 239 (1999) (tentatively recommending CBA over “unidimensional” or “nonaggregative” decision procedure alternatives).

36. *E.g.*, Cass R. Sunstein, *The Arithmetic of Arsenic*, 90 GEO. L.J. 2255, 2289-90 (2002) (defending CBA on the ground that, although the bottom-line quantification of the arsenic rule was so uncertain that no conclusion could be reached from it, it was successful because it allowed the government to be “transparent” about why the rule’s net benefits were uncertain). Transparency is often presented as an obviously good thing. *Id.*; Adler & Posner, *supra* note 35, at 239 (asserting the “inherent transparency of CBA itself” and noting that oversight bodies such as OMB can prevent agencies from misusing CBA or applying it in a way that

democratic process, potentially combating pernicious rent seeking by special interests.³⁷ By specifying how a rule will produce benefits, by acknowledging the costs involved, and by encouraging the consideration of alternatives, CBA is expected to improve the allocation of governmental resources and reduce the drag of regulation on beneficial activities.³⁸ Some but not all CBA optimists even assert that CBA can mitigate cognitive biases of regulators or the public.³⁹

Despite having potential virtues, however, CBA can have a different, darker, or more complex mix of effects. It can provide camouflage, reducing the transparency of a rulemaking process.⁴⁰ More disclosure does not always improve transparency, a point that (ironically) some CBA advocates have made strenuously when resisting disclosure rules for private actors.⁴¹ Beyond the in-

decreases transparency). *But see* Troy A. Paredes, *Blinded by the Light: Information Overload and Its Consequences for Securities Regulation*, 81 WASH. U. L.Q. 417, 444-45 (2003) (arguing that information overload can lead to disclosures that are not meaningful or effective).

37. *E.g.*, Cass R. Sunstein, *Cost-Benefit Default Principles*, 99 MICH. L. REV. 1651, 1662, 1709 (2001) (stating that “the case for cost-benefit analysis is strengthened by the fact that interest groups are often able to use . . . cognitive problems strategically, thus fending off regulation that is desirable or pressing for regulation when the argument on its behalf is fragile”; and noting the risk that, if permitted to adopt rules that do not pass a CBA test, agencies “will conceal an effort to placate powerful private groups not having a strong claim to governmental assistance”); W. Kip Viscusi, *Risk Equity*, 29 J. LEGAL STUD. 843 (2000) (agencies sometimes adopt rules that benefit private interests).
38. Adler & Posner, *supra* note 35, at 245 (“CBA is a useful decision procedure and it should be routinely used by agencies. CBA is superior to rival method[s] . . . [and] allows agencies to take into account all relevant influences on overall well-being . . . and . . . to weigh the advantages and disadvantages in a clear and systematic way . . .”).
39. *Compare* Sunstein, *supra* note 37, at 1662 (arguing that unless people “are asked to seek a full accounting, they are likely to focus on small parts of problems” and explaining that CBA “is a way of producing [a] full accounting” and is a “natural corrective” for “systematic errors” and “misperceptions of facts” caused by the use of “rules of thumbs, or heuristics”), *with* Richard A. Posner, *Cost-Benefit Analysis: Definition, Justification, and Comment on Conference Papers*, 29 J. LEGAL STUD. 1153, 1161-62 (2000) (critiquing the justification of CBA as a corrective for cognitive biases), *and* Joshua D. Wright & Douglas H. Ginsburg, *Behavioral Law and Economics: Its Origins, Fatal Flaws, and Implications for Liberty*, 106 NW. U. L. REV. 1033 (2012) (critiquing Sunstein’s research and attempts to account for cognitive biases in policymaking).
40. Despite being generally in favor of CBA, Adler and Posner acknowledge this point, but they do not develop it as a theoretical reason to resist legalizing CBA. Adler & Posner, *supra* note 35, at 172 (“Agencies sometimes appear to use CBA to rationalize decisions made on other grounds.”).
41. Paredes, *supra* note 36, at 420 (“[T]he specter of information overload casts doubt on the long-held belief and policy choice that more disclosure is better than less.”). Paredes was a Republican Commissioner of the SEC until 2013, and as Commissioner, Paredes was a strong proponent of CBA. *See* Troy A. Paredes, Remarks at AICPA Council Spring Meeting (May 17, 2012), <http://www.sec.gov/News/Speech/Detail/Speech/1365171490500#.VEMV6ecdVEA> [<http://perma.cc/4JMC-JLK9>] (“[The SEC] must engage in rigorous

determinate effects of CBA soft law on the ability of the public to monitor regulatory agencies, CBA can also be a tool of political struggle over the distribution of rents, and it can serve as a means to increase the power of unelected expert agents as a tactic in that struggle.⁴²

The origins of CBA in the United States illustrate this set of possibilities. It is commonly asserted that Congress “initiated the use of CBA in 1936, when [it] ordered agencies to weigh the costs and benefits of projects designed for flood control,”⁴³ permitting authorization of such projects only if “the benefits to whomsoever they accrue are in excess of the estimated costs.”⁴⁴ This origin story fits the optimistic view of CBA outlined above, making it a mechanism used by elected and accountable representatives to control costs at a wayward agency. In fact, however, the use of CBA by the Army Corps of Engineers emerged earlier, on the initiative of the Corps itself, as described in Theodore M. Porter’s *Trust in Numbers*.⁴⁵ In Porter’s telling, the first efforts at CBA oc-

[CBA] when fashioning . . . securities law . . . I have expressed these views several times before in advocating for rigorous [CBA] at the SEC.”); see also Alex Edmans et al., *The Real Costs of Disclosure* 2 (Nat’l Bureau of Econ. Research, Working Paper No. 19420, 2013) (arguing that “even if the actual act of disclosure is costless, high-disclosure policy can still be costly due to differential verifiability of some kinds of information”).

42. Duncan Kennedy, *Cost-Benefit Analysis of Entitlement Problems: A Critique*, 33 STAN. L. REV. 387, 443 (1981) (“[CBA] is arbitrary. It provides yet another medium for the introduction of political preferences through what seem merely necessary ‘practical’ assumptions of any analysis. . . . The focus on particular problems legitimates arbitrary assumptions and masks their political content.”); Amy Sinden, *Cass Sunstein’s Cost-Benefit Lite: Economics for Liberals*, 29 COLUM. J. ENVTL. L. 191, 194 (2011) (book review) (“The danger of CBA . . . lies in its false promise of determinacy, its pretense of objectivity and scientific accuracy. . . . [T]his false promise . . . renders CBA . . . vulnerable to manipulation and . . . destructive to democratic decision-making, as . . . Sunstein’s analysis of the arsenic CBA amply demonstrates.”).
43. E.g., Adler & Posner, *supra* note 35, at 169 & n.5 (citing AJIT K. DASGUPTA & D.W. PEARCE, COST-BENEFIT ANALYSIS: THEORY AND PRACTICE 12-13 (1972)).
44. Flood Control Act of 1936, 33 U.S.C. § 701a (2012); see also Sherwin, *supra* note 15, at 6 (citing JAMES T. CAMPEN, BENEFIT, COST, AND BEYOND: THE POLITICAL ECONOMY OF BENEFIT-COST ANALYSIS 16 (1986)). Sherwin correctly notes but does not discuss an earlier statute, the River and Harbor Act of 1902, ch. 1079, § 3, 32 Stat. 331, 372. That statute directed the organization and authorized the funding of a board of engineers reporting to the Chief of Engineers of the United States Army. The board was directed “so far as in the opinion of the Chief of Engineers may be necessary” to review reports for proposed river and harbor improvements and submit recommendations and “have in view the amount and character of commerce existing or reasonably prospective which will be benefited by the improvement, and the relation of the ultimate cost of such work . . . to the public commercial interests involved, and the public necessity for the work.” 33 U.S.C. § 541 (2012). The board was instructed to do the same for past projects upon request by relevant congressional committees. *Id.*
45. THEODORE M. PORTER, TRUST IN NUMBERS: THE PURSUIT OF OBJECTIVITY IN SCIENCE AND PUBLIC LIFE 148-90 (1995).

curred in 1902, with the creation of a board within the Corps; opponents of public works spending hoped that the board's performance of cost-benefit analysis and its issuance of recommendations would "reduce opportunities for purely political choices."⁴⁶ Rather than ranking all projects based on CBA, which would have systematized project choice, the Corps chose to maintain flexibility, "recognizing, it seems, that congressional choice was the key to congressional favor."⁴⁷ Far from being a tool for the management of the Corps, CBA became a tool by some politicians and by the Corps to manipulate Congress.

The Corps had developed a "huge civilian labor force" prior to the 1936 Flood Control Act, which mandated strict CBA for new projects. That Act, too, Porter concludes, was not aimed at disciplining the Corps, but was "one of the heroic efforts of the United States Congress to control its own bad habits."⁴⁸ The Act's requirements, and particularly the delay requirement, were viewed as a benefit, and not a necessary cost, of conducting CBA: "A preliminary examination and then a full survey, each running through several levels of Corps bureaucracy, required months or years, and could not be completed to satisfy the sudden whim of a legislator."⁴⁹ Far from reducing the power of the Corps, the regularization of the project approval process (and the implementation of CBA) enhanced it, because neither Congress nor the public exerted the effort needed to evaluate and assess the Corps's numerically impressive but sometimes ad hoc analyses: "The numbers were almost never questioned."⁵⁰

If some members of Congress favored a particular outcome, they could attempt to "manage" the Corps by finding unorthodox benefits to "quantify" (or include in a guesstimated CBA). One local district's engineer, faced with an unfavorable CBA report based solely on flood control benefits, "developed other benefits that he did not find . . . necessary to develop when he wrote his main report," including benefits from downstream power, pollution abatement, and improved water supply.⁵¹ Over time, more benefits were guesstimated, and previously rejected projects were accepted.⁵² The result, in Porter's view, was that "Corps economic methods [that is, its CBA] could not, by themselves, determine the outcome of an investigation."⁵³ This observation was particularly

46. *Id.* at 153.

47. *Id.*

48. *Id.* at 155.

49. *Id.*

50. *Id.* at 157.

51. *Id.* at 160.

52. *Id.* at 161.

53. *Id.*

true when powerful interest groups, such as the utility and railroad industries, or other regulatory bodies, such as units of the Department of Agriculture or the Interior Department, opposed the Corps's initial conclusions.⁵⁴

In sum, CBA can in principle provide public-regarding benefits by disciplining agencies, increasing transparency, and enhancing the public's engagement with the regulatory process. In theory, CBA can reduce agency costs associated with delegation by politically accountable lawmakers to expert but less accountable agencies. But CBA can have other effects beyond direct costs of the CBA itself. These effects include use of technically opaque analytics to (1) obscure the issues at play, (2) raise the risks for lawmakers to question regulators, (3) shift power from Congress to regulators, (4) hide rent seeking, and (5) favor factions in distributional struggles among lawmakers. One form of camouflage that seems likely to recur is the presentation of guesstimated CBA as quantified CBA—which potentially misleads the public by omitting significant information about the uncertainty, judgment, and sensitivity of particular numerical results in a CBA.

Depending on one's assumptions about the alignment of agency interests with public interests, these effects may be costly or beneficial. But they should be kept in mind when evaluating a given type of CBA in a given context, and they suggest that CBA itself needs to be subject to CBA before being mandated through law. In Part IV, I sketch a third set of effects that CBA policy can have—stimulating innovation and inducing better regulation over time—that differs from both the disciplinary role touted by advocates of CBA law and the camouflaging role illustrated by the Corps's history.

D. Alternatives to Quantified CBA/FR

CBA is sometimes promoted on the ground that there is no superior alternative.⁵⁵ Leading proponents of CBA/FR in the United Kingdom, for example, acknowledge problems with CBA/FR and then argue these problems do “not . . . mean that the best course would be to fail altogether to deploy the techniques of economic analysis.”⁵⁶ (One would hope not!) Yet viable alternatives exist.

54. *Id.* at 149.

55. Adler & Posner, *supra* note 35, at 194 (noting “an argument [they] believe has currency among economists although it is rarely defended in print . . . is that CBA is desirable because there are no superior alternatives that provide determinate, or relatively determinate, prescriptions”).

56. Isaac Alfon & Peter Andrews, *Cost-Benefit Analysis in Financial Regulation: How To Do It and How It Adds Value*, FIN. SERVICES AUTHORITY, Sept. 1999, at 11 <http://spi-romania.eu/admin>

In non-financial areas of regulation, agencies use feasibility analysis, which focuses on the technical capacity of private actors to comply with a proposed rule; this procedure pays some attention to costs rather than attempting to quantify the rule's full range of costs and benefits.⁵⁷ Another alternative is risk-risk analysis, in which the risk addressed by a rule is compared to risks that can be expected to arise as private actors respond to the rule.⁵⁸ Another option (sometimes included as a component of CBA) is cost-effectiveness analysis, in which costs of different methods of achieving stipulated or assumed benefits are estimated and compared.⁵⁹ Yet another, reflected in some important statutes relevant to financial regulation,⁶⁰ is a flat ban on certain kinds of activities – that is, requirements that agencies enact and enforce mandatory rules regardless of what an agency's CBA/FR might suggest about those rules' net benefits.⁶¹

1. *The “Alternative” of Expert Judgment*

But the primary “alternative” to guesstimated CBA/FR is expert judgment, which typically includes at least some elements of conceptual CBA (whether or not expressed in writing) and can be elicited and deployed in a variety of ways. More precisely, however, expert judgment is not an “alternative,” but a necessary *component* of guesstimated or quantified CBA, as the Office of Management and Budget's guidance on CBA (OMB Guidance) makes clear.⁶² When

/filemanager/files/bulgaria/o.4.fsa_cba_in_financial_regulation.pdf [http://perma.cc/XY93-BFA3].

57. Sinden, *supra* note 42, at 226-27.

58. See RISK VERSUS RISK: TRADEOFFS IN PROTECTING HEALTH AND THE ENVIRONMENT (John D. Graham & Jonathan Baert Weiner eds., 1995).

59. HENRY M. LEVIN, COST-EFFECTIVENESS: A PRIMER 17-18 (1983).

60. An example is the Bank Holding Company Act of 1956, which bans banks from being owned by or affiliating with companies engaged in non-financial activities. Bank Holding Company Act of 1956 § 4, 12 U.S.C. § 1843 (2010). The Federal Reserve Board and other banking agency regulations interpreting this statute do not engage in CBA when they evaluate whether an activity is prohibited by the statute.

61. Despite the repeal in the Gramm-Leach-Bliley Act, Pub. L. No. 106-102, 113 Stat. 1338 (1999) (codified in scattered sections of 12 U.S.C.), of the Glass-Steagall Act of 1933, 48 Stat. 162, banks and companies that control banks are still banned from most non-financial activities and investments under the Bank Holding Company Act of 1956. The Volcker Rule is similar, as discussed *infra* Part III.D, in that it bans banks from specified activities.

62. OMB Guidance, *supra* note 20 (suggesting the use of “judgment” or “professional judgment” fourteen times, including the use of formal Delphi methods for eliciting expert seat-of-the-pants estimates). On Delphi methods, see M. GRANGER MORGAN & MAX HENRION, UNCERTAINTY: A GUIDE TO DEALING WITH UNCERTAINTY IN QUANTITATIVE RISK AND POLICY ANALYSIS 164-68 (1990). For a trenchant attack on CBA generally, arguing in favor of the

defenders of CBA argue that expert judgment may be—as it often is—flawed, they are also necessarily arguing that CBA is flawed. The question is not, then, “What is the alternative?” Rather, it is, “Is judgment being camouflaged as something it is not?” An honest acceptance of the central role of judgment in policymaking, whether or not decorated with guesstimated CBA, should lower the stakes in the fight over CBA law.

In the context of financial regulation, the judgment of regulatory staff is expert because the appointees of the financial agencies have generally spent their careers in and have developed specialized knowledge of finance, financial institutions, and financial markets.⁶³ They have sharpened their intuitive sense of what kinds of regulations work and why—particularly relative to non-experts, such as generalist judges. Such intuitions can be disciplined and informed in ways other than through formal CBA, such as through discussions with other experts (within or outside an agency); case studies, surveys, and polls; retrospective evaluations; regulatory experiments that are deliberately adopted without specific predictions about how they will turn out; and other forms of assessment that are not part of quantified CBA/FR.⁶⁴

The experience and expertise of financial regulators does not make them infallible: the 2008 financial crisis proves that regulators with expertise can lack judgment, particularly when the challenges they face are novel, as with shadow

use of “intelligent deliberation” as the alternative, see Henry S. Richardson, *The Stupidity of the Cost-Benefit Standard*, 29 J. LEGAL STUD. 971 (2000).

63. The expertise of the financial agencies includes vastly more firepower than is available to OIRA, which has a total staff of roughly fifty. *Office of Information and Regulatory Affairs (OIRA) Q & A's*, OFF. MGMT. & BUDGET (Nov. 2009), http://www.whitehouse.gov/omb/oira_qsandas [<http://perma.cc/AA96-TFKU>]. The Federal Reserve Board alone has 220 Ph.D. economists on staff. See Ryan Grim, *Priceless: How the Federal Reserve Bought the Economics Profession*, HUFFINGTON POST, Oct. 23, 2009, http://www.huffingtonpost.com/2009/09/07/priceless-how-the-federal_n_278805.html [<http://perma.cc/M9AN-FZRL>]. The SEC has more than fifty economists. See *Economists*, SEC. & EXCH. COMMISSION (Oct. 7, 2014), <http://www.sec.gov/divisions/riskfin/economistbios.shtml> [<http://perma.cc/NT98-GHUU>]. For a discussion of the careers of SEC Commissioners and staff, see John C. Coates IV, *Private vs. Political Choice of Securities Regulation: A Political Cost/Benefit Analysis*, 41 VA. J. INT'L L. 531 (2001).
64. E.g., *Cybersecurity Roundtable*, SEC. & EXCH. COMM'N (May 14, 2014), <http://www.sec.gov/spotlight/cybersecurity-roundtable.shtml> [<http://perma.cc/5XKY-R6KJ>] (example of consultation by SEC with experts); Office of Econ. Analysis, *Economic Analysis of the Short Sale Price Restrictions Under the Regulation SHO Pilot*, SEC. & EXCHANGE COMMISSION (Feb. 6, 2007), <http://www.sec.gov/news/studies/2007/regshopilot020607.pdf> [<http://perma.cc/23G6-S9YC>] (example of regulatory experiment); Office of Econ. Analysis, *Study of the Sarbanes-Oxley Act of 2002 Section 404 Internal Control over Financial Reporting Requirements*, SEC. & EXCHANGE COMMISSION (2009) [hereinafter Office of Econ. Analysis, *Study of the Sarbanes-Oxley Act*], http://www.sec.gov/news/studies/2009/sox-404_study.pdf [<http://perma.cc/5DBB-H45S>] (example of study including survey data).

banking, over-the-counter derivatives, and (ironically) the complex and unanticipated effects of deregulation.⁶⁵ More generally, in many domains, experts are no more capable of predicting certain kinds of complex events than non-experts.⁶⁶ Nevertheless, in the realm of financial regulation, expert judgment has always played a central role in the setting of monetary policy. This brings us to the Taylor Rule.

2. *Monetary Policy: A Limiting Example*

To set the stage for case studies of rules in Part III, this section recognizes that even CBA/FR's proponents do not advocate requiring CBA/FR for monetary policy.⁶⁷ As will be seen, guesstimated CBA/FR of monetary policy would result in conceptual, theoretical, and empirical challenges identical to those that arise in the case studies reviewed in Part III. This fact raises the question of why, precisely, CBA/FR proponents believe a line should be drawn between rules for monetary policy and other financial regulations.

To think through how CBA/FR might in principle be applied to monetary policy, consider the Taylor Rule. That "rule" is a principle of monetary policy that stipulates how much the Federal Reserve (or any central bank) should change nominal interest rates in response to changes in prices, output, or other economic quantities. In particular, the Rule stipulates that for a percent increase in inflation, a central bank should raise interest rates by *more* than a percentage point.⁶⁸ First proposed in its specifics by John Taylor in 1993, the Rule

65. See *Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States*, FIN. CRISIS INQUIRY COMMISSION 27-82 (Jan. 2011), <http://www.gpo.gov/fdsys/pkg/GPO-FCIC/pdf/GPO-FCIC.pdf> [<http://perma.cc/43W2-7WAU>].

66. See PHILIP E. TETLOCK, *EXPERT POLITICAL JUDGMENT: HOW GOOD IS IT? HOW CAN WE KNOW?* (2005) (noting that expert political opinion is often wrong); Tom Stark, Fed. Reserve Bank of Phila., *Realistic Evaluation of Real-Time Forecasts in the Survey of Professional Forecasters* 2 (May 28, 2010) (unpublished paper), <http://www.phil.frb.org/research-and-data/publications/research-rap/2010/realistic-evaluation-of-real-time-forecasts.pdf> [<http://perma.cc/W4GG-J84W>] (concluding that expert economic forecasts beat "no change" forecasts and simple direct and indirect autoregression models, but performance of forecasts fell sharply for predictions more than three months in the future).

67. See *infra* note 73.

68. More specifically, the Rule calls for the Fed to set the federal funds rate (traditionally its principal instrument for setting monetary policy) at one plus 1.5 times the inflation rate plus 0.5 times the "output gap," defined as the percentage deviation of actual GDP from "potential" GDP. See John B. Taylor, *Discretion Versus Policy Rules in Practice*, 39 *CARNEGIE-ROCHESTER CONF. SERIES ON PUB. POL'Y* 195, 202 (1993). "Potential" GDP is an estimate of "the trend growth in the productive capacity of the economy . . . an estimate of the level of GDP attainable when the economy is operating at a high rate of resource use . . . [that is, an estimate of] maximum *sustainable* output—the level of real GDP in a given year

sought to reduce uncertainty, limit adaptive inefficiency, and increase credibility by avoiding frequent changes in monetary policy as a result of the exercise of discretion.⁶⁹ The Federal Reserve, it should be emphasized, has never “promulgated” the Taylor Rule, nor has it adopted the Rule in any formal or public fashion.⁷⁰ Nevertheless, the Rule does fairly characterize (as a first approximation) the monetary policy of the Federal Reserve for some of the years under Chairman Alan Greenspan.⁷¹

Suppose, counterfactually, a future Federal Reserve (or Congress) wanted to “adopt” the Taylor Rule—or any other rule for conducting monetary policy—in a formal fashion. Could the Rule be defended through CBA/FR? Only a few CBA/FR proponents suggest that it could, or should, be defended through CBA.⁷² The numerous proposed bills in Congress that would extend CBA to the independent agencies have all exempted monetary policy.⁷³

that is consistent with a stable rate of inflation.” *CBO’s Method for Estimating Potential Output: An Update*, CONG. BUDGET OFF. 1 (Aug. 2001), <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/30xx/doc3020/potentialoutput.pdf> [<http://perma.cc/L68J-SMQV>]. Although models of potential GDP vary, the CBO publishes estimates that are widely used, based on the “Solow growth model,” a simple projection of GDP based on two supply-side factors: “labor input (hours worked) and accumulation of physical capital (additions to the nation’s stock of plant and equipment).” *Id.* at 3.

69. See Taylor, *supra* note 68, at 207-08. For prior theoretical work, see Finn E. Kydland & Edward C. Prescott, *Rules Rather than Discretion: The Inconsistency of Optimal Plans*, 85 J. POL. ECON. 473 (1977).
70. In fact, Taylor has argued that the Federal Reserve has repeatedly deviated from his rule. John B. Taylor, *Getting Back on Track: Macroeconomic Policy Lessons from the Financial Crisis*, 92 FED. RES. BANK OF ST. LOUIS REV. 165-76 (May/June 2010) [hereinafter Taylor, *Getting Back on Track*]; John B. Taylor, *A Historical Analysis of Monetary Policy Rules*, in MONETARY POLICY RULES 319 (John B. Taylor ed., 1999) [hereinafter Taylor, *A Historical Analysis*]. On the other hand, recently departed Federal Reserve Chairman Ben Bernanke, Federal Reserve Board members, and staff economists have argued the contrary—and, moreover, have claimed that Taylor’s 1993 formulation of his rule differs from his 1999 formulation. Ben Bernanke, Chairman, Fed. Reserve, Monetary Policy and the Housing Bubble, Speech at the Annual Meeting of the American Economic Association (Jan. 3, 2010), <http://www.federalreserve.gov/newsevents/speech/bernanke20100103a.htm> [<http://perma.cc/KT3L-6SVD>]; Laurence Meyer, *Dueling Taylor Rules*, MACROECONOMIC ADVISORS: MONETARY POL’Y INSIGHTS, Aug. 20, 2009; Glenn Rudebusch, *The Fed’s Monetary Policy Response to the Current Crisis*, 2009-17 FED. RES. BANK OF S.F. ECON. LETTER (May 22, 2009).
71. Alex Nikolsko-Rzhevskyy & David H. Papell, Taylor’s Rule Versus Taylor Rules 1 (Sept. 15, 2012) (unpublished paper), <http://ssrn.com/abstract=1826363> [<http://perma.cc/7U7U-Q552>] (referring to the period under Greenspan from 1987 to 1992).
72. Compare Kydland & Prescott, *supra* note 69, at 487 (advocating that Congress select a “simple and easily understood” monetary policy rule and have it take effect prospectively after a two-year delay—without explaining how such a law could be made binding on a future Congress), with Ricardo Reis, *Central Bank Design*, 27 J. ECON. PERSP. 17, 18 (2013) (stating that central banks’ objectives have usually been “vague”); *id.* at 19 (stating that “some dis-

Why is monetary policy exempt? Politics and political power play a role, of course: few politicians want to take on the Federal Reserve (even if a few have done so, particularly during the public outcry over the 2008 crisis).⁷⁴ History and tradition also play a role: monetary policy in the United States has long been (by consensus) an exercise in discretionary judgment, and it involves balancing multiple goals—full employment, stable prices, and moderate long-term interest rates.⁷⁵ Any strict rule to set monetary policy according to a full quantified CBA would have to reverse this tradition and implicitly choose a priority scheme for the goals; as a result, the rule would be (to return to politics) highly unlikely to achieve the supermajority support necessary to enact major legislation in the United States.

But policy, too, plays a role here. In a context of high empirical and theoretical uncertainty, multiple competing macroeconomic models have long coex-

cretion” may better allow a central bank to achieve even clearly stated objectives); *id.* at 25-26 (stating that central banks “always have some discretion”), and John B. Taylor, *A Steadier Course for Monetary Policy*, Testimony Before the Joint Economic Committee on “The Fed at 100: Can Monetary Policy Close the Growth Gap and Promote a Sound Dollar?” 3-4 (Apr. 18, 2013), <http://www.stanford.edu/~johntayl/JEC%20Testimony%20-%20April%2018.pdf> [<http://perma.cc/8KB2-B5WA>] (calling for a “return to a more rules-based policy” and a “gradual exit” from what he criticizes as unfortunate policy decisions, and not for a sudden or strict “rule” to set policy; declaring that, under his proposal, “while discretion would be constrained, it would not be eliminated”).

73. See *infra* notes 146-148 and accompanying text. Even those who advocate greater Fed transparency—as reflected in the various bills known colloquially as “Audit the Fed” laws—would not subject the Fed’s monetary policy choices to either *ex ante* CBA requirements or *ex post* review by courts or another agency. See, e.g., Federal Reserve Transparency Act of 2013, S. 209, 113th Cong. (2013) (proposing to repeal exemption from audit by the Comptroller General of the Federal Reserve, contained in 31 U.S.C. § 714, for various transactions, deliberations, and communications relating to, among other things, monetary policy).
74. Sewall Chan, *From Tea Party Advocates, Anger at the Federal Reserve*, N.Y. TIMES, Oct. 10, 2010, <http://www.nytimes.com/2010/10/11/us/politics/11fed.html> [<http://perma.cc/74TA-GNYU>] (describing Republican politicians’ criticisms of the Fed based on Fed policy decisions during the economic crisis).
75. On the overall goals pursued by the Fed, see *What Is the Purpose of the Federal Reserve System?*, BOARD GOVERNORS FED. RES. SYS., http://www.federalreserve.gov/faqs/about_12594.htm [<http://perma.cc/TW9Z-ANYL>] (outlining the Fed’s legal responsibilities and goals, including an effective payment system and a stable financial system). The Fed’s statutory mandate relating to monetary policy is narrower, consisting of seeking to maintain the “long run growth of the monetary and credit aggregates commensurate with the economy’s long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates.” 12 U.S.C. § 225a (2012). I am informed by close observers of Congress that the Office of Legislative Council—which provides confidential drafting advice to members of Congress and their staffs—routinely suggests exemptions for monetary policy from bills imposing procedural or other requirements on regulatory action, based on a strong norm of preserving the Fed’s independence in overseeing monetary policy.

isted to guide the achievement of monetary policy's goals. However, these models are widely conceded to be contestable,⁷⁶ and no one model has ever achieved anything close to a consensus among "mainstream" economists. For this reason, presumably, even the most rule-oriented members of the Federal Reserve have never seriously attempted to persuade the Board to tie its own hands by articulating publicly a "rule" that would eliminate the Board's discretion to set interest rates.

Absent such hand-tying, there is no need to exempt monetary policy from the proposed CBA/FR laws. So why have they been exempted? Presumably because CBA/FR proponents recognize that there may be welfare-enhancing "rules" (in the sense of regularities in the exercise of discretion that might come within the legal definition of "rule" used in the APA)⁷⁷ that can discipline regulators but cannot be reliably shown to satisfy a cost-benefit test. The idea that a "rule" in the general legal sense of the APA could be valuable without being first validated by quantified CBA/FR prevails across many domains of discretionary decision making: in an attempt to constrain itself, a corporate board of directors may decide to adopt rules about the situations in which it wants officers to present an investment to the board (instead of pursuing the investment on their own), but such self-imposed rules may not be defensible under any kind of quantitative framework. Rules, in other words, can be a part of the way that discretionary judgment is exercised. Rules can have value even if they cannot be supported by evidence showing that their quantifiable benefits exceed their quantifiable costs.

Indeed, CBA/FR's strongest proponents concede that expert judgment is necessary because CBA/FR can only be as good as the expert judgment that informs it.⁷⁸ Pro-CBA/FR bills pending in Congress exempt monetary policy, presumably for this reason, and there is no serious call for hard-wiring monetary decisions into legislation or regulation. While there are economists who believe that basing monetary policy on simpler rule-like elements may be a good idea, even they suggest that rule-like monetary policy be adopted as a

76. See ROGER E. BACKHOUSE, *THE PUZZLE OF MODERN ECONOMICS: SCIENCE OR IDEOLOGY?* 117-37 (2010) (describing historical and ongoing debates within economics over whether and how to construct macroeconomic models, and detailing continuing disputes over the ability of such models to adequately forecast economic behavior).

77. The APA defines a "rule" as any "statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy." 5 U.S.C. § 551 (2012). If the pending bills did not exempt monetary policy, then any "statement" by the Federal Reserve Board meant to "implement . . . policy" would arguably require CBA/FR under the APA. *Id.*

78. OMB Guidance, *supra* note 20, at 2 ("You will find that you cannot conduct a good regulatory analysis according to a formula. Conducting high-quality analysis requires competent professional judgment.").

matter of expert discretion by the Federal Reserve Board and be subject to discretionary exceptions.⁷⁹

The question remaining, then, is whether discretionary judgment should be confined to monetary policy or whether it should remain available for financial regulation more broadly. Put differently, the question is whether quantified CBA/FR is itself actually an alternative to judgment, or whether it should be viewed as judgment camouflaged by numbers (“judgment in drag,” one might say, or less colorfully, “judgment in disguise”). To answer that question, a detailed analysis of what CBA/FR might look like is needed.

II. A CRITICAL ASSESSMENT OF JUDICIAL REVIEW OF CBA/FR

As noted at the outset, a movement is afoot to impose CBA/FR on financial regulation. This movement is flowing through a variety of channels. Interest groups and advocacy organizations have been promoting CBA/FR as both policy and law, and regulators themselves have been beefing up their quantitatively trained staffs. But one big force (perhaps the biggest) that is promoting the role of CBA/FR has been judicial activism—aggressive review of agency decisions by courts focused in large part on CBA. After reviewing statutes relevant to CBA/FR, this Part critically assesses recent cases in the D.C. Circuit that have overturned financial regulations in whole or in part because of what some judges have seen as inadequately quantified CBA/FR. This Part concludes with a summary of how this judicial activism has led some of the financial agencies to engage in more CBA/FR, and has amplified legislative efforts to promote CBA/FR through oversight and proposed legislation.

A. Existing CBA/FR Law

Formally, independent agencies⁸⁰ such as the financial regulators are not subject to explicit CBA/FR law to the same extent as executive agencies, which have been required (by executive order since 1981 and by statute since 1995) to conduct CBA for new rules.⁸¹ Vice President George H.W. Bush requested in

79. See Taylor, *Getting Back on Track*, *supra* note 70; Taylor, *A Historical Analysis*, *supra* note 70.

80. Independent regulatory agencies are listed in the Paperwork Reduction Act of 1980. 44 U.S.C. § 3502(5) (2012). Not all financial regulations are issued by independent agencies; the Department of Labor, which is an executive agency, promulgates regulations relevant to pension funds, for example, and is governed by the executive orders listed *infra* note 81.

81. Exec. Order No. 12,291, 46 Fed. Reg. 13,193 (Feb. 17, 1981) (requiring, *inter alia*, CBA for new regulations), *superseded by* Exec. Order No. 12,866, 58 Fed. Reg. 51,735 (Sept. 30, 1993) (modestly amending prior CBA requirements, imposing heightened requirements for “significant regulatory action” and further requirements for actions likely to have an economic

1981 that the executive agencies comply with the CBA portions of the executive orders, and some of the financial agencies have at times voluntarily, if incompletely and inconsistently, done so.⁸² By contrast, in the United Kingdom, the two main financial regulatory agencies are required by statute to conduct quantified CBA/FR, unless in the opinion of the agencies the costs or benefits “cannot reasonably be estimated” or “it is not reasonably practicable to produce an estimate,” in which case the agency must publish its opinion and explain it.⁸³

impact of \$100 million per year (hereinafter, an “economically significant rulemaking”)), amended by Exec. Order No. 13,258, 67 Fed. Reg. 9385 (Feb. 26, 2002) (eliminating the role of the Vice President in the CBA process), supplemented by Exec. Order No. 13,563, 76 Fed. Reg. 3821 (Jan. 18, 2011). Under these orders, executive agencies are required to conduct quantified CBA to the extent feasible, to submit significant rules to OIRA in advance, to provide CBAs to OIRA, to wait until OIRA reviews the CBAs before publishing rules for public comment, and to publish CBAs with rules. *Id.* Independent agencies are required only to provide OMB with an annual agenda of significant regulatory actions for the upcoming year, including, “to the extent feasible and permitted by law,” a summary CBA. *Id.* Sherwin reports having reviewed these agendas for the SEC in the period leading up to 2006, and he found they did not generally include summary CBA. Sherwin, *supra* note 15, at 12. These executive orders were joined by the Unfunded Mandates Reform Act requirement that executive agencies, but not independent agencies, include written CBAs for each economically significant rulemaking. Unfunded Mandates Reform Act of 1995, Pub. L. No. 104-4, 109 Stat. 48 (codified as amended in scattered sections of 2 U.S.C.).

82. *E.g.*, *Monetary Policy and the State of the Economy: Hearing Before the H. Comm. on Fin. Servs.*, 113th Cong. 8 (2013) (statement of Federal Reserve Chairman Ben Bernanke that Federal Open Market Committee purchases of financial assets are conducted “within a [CBA] framework”); SEC OFFICE OF THE INSPECTOR GEN., COMPLIANCE HANDBOOK 38-39 (1999) (stating that SEC rule proposals should contain CBAs). This handbook reflected OMB’s best practices guidance issued in 1996, see GOV’T ACCOUNTABILITY OFFICE, GAO-12-151 DODD-FRANK ACT REGULATIONS: IMPLEMENTATION COULD BENEFIT FROM ADDITIONAL ANALYSES AND COORDINATION n.14 (2011); see also *Budget Hearing—Securities and Exchange Commission: Hearing Before the Fin. Servs. and Gen. Gov’t Subcomm. of the H. Comm. on Appropriations*, 112th Cong. (2011) (statement of SEC Chairman Mary Schapiro), Federal News Service, Inc., transcript at 26-27; SEC OFFICE OF THE INSPECTOR GENERAL, OFFICE OF AUDITS, SEC OIG 499, FOLLOW-UP REVIEW OF COST-BENEFIT ANALYSES IN SELECTED DODD-FRANK RULEMAKINGS 6 (2012) (“SEC Chairman Arthur Levitt stated that there was an expectation that the SEC would perform cost-benefit analyses as part of the rulemaking process.”). See generally BARRY D. FRIEDMAN, REGULATION IN THE REAGAN-BUSH ERA: THE ERUPTION OF PRESIDENTIAL INFLUENCE 78 (1995); Richard H. Pildes & Cass R. Sunstein, *Reinventing the Regulatory State*, 62 U. CHI. L. REV. 1, 11-18 (1995); Peter L. Strauss, *The Place of Agencies in Government: Separation of Powers & the Fourth Branch*, 84 COLUM. L. REV. 573, 591-93 (1984).
83. Financial Services Act, 2012, amending inter alia sections 138I (Financial Conduct Authority) and 138J (Prudential Regulation Authority) of the Financial Services and Markets Act 2000. In striking contrast to the recent U.S. experience, the FSA and its successors’ rulemakings and CBA (while subject to judicial review) have not been subjected to numerous court decisions striking down rules for inadequate CBA. The only example of a court decision that even refers to CBA by the Financial Services Authority (FSA) is *R (on the application of the British Bankers Association) v. FSA et al.*, [2011] EWHC (Admin) 999 (Eng.), which rejected

Three CBA-related statutes cover the independent agencies. The Paperwork Reduction Act (PRA) requires agencies to justify collection of information from the public, to minimize the burden of any information collection process, and to maximize the utility of information gathered.⁸⁴ The Regulatory Flexibility Act (RFA) requires agencies to assess and consider alternatives to the burden of regulation on small entities.⁸⁵ The Congressional Review Act (CRA) requires agencies to submit proposed rules—along with any CBA the agencies have conducted—to Congress and the Government Accountability Office (GAO).⁸⁶ The statute requires the GAO to submit an assessment to Congress of any “major rule,” defined as any rule having an expected impact of \$100 million or more.⁸⁷

As a result of these statutes, independent agencies include some CBA-relevant information in rulemakings, the GAO has been submitting annual reports on CBA for major rules (including rulemakings by independent agencies), and the OMB has collected and reported on the GAO’s reports on an annual basis.⁸⁸ Analyses under the PRA and the RFA represent only a subset of a

a challenge by a banking trade group to the handling of complaints about “Payment Protection Insurance” by the FSA and the Financial Ombudsman Service, which handles consumer financial complaints.

84. Pub. L. No. 104-13, 109 Stat. 163 (1995) (codified at 44 U.S.C. §§ 3501-3520).
85. Pub. L. No. 96-354, 94 Stat. 1164 (1980) (codified at 5 U.S.C. §§ 601-612). The RFA was one basis for the recent suit against the Volcker Rule by the American Bar Association. See *infra* note 341.
86. Technically, the reports are submitted to the head of the GAO, the Comptroller General. Contract with America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (codified as amended in 5 U.S.C. §§ 801 et seq.). This statute exempts monetary policy by the Federal Reserve Board and the Federal Open Market Committee. 5 U.S.C. § 807.
87. 5 U.S.C. § 804. Under the statute, major rules do not go into effect for sixty days, and Congress has the power to veto “major rules” by joint resolution passed within that period, subject to presidential veto of the joint resolution. 5 U.S.C. §§ 801-802. Courts have interpreted this statute to preclude judicial review of agency compliance with the statute, including agency determinations of whether a rule is “major.” See, e.g., *Via Christi Reg’l Med. Ctr., Inc. v. Leavitt*, 509 F.3d 1259, 1271 n.11 (10th Cir. 2007) (“The Congressional Review Act specifically precludes judicial review of an agency’s compliance with its terms.”); *Operation of the Missouri River Sys. Litig.*, 363 F. Supp. 2d 1145, 1173 (D. Minn. 2004) (agency’s determination under CRA that a rule is not a “major rule” is not subject to judicial review); see also *Montanans for Multiple Use v. Barbouletos*, 568 F.3d 225 (D.C. Cir. 2009); *Tex. Sav. & Cmty. Bankers Ass’n v. Fed. Hous. Fin. Bd.*, 201 F.3d 551 (5th Cir. 2000).
88. E.g., *GAO-03-933R Report Under 5 U.S.C. § 801(a)(2)(A) on a Major Rule*, U.S. GOV’T ACCOUNTABILITY OFF. (June 25, 2003), <http://www.gao.gov/assets/90/83472.pdf> [<http://perma.cc/CEG8-WVRH>] (reviewing the rule proposed by the SEC for the implementation of section 404 of the Sarbanes-Oxley Act, discussed more *infra* Part III.A); *GAO-14-147R, Report Under 5 U.S.C. § 801(a)(2)(A) on a Major Rule*, U.S. GOV’T ACCOUNTABILITY OFF. (Oct. 30, 2013), <http://www.gao.gov/assets/660/658810.pdf> [<http://perma.cc/VXV7-A35V>]

full CBA—even of a full conceptual CBA—and the information in these reports is thin—generally indicating whether CBA was conducted, without regard to whether it was conceptual or quantified, extensive or brief, persuasive or perfunctory. Still, the PRA and RFA have generated information used to critique financial rules on CBA-related grounds, and the GAO’s and OMB’s reports have made the complete absence of voluntary CBA in many rulemakings by independent agencies more salient over time. Together, this information has fueled legislative, inter- and intra-agency, and interest group pressure on the financial regulatory agencies to do more on their own to conduct CBA, and has also led to a sharp increase in industry-funded court challenges to agency rulemakings on CBA/FR grounds.

B. A Critical Assessment of Judicial Review of CBA/FR

Despite the fact that CBA/FR is not clearly required of independent agencies, business trade groups have since 2000 invested significant time and resources to persuade courts—primarily the D.C. Circuit—to strike down a series of rules under the APA and under statutes that authorize financial regulation. Cited in internal CBA/FR guidance promulgated by the CFTC and the SEC, these decisions have clouded implementation of the Dodd-Frank Act, contributing significantly to the rulemaking delays under that law. These decisions have had an impact on the legislative process, as lawmakers, lobbyists, and the agencies themselves have noticed that rules receive different treatment depending on whether Congress has required the agencies to enact them or has given the agencies discretion and authority to act on their own.

The first in the recent string of judicial interventions was *Chamber of Commerce v. SEC*.⁸⁹ In that decision, the D.C. Circuit held that the SEC failed to comply with the Investment Company Act (ICA). The ICA requires the SEC to “consider . . . whether [regulatory] action will promote efficiency, competition, and capital formation,”⁹⁰ a requirement added to the SEC’s statutory mandates

(reviewing the rule proposed by the Office of the Comptroller of the Currency (OCC) and the Federal Reserve to implement Basel III, discussed more *infra* Part III.C); Off. Info. & Regulatory Affairs, *2012 Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities*, OFF. MGMT. BUDGET app. C, http://www.whitehouse.gov/sites/default/files/omb/inforeg/2012_cb/2012_cost_benefit_report.pdf [<http://perma.cc/2N6B-NKL7>] (assessing CBA of “major rules” issued by independent agencies in the prior fiscal year).

89. *Chamber of Commerce v. SEC*, 412 F.3d 133 (D.C. Cir. 2005).

90. 412 F.3d at 142 (citing 15 U.S.C. § 80a-2(c) (2012)).

in 1996.⁹¹ As a result, according to the court, the SEC had also violated the APA.⁹² The rules in question – discussed in Part III.B – made exemptions under other rules conditional on mutual funds increasing their boards’ independence.

The specific CBA/FR-related failings to which the court pointed were two small parts of the SEC’s regulatory analysis. The first was that the SEC declined to quantify costs of requiring more independent directors because it did not know how funds would respond to the rule.⁹³ This, the court replied, was no excuse, saying that the SEC could have determined “the range within which a fund’s cost of compliance [would] fall, depending on how it responds to the condition.”⁹⁴ Presumably the court had in mind that the SEC could quantify costs of each possible response and guesstimate a range based on assumptions about how many funds would choose each option.

The second failing was similar, relating to a requirement that fund boards have an independent chair. There, the SEC declined to quantify costs of the newly independent chairs’ hiring staff because staffing would be discretionary and the SEC had no basis for knowing how many chairs would hire staff (or how many staff each chair would hire). Again, the court held the SEC needed to guesstimate this subset of costs by estimating the costs for an individual fund, an exercise that the court asserted (without further explanation) would be “pertinent” to an “assessment” of the requirement.⁹⁵ But the only way that an individual fund cost estimate would be “pertinent” is if the SEC implicitly or explicitly made further assumptions about how many funds would incur those costs – even though the SEC explicitly noted that it had no reliable basis on which to build the assumptions, and the court offered no reason to doubt

91. National Securities Markets Improvement Act, Pub. L. No. 104-290, § 106, 110 Stat. 3416, 3425 (1996) (codified at 15 U.S.C. § 80a-2). Identical requirements were added to the other federal securities laws. *Id.*

92. 412 F.3d at 144.

93. *Id.*

94. *Id.* at 143.

95. *Id.* at 144. The third failing did not raise CBA issues, and arose under the APA directly: the SEC had not formally considered a disclosure alternative to its proposals, in which funds would prominently disclose whether they had independent chairs. Here, the court pointed to the fact that two dissenting Commissioners had suggested the alternative, along with a number of commentators, and that the SEC’s only stated reasons for not considering it were that it had no obligation to consider every alternative raised, that it did consider other alternatives, and that Congress in the ICA itself had not relied on disclosure to police conflicts of interest in funds. To this, the court noted, “[T]hat the Congress required more than disclosure with respect to some matters governed by the ICA does not mean it deemed disclosure insufficient with respect to all such matters.” *Id.* at 144-46.

the SEC's claim.⁹⁶ The court's analysis under the APA was nonexistent: because the SEC had not followed the ICA, the court reasoned, it had violated the APA.⁹⁷

In sum, the court interpreted the requirement that the SEC "consider" a rule's effects on "efficiency" to imply a very specific CBA/FR mandate—calling on the SEC to guesstimate the range of one of a rule's costs, rather than merely identifying the type of cost imposed. The court's interpretation of the ICA was based on no prior court decision⁹⁸ and no legislative history. Nor is it implicit in the ICA's words, as "efficiency" is frequently used as a qualitative and not exclusively quantitative concept.⁹⁹ Nowhere did the court cite (much less discuss) Supreme Court precedent under the APA that had emphasized that courts should be highly deferential in reviewing an agency's judgment under the "arbitrary and capricious" standard.¹⁰⁰ Nor did it address precedents more generally admonishing courts to be mindful of the "complex nature of economic analysis" in deferring to agencies.¹⁰¹

96. *Id.* at 137 (citing Investment Company Governance, 69 Fed. Reg. 46,387 n.81) (stating that "[w]e have no reliable basis for estimating those costs").

97. *Id.* at 144 ("The Commission did violate the APA by failing adequately to consider the costs mutual funds would incur in order to comply with the conditions."); *accord id.* at 136.

98. The only precedent cited by the court in its critique of the SEC's CBA was *Public Citizen v. Federal Motor Carrier Safety Administration*, 374 F.3d 1209 (D.C. Cir. 2004). In that case, an executive (not independent) agency that was specifically required by statute to "consider the costs and benefits" of its regulation was held to have violated a distinct statutory requirement to "deal[] with . . . fatigue-related issues pertaining to . . . vehicle safety," which the court there interpreted as requiring the agency to collect and analyze data on the costs and benefits of a specific possible regulation. *Id.* at 1211-12 (citing 49 U.S.C. §§ 31502, 31506, 31136 (2012)); *see also id.* at 1221 ("This directive, in our view, required the agency, at a minimum, to collect and analyze data on the costs and benefits."). No specific directive of that kind was at issue in *Chamber of Commerce*, only the open-ended directive for the SEC to consider the effects of its rules on "efficiency, competition, and capital formation." 412 F.3d at 140 (citing 15 U.S.C. § 80a-2(c) (2012)).

99. *See, e.g., MAS-COLLEL ET AL., supra* note 32, at 127, 152-53 (discussing "efficiency" without reference to quantitative data).

100. *See Bowman Transp., Inc. v. Ark.-Best Freight Sys., Inc.*, 419 U.S. 281, 285-86 (1974). After *Chamber of Commerce*, the D.C. Circuit has held that courts should be "particularly deferential in matters implicating predictive judgments," *Rural Cellular Ass'n v. FCC*, 588 F.3d 1095, 1105 (D.C. Cir. 2009), which led another panel of the D.C. Circuit to hold that the APA "imposes no general obligation on agencies to produce empirical evidence" when it is not in the agency's record. *Stilwell v. Office of Thrift Supervision*, 569 F.3d 514, 519 (D.C. Cir. 2009).

101. *Nat'l Wildlife Fed'n v. EPA*, 286 F.3d 554, 563 (D.C. Cir. 2002). This fact has led another panel of the D.C. Circuit, after *Chamber of Commerce*, to announce sweepingly that courts should "review . . . cost-benefit analysis deferentially." *Nat'l Ass'n of Home Builders v. EPA*, 682 F.3d 1032, 1040 (D.C. Cir. 2012).

Finally, the court never explained how a crude guesstimate of one conditional component of possible costs of a rule could meaningfully inform the public about the “efficiency” of the rule when the SEC had not quantified the benefits of the rule—and when the court did not suggest that the SEC try to do so, whether it could, or how it could if it tried. In other words, the court read general language in the ICA as if it required the SEC to comply with the Executive Orders requiring CBA/FR “to the extent feasible,”¹⁰² and then added an interpretive gloss on OMB Guidance that has little apparent virtue in improving public understanding of the rule. Whatever the merits of the SEC’s mutual fund rules—and there are reasons (noted in Part III.B) to suggest that the rules might not be a good idea on balance—the merits of the court’s decision evaluating the SEC’s rulemaking under the ICA and the APA are hardly compelling and do not appear to reflect any meaningful deference to SEC judgment on how to conduct CBA/FR.

Yet this decision was only the first of a rash of judicial interventions into the financial regulatory process, each opinion growing steadily less deferential, culminating in the 2011 case *Business Roundtable v. SEC*.¹⁰³ In the seven years after *Chamber of Commerce*, the D.C. Circuit handed down six more similar decisions, striking down a range of SEC actions (representing one in seven of the SEC’s major rules over that period).¹⁰⁴ The D.C. Circuit has struck down a rule requiring registration of hedge fund advisors under the Investment Advisors Act,¹⁰⁵ a rule exempting broker-dealers from registration under that Act,¹⁰⁶ an order affirming expulsion of an NASD-member firm,¹⁰⁷ and a rule treating a new class of securities market-linked annuities as securities.¹⁰⁸ The court also struck down the same mutual fund governance rules from *Chamber of Commerce* a second time: the SEC, with perhaps tactless speed, patched the guesstimated CBA/FR holes in its rulemaking analysis, only to have its rule struck down on new grounds.¹⁰⁹ Since *Chamber of Commerce*, only one decision, *Na-*

102. OMB Guidance, *supra* note 20. The OMB does not specify that an agency engaging in quantification “to the extent feasible” must quantify costs on a conditional basis.

103. 647 F.3d 1144 (D.C. Cir. 2011).

104. For the total number of major rules, see OFFICE OF INFO. & REGULATORY AFFAIRS, OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, 2012 REPORT TO CONGRESS ON THE BENEFITS AND COSTS OF FEDERAL REGULATIONS AND UNFUNDED MANDATES ON STATE, LOCAL, AND TRIBAL ENTITIES app. c (2012).

105. *Goldstein v. SEC*, 451 F.3d 873 (D.C. Cir. 2006).

106. *Fin. Planning Ass’n v. SEC*, 482 F.3d 481 (D.C. Cir. 2007).

107. *PAZ Sec., Inc. v. SEC*, 494 F.3d 1059 (D.C. Cir. 2007).

108. *Am. Equity Inv. Life Ins. Co. v. SEC*, 613 F.3d 166 (D.C. Cir. 2010).

109. *Chamber of Commerce v. SEC*, 443 F.3d 890 (2006) (holding that the SEC’s re-proposal of the mutual fund governance rules violated the APA because the SEC relied on materials not

tional Ass'n of Manufacturers v. SEC, has upheld an SEC regulation.¹¹⁰ Another upheld a CFTC regulation,¹¹¹ and another upheld a decision of the Office of Thrift Supervision against CBA/FR-related challenges.¹¹²

Three facts are worth noting about these decisions. First, a business or trade group initiated and funded each of the cases; so far, consumer and investor lobbies have been sitting out these court battles.¹¹³ One-sided use of litigation as a lobbying tactic is not typically a stable feature of enduring battles between interest groups over important regulations. Second, not all of the decisions strike down new regulations—one struck down a new *exemption* from a regulation, and one overturned an enforcement action. Together, these two facts should give pause to political entrepreneurs who seek to use CBA/FR as a way to attack regulation generally; these observations suggest that CBA/FR law can slow or stop *deregulation* as easily as it can slow or stop new regulation, particularly if consumer or investor advocates develop and fund their own CBA/FR litigation agendas. Third, each regulatory action (except the action involved in *National Ass'n of Manufacturers*) was taken pursuant to the SEC's general statutory authority to use discretion to adopt regulations in support of the securities laws—and not pursuant to a mandate from Congress to do so. That the District Court in *National Ass'n of Manufacturers*¹¹⁴ distinguished the

in the public record and had not reopened the rule for public comment). Some commentators have suggested that the SEC's rapid re-adoption of its rule with the cost estimates called for by the D.C. Circuit in *Chamber of Commerce I* shows that it was less than diligent in failing to provide the cost estimates in the first release. *E.g.*, CCMC REPORT, *supra* note 6, at 30; Sherwin, *supra* note 15, at 164. This criticism is unfair, because it fails to explain why the SEC should have understood that it had an obligation to provide that cost information in its first release; at the time of that release, neither the APA nor NSMIA nor court precedents would have made it apparent that the cost considerations—referred to by the Chamber of Commerce's own report as “relatively minor,” CCMC REPORT, *supra* note 6, at 30—would be an independently important component of the SEC's regulatory analysis, or were otherwise required to be set forth in the release. It is even more deceptive to imply that the SEC was able in its second release to do something it had said it could not do in its first release, as the CCMC report suggests, *id.* (noting that “the court's incredulity about the SEC's position that the agency could not determine these costs proved true”), because the SEC's position was not that it could not estimate conditional cost estimates, but only that these conditional cost estimates could not be translated into an actual aggregate compliance estimate—which it never provided, even in its second release.

110. *Nat'l Ass'n of Mfrs. v. SEC*, 748 F.3d 359 (D.C. Cir. 2014).

111. *Inv. Co. Inst. v. CFTC*, 891 F. Supp. 2d 162, 215 (D.D.C. 2012) (“While the CFTC did not calculate the costs of the Final Rule down to the dollar-and-cent, it reasonably considered the costs and benefits of the Final Rule, and decided that the benefits outweigh the costs.”).

112. *Stilwell v. Office of Thrift Supervision*, 569 F.3d 514 (D.C. Cir. 2009).

113. See cases cited *supra* notes 103–112.

114. 956 F. Supp. 2d 43, 53 (D.D.C. 2013) (“All of those cases involved rules or regulations that were proposed and adopted by the SEC of its own accord, with the Commission having in-

string of anti-SEC precedents on the ground that the Dodd-Frank Act mandated the rule in question reinforces this take-away. Under the current CBA/FR legal regime, regulatory agencies are well advised to seek statutory language that requires them to adopt rules or to enforce rule-like legal requirements via enforcement proceedings that are generally exempt from judicial review under the APA;¹¹⁵ it is inadvisable to seek language that promotes SEC discretion and authority in rulemaking based on the agency's expertise. Judicial efforts to promote CBA/FR, in other words, have given expert agencies an incentive to ask an inexperienced Congress to tie their hands with inflexible statutory commands.

The most notorious¹¹⁶ decision in this line of cases was *Business Roundtable*, which struck down an SEC rule requiring public companies to include in their

independently perceived a problem within its purview and having exercised its own judgment to craft a rule or regulation aimed at that problem.”).

115. See Brandice Canes-Wrone, *Bureaucratic Decisions and the Composition of the Lower Courts*, 47 AM. J. POL. SCI. 205, 205 (2003) (using a dataset of Army Corps of Engineers decisions from 1988 to 1996 to conclude that “judicial ideology significantly affects bureaucratic decision making,” consistent with the idea that agencies may seek to shelter decisions from court review by obtaining Congressional mandates); Yehonatan Givati, *Strategic Statutory Interpretation by Administrative Agencies*, 12 AM. L. & ECON. REV. 95 (2010) (finding that, in a theoretical model, stricter judicial review of agency action can result in “safer” statutory interpretations by the agency, due to the relative shift in utility of safe and aggressive interpretations); M. Elizabeth Magill, *Agency Choice of Policymaking Form*, 71 U. CHI. L. REV. 1383, 1437-42 (2004) (noting that agencies can and do choose among rulemaking, enforcement, and informal guidance for various reasons and that judicial review is affected by and affects these choices); Matthew C. Stephenson, *The Strategic Substitution Effect: Textual Plausibility, Procedural Formality, and Judicial Review of Agency Statutory Interpretations*, 120 HARV. L. REV. 528 (2006) (concluding that procedural formality substitutes for textual interpretation of statutes that authorize agency actions); Emerson H. Tiller, *Controlling Policy by Controlling Process: Judicial Influence on Regulatory Decision Making*, 14 J.L. ECON. & ORG. 114 (1998) (presenting a model of judicial review of agency decision making, in which “process review” under the APA for arbitrariness forces agencies to expend resources to reduce the risk of judicial reversal); Emerson H. Tiller & Pablo T. Spiller, *Strategic Instruments: Legal Structure and Political Games in Administrative Law*, 15 J.L. ECON. & ORG. 349 (1999) (finding that agencies choose among “instruments of decision making” so as to increase costs of court review). For an account of executive agency efforts to avoid CBA review by OIRA, see Jennifer Nou, *Agency Self-Insulation Under Presidential Review*, 126 HARV. L. REV. 1755 (2013).
116. The decision provoked unusual agreement among legal commentators—all negative. See Robert B. Ahdieh, *Reanalyzing Cost-Benefit Analysis: Toward a Framework of Function(s) and Form(s)*, 88 N.Y.U. L. REV. 1983 (2013); James D. Cox & Benjamin J.C. Baucom, *The Emperor Has No Clothes: Confronting the D.C. Circuit's Usurpation of SEC Rulemaking Authority*, 90 TEX. L. REV. 1811 (2012); Jill E. Fisch, *The Long Road Back: Business Roundtable and the Future of SEC Rulemaking*, 36 SEATTLE U. L. REV. 695 (2013); Grant M. Hayden & Matthew T. Bodie, *The Bizarre Law & Economics of Business Roundtable v. SEC*, 38 J. CORP. L. 101 (2012); Kraus & Raso, *supra* note 12; Michael E. Murphy, *The SEC and the District of Columbia Circuit: The Emergency of a Distinct Standard of Judicial Review*, 7 VA. L. & BUS. REV. 125 (2012); Comment, *D.C. Circuit Finds SEC Proxy Access Rule Arbitrary and Capricious for Inadequate Economic Analysis*, 125 HARV. L. REV. 1088 (2012); Anthony W. Mongone, Note, *Busi-*

annual proxy statements, under limited circumstances,¹¹⁷ information about (and the power to vote for) board nominees nominated by large shareholders rather than solely those nominated by the incumbent board.¹¹⁸ Despite the SEC's having debated the issue for over a decade, having developed an extensive public record before adopting the rule, and having adopted the rule under the explicit authority and implicit direction of Congress in section 971 of the Dodd-Frank Act, a panel of the D.C. Circuit struck the rule down as "arbitrary and capricious."¹¹⁹ According to the court, the twenty-five single-spaced pages devoted to cost-benefit and related analyses in the adopting release was inadequate under the APA and "failed . . . adequately to assess the economic effects of a new rule."¹²⁰ The D.C. Circuit presented no evidence that there is any

ness Roundtable: *A New Level of Judicial Scrutiny and Its Implications in a Post-Dodd-Frank World*, 2012 COLUM. BUS. L. REV. 746; Stephanie Lyn Parker, Note, *The Folly of Rule 14a-11: Business Roundtable v. SEC and the Commission's Next Step*, 61 AM. U. L. REV. 715 (2012); J. Robert Brown, Jr., *Shareholder Access and Uneconomic Economic Analysis: Business Roundtable v. SEC* (Univ. of Denver Sturm College of Law Legal Research Paper Series, Working Paper No. 11-14, 2011), <http://www.denverlawreview.org/online-articles/2011/9/30/shareholder-access-and-uneconomic-economic-analysis-business.html> [<http://perma.cc/PD72-8K83>]; Dennis Kelleher, Stephen Hall & Katelynn Bradley, *Setting the Record Straight on Cost-Benefit Analysis and Financial Reform at the SEC*, BETTER MARKETS, INC. 59-68 (2012), <http://www.bettermarkets.com/sites/default/files/Setting%20The%20Record%20Straight.pdf> [<http://perma.cc/X4L8-SUK5>]. The only substantial defense of the decision is in the CCMC report, CCMC REPORT, *supra* note 6, which, as noted above, was funded by a party to the case, the U.S. Chamber of Commerce. *Id.* at ii.

117. Indeed, the circumstances were so limited that prominent corporate law scholars labeled the rule "insignificant." Marcel Kahan & Edward Rock, *The Insignificance of Proxy Access*, 97 VA. L. REV. 1347 (2011). The CCMR report's characterization of the proxy access rule as "more substantive," CCMR REPORT, *supra* note 4, at 7, than the CFTC registration and reporting requirements upheld in *Investment Company Institute v. CFTC*, 891 F. Supp. 2d 162 (2012), is mysterious. Proxy access would not have changed "substantive" corporate governance but only added disclosure and process requirements for proxy solicitation; it would have been, in effect, a cross-subsidy of large, long-term shareholders' disclosure obligations, but would not have altered voting rights or the relative authority of boards or shareholders to make decisions for corporations.

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

119. *Id.* at 1148.

120. *Id.* The court also asserted the SEC had been arbitrary by using "inconsistent" estimates of the frequency with which the rule would be used. *Id.* at 1153. To support this, the court claimed that the SEC had "predicted nominating shareholders would realize 'direct cost savings' from not having to print or mail their own proxy materials," that the SEC had cited comment letters in support of this fact, and that one letter reported the rule would be frequently used, suggesting that the SEC believed that the cost savings would be large. *Id.* at 1153-54 (noting that the SEC "then cited comment letters predicting the number of elections contested under [the rule] would be quite high" and that "[o]ne of the comments reported . . . that . . . 'hundreds' of . . . companies . . . expected a shareholder . . . to nominate a director using the rule" (citing Letter from Kenneth L. Altman, President, The Altman

available scientific technique for the SEC to “assess the economic effects” of the rule along the lines that the court seemed to think legally required—as when the court held that the SEC “relied upon insufficient empirical data when it concluded that Rule 14a-11 [would] improve board performance and increase shareholder value by facilitating the election of dissident shareholder nominees,”¹²¹ or when it held that the SEC had “arbitrarily ignored the effect of the final rule” because the SEC “does not address whether and to what extent Rule 14a-11 will take the place of traditional proxy contests.”¹²²

Instead, as in *Chamber of Commerce*, the U.S. court with “[s]tatus [s]econd [o]nly to [the] Supreme Court”¹²³ ignored precedents establishing a “deferential” standard of review under the APA and substituted its own judgment for that of the SEC in evaluating the existing research relevant to proxy contests. In *Business Roundtable*, the D.C. Circuit went so far as to characterize (without explanation) a peer-reviewed article published in the *Journal of Financial Economics* as “relatively unpersuasive.”¹²⁴ Even the *Chamber of Commerce* decision had not gone so far, for while that decision invented an obligation for the SEC to use guesstimated CBA/FR on the cost side of its rulemaking, it also held that the SEC need only “determine *as best it can* the economic implications” of a rule;¹²⁵ moreover, *Chamber of Commerce* nowhere suggested the SEC had to remain inert whenever quantified CBA/FR was simply unavailable. Hypocritically, it was Judge Ginsburg who penned the *Business Roundtable* decision, just two years after he joined the decision in *Stilwell*, where the same court held that

Grp., Inc., to Elizabeth M. Murphy, Secretary, Sec. & Exch. Comm’n (Jan. 19, 2010), <http://www.sec.gov/comments/s7-10-09/s71009-605.pdf> [<http://perma.cc/QTJ4-TADN>]]. The court’s opinion on this point is egregiously misleading: it falsely claims the SEC relied on the Altman comment as a basis for the SEC’s views on costs, and it then falsely claims that the SEC’s supposed view on costs contradicted other statements in the SEC’s release. In fact, the SEC did not cite *any* public comments to support its beliefs about direct cost savings, which were qualitative, a matter of common sense, and did not need such support. See *Facilitating Shareholder Director Nominations*, Exchange Act Release No. 33-9136, 75 Fed. Reg. 56,668 (Sept. 16, 2010). To the contrary, the SEC specifically rejected the claim that the rule would be frequently used, as claimed in the Altman letter cited by the court. *Id.* at 270. Nowhere does the SEC cite the Altman letter to support its conclusions. *Id.*

121. *Bus. Roundtable*, 647 F.3d at 1149-50.

122. *Id.* at 1153.

123. Jess Bravin, *Why D.C. Circuit, at Center of Nominee Fight, Is So Important*, WALL ST. J., Nov. 20, 2013, <http://online.wsj.com/news/articles/SB10001424052702304607104579210383151449004> [<http://perma.cc/C5V-Q7UH>].

124. *Bus. Roundtable*, 647 F.3d at 1151.

125. *Chamber of Commerce v. SEC*, 412 F.3d 133, 143 (D.C. Cir. 2005) (emphasis added).

the APA “imposes no general obligation on agencies to produce empirical evidence.”¹²⁶

In sum, the D.C. Circuit’s new interpretations of the APA and statutes authorizing financial regulation have permitted panels to overturn regulatory changes on the ground that a court would conduct its guesstimated CBA differently than an agency would. Since guesstimated CBA/FR is unreliable and imprecise, no matter who conducts it, courts have no legitimate role to second-guess the agencies—even if the agencies are arbitrary in how they go about the guesstimated CBA/FR. Indeed, the state of CBA/FR is such that one can reasonably argue that all guesstimated CBA/FR of major financial regulations inevitably contains multiple arbitrary assumptions and judgments simply to allow for rough guesstimates to be made. Worse, the judges reviewing these guesstimates are political appointees tenured for life, and so—while often selected for political reasons—are immune from conventional forces of political accountability; nonetheless, they have been frequently partisan in their approach to CBA. Because the D.C. Circuit is roughly evenly split between Republican and Democratic appointees,¹²⁷ the partisan-driven outcomes in CBA/FR cases are unpredictable and depend on a factor (which judges are chosen for a given case) that has nothing to do with the APA or any other law. The normative implications of this state of affairs are taken up in Part IV.

C. Congressional Oversight, Regulatory Initiatives, and Proposed Legislation

Elements of the legislative branch, as well as the financial agencies’ own initiatives, have reinforced the effect of judicial review of existing CBA-related

126. *Stilwell v. Office of Thrift Supervision*, 569 F.3d 514, 519 (D.C. Cir. 2009) (emphasis added). Nothing in the text of the securities laws would change this; the word “efficiency” does not by any reasonable reading imply a burden to generate evidence that does not exist, and the court in *Business Roundtable* did not examine the legislative history of the requirement that the SEC consider “efficiency.” See Murphy, *supra* note 116, at 128-30; Mongone, *supra* note 116, at 746-56.

127. On the partisan nature of the Court’s decisions on CBA, see the discussion in the text accompanying notes 7 and 8; see also Cass R. Sunstein & Adrian Vermeule, *Libertarian Administrative Law*, 81 U. CHI. L. REV. (forthcoming 2015) (manuscript at 56) (on file with author) (noting the libertarian ideology of judges on the D.C. Circuit who have been most active in striking down agency decisions on CBA grounds, and that while this ideology does not perfectly track party affiliation, it “correlates powerfully” with it). While the D.C. Circuit now has seven active judges who were nominated by Democratic presidents and four active judges who were nominated by Republican presidents, it also has five senior judges who were nominated by Republican presidents and one senior judge who was nominated by a Democratic president. These senior judges are entitled to (and do) carry up to a full caseload. Because panels are composed of three judges, there remains a strong possibility of partisan or ideological panels reviewing independent agency decisions.

mandates on the financial agencies' organic statutes. While Congress has not mandated CBA for independent agencies, members of Congress, in coordination with minority commissioners of the CFTC and the SEC, have pressured the agencies to engage in CBA, both by attempting to pass legislation (discussed below) and with soft power, through hearings, information requests, and public criticism. In 1998, the GAO released a critique of current law for failing to improve CBA in agency rulemakings.¹²⁸ As discussed in Part III.B, Fidelity Management in 2004 persuaded Congress to require the SEC to justify proposed rules by preparing a report on their potential benefits.¹²⁹ In 2007, the House held hearings on the Sarbanes-Oxley Act, in which one witness (inaccurately) critiqued the SEC's CBA/FR,¹³⁰ a criticism echoed by members of Congress¹³¹ and, more recently, by Republican SEC Commissioner Daniel M. Gallagher.¹³²

These pressures, along with the court decisions discussed above, have led financial agencies to conduct and publish more CBA/FR in recent years. OMB reports show that this increase in the use of CBA/FR began in the early 2000s. In September 2010, the CFTC's General Counsel and Acting Chief Economist distributed a memo to the CFTC's rulemaking teams noting that, while the CFTC's authorizing statute does not require quantified CBA/FR, it does require the CFTC to consider costs and benefits, and that recent court decisions

128. GEN. ACCOUNTING OFFICE, U.S. GOV'T ACCOUNTABILITY OFFICE, GAO/GGD-98-30, UNFUNDED MANDATES: REFORM ACT HAS HAD LITTLE EFFECT ON AGENCIES' RULEMAKING ACTIONS 30 (1998), <http://www.gao.gov/assets/230/225165.pdf> [<http://perma.cc/5QFV-5864>].

129. Sherwin, *supra* note 15, at 27-28 (citing H.R. 4818, 108th Cong. (2004); H.R. REP. NO. 108-472, at 841 (2004); S. 2908, 108th Cong. (2004) (introduced by Sen. Judd Gregg (R-NH)); Consolidated Appropriations Act of 2005, Pub. L. No. 108-447, 118 Stat. 2809 (2004)).

130. *Full Committee Hearing on Sarbanes-Oxley 404: Will the SEC's and PCAOB's New Standards Lower Compliance Costs for Small Companies?: Hearing Before the H. Comm. on Small Bus.*, 110th Cong. 97 (2007) (statement of Hal Scott, Professor, Harvard Law Sch.) ("That estimate was, we now know, off by a factor of over 48."); accord CCMR REPORT, *supra* note 4. As noted in Part III.A, *infra*, this criticism was mistaken, but has been repeated by the Committee on Capital Markets Regulation in its 2013 report promoting CBA. *Id.* at 9.

131. *A Balancing Act: Cost, Compliance, and Competitiveness After Sarbanes-Oxley: Hearing Before the Subcomm. on Regulatory Affairs of the H. Comm. on Government Reform*, 109th Cong. 2 (2006) (statement of Rep. Patrick T. McHenry, Chairman, H. Subcomm. on Regulatory Affairs) (repeating criticism).

132. Daniel M. Gallagher, Comm'r, Sec. & Exch. Comm'n, Remarks Before the Corporate Directors Forum, (Jan. 29, 2013), <http://www.sec.gov/News/Speech/Detail/Speech/1365171492142#.VADgc7xdXkZ> [<http://perma.cc/TV7S-8QW5>] ("One example relates to compliance with Section 404 of Sarbanes Oxley, which the Commission estimated would cost on average roughly \$91,000 a year to implement.").

had been expanding the demands of CBA/FR law under the APA.¹³³ As a result, the memo directed staff to provide summary CBA/FR in proposed rulemakings and to address conceptual CBA/FR in adopting releases.¹³⁴

Despite these efforts, congressional pressures have only increased, potentially stimulated by the financial industry lobbies seeking to influence rulemaking under the Dodd-Frank Act. In 2013, Senator Mike Crapo (Republican of Idaho) pressed the heads of the major financial agencies to commit to “act on GAO’s recommendation to incorporate OMB’s guidance on [CBA] into your proposed and final rules [and] interpretive guidance.”¹³⁵ Shortly thereafter, ten Senate Banking Committee members requested financial agency inspector generals to report on CBA under the Dodd-Frank Act, “in response to concerns raised by Commissioners at both the CFTC and the SEC” regarding economic analysis at the agencies.¹³⁶ Also in 2011, Congress amended the Dodd-Frank Act to require the GAO to analyze the impact of regulations on the marketplace,¹³⁷ and in November 2011, the GAO released a report on the financial agencies’

133. Memorandum from Dan M. Berkovitz, Gen. Counsel, U.S. Commodities Futures Trading Comm’n, & Jim Moser, Acting Chief Economist, U.S. Commodities Futures Trading Comm’n, to Rulemaking Teams (Sept. 29, 2010), http://www.cftc.gov/ucm/groups/public/@aboutcftc/documents/file/oig_investigation_041511.pdf [<http://perma.cc/M235-EUT2>].

134. *Id.* at Exhibit 1, 2-3 (“[S]ection 15 does not require the [CFTC] to quantify the costs and benefits of an action. However, the [CFTC] cannot consider the costs and benefits . . . unless they are presented either quantitatively or qualitatively.”). A follow-up memo, in May 2011, required rulemaking teams to “incorporate the principles of Executive Order 13563 . . . to the extent . . . reasonably feasible” in final rulemakings. Memorandum from Dan M. Berkovitz, Gen. Counsel, U.S. Commodities Futures Trading Comm’n, & Andrei Kirilenko, Chief Economist, U.S. Commodity Futures Trading Comm’n, to Rulemaking Teams 1 (May 13, 2011) http://www.cftc.gov/ucm/groups/public/@aboutcftc/documents/file/oig_investigation_061311.pdf [<http://perma.cc/M3SR-VYNW>]. In May 2012, the CFTC and OIRA entered into a memorandum of understanding permitting OIRA staff to provide “technical assistance” to CFTC staff during implementation of the Dodd-Frank Act, “particularly with respect” to CBA/FR. Memorandum of Understanding between Office of Info. & Regulatory Affairs and U.S. Commodity Futures Trading Comm’n (2012), http://www.whitehouse.gov/sites/default/files/omb/inforeg/regpol/oira_cftc_mou_2012.pdf [<http://perma.cc/7AJK-3WE8>].

135. *Wall Street Reform: Oversight of Financial Stability and Consumer and Investor Protections: Hearing Before the S. Comm. on Banking, Housing, and Urban Affairs*, 113th Cong. 21 (2013) (statement of Sen. Crapo).

136. OFFICE OF THE INSPECTOR GEN., SEC. & EXCH. COMM’N, REPORT NO. 499, FOLLOW-UP REVIEW OF COST-BENEFIT ANALYSES IN SELECTED SEC DODD-FRANK ACT RULEMAKINGS 1 (2012); OFFICE OF THE INSPECTOR GEN., U.S. COMMODITY FUTURES TRADING COMM’N, A REVIEW OF COST-BENEFIT ANALYSES PERFORMED BY THE COMMODITY FUTURES TRADING COMMISSION IN CONNECTION WITH RULEMAKINGS UNDERTAKEN PURSUANT TO THE DODD-FRANK ACT, at i (2011).

137. Pub. L. No. 112-10, § 1573(a), 125 Stat. 38, 138-39 (2011) (codified at 12 U.S.C. § 5496(b)).

Dodd-Frank Act rulemakings, finding that “[a]lthough most of the federal financial regulators told us that they tried to follow [OMB guidance] in principle or spirit, their policies and procedures did not fully reflect OMB guidance on regulatory analysis.”¹³⁸ While noting that “for 7 of . . . 10 regulations we reviewed, the agencies generally assessed benefits and costs of the alternative chosen,”¹³⁹ the GAO was particularly critical of the financial agencies for not conducting *quantified* CBA/FR: “[O]ne of the seven benefit-cost analyses monetized the costs of the regulation, but the analysis did not monetize the benefits. None of the other analyses monetized either the benefits or costs, identified the type and timing of them, or expressed them in constant dollars.”¹⁴⁰ Trade groups and political entrepreneurs have picked up these criticisms,¹⁴¹ as have members of Congress.¹⁴²

In March 2012, SEC staff distributed its own internal CBA/FR guidance. The guidance cited “[r]ecent court decisions, reports of the [GAO] and the SEC’s . . . [OIG], and Congressional inquiries” that had “raised questions about . . . the [SEC’s] economic analysis in its rulemaking.”¹⁴³ The SEC guidance noted “[n]o statute expressly requires” the SEC to “conduct a formal” CBA but that “SEC chairmen ha[d] informed Congress since at least the early

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138. U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-12-151, DODD-FRANK ACT REGULATIONS: IMPLEMENTATION COULD BENEFIT FROM ADDITIONAL ANALYSES AND COORDINATION 14 (2011).
139. *Id.* at 16-17. In 2012, the GAO released another report advocating CBA/FR, reiterating its view that financial regulators should “more fully incorporate OMB’s guidance into their rulemaking policies.” U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-13-101, DODD-FRANK ACT: AGENCIES’ EFFORTS TO ANALYZE AND COORDINATE THEIR RULES (2012) (text on “highlights” page).
140. U.S. GOV’T ACCOUNTABILITY OFFICE, *supra* note 138, at 17.
141. See CCMC REPORT, *supra* note 6, at 9-10; CCMR REPORT, *supra* note 4, at 7-10. Neither the GAO nor other CBA proponents have set out examples of how the SEC should conduct CBA/FR, limiting themselves to simply counting what share of rulemakings contained CBA/FR of any kind, and what share contained at least some quantification, without regard to whether the quantification is precise, reliable, or comprehensive as to either costs or benefits. The CCMR report holds up one SEC rulemaking as the “gold-standard” of CBA/FR, CCMR REPORT, *supra* note 4, at 13-15, as discussed *infra* at text accompanying notes 344-361.
142. *E.g.*, *Who Is Too Big To Fail? GAO’s Assessment of the Financial Stability Oversight Council and the Office of Financial Research: Hearing Before the Subcomm. on Oversight and Investigations of the H. Comm. on Fin. Serv.*, 113th Cong. 26 (2013) (question from Rep. Wagner to witness from Financial Stability Oversight Council about a “GAO report that talked about [needing] a [CBA]”).
143. Memorandum from the Div. of Risk, Strategy and Fin. Innovation and the Office of the Gen. Counsel, U.S. Sec. & Exch. Comm’n, to the Staff of the Rulemaking Div. and Offices, U.S. Sec. & Exch. Comm’n, on Current Guidance on Economic Analysis in SEC Rulemakings 1 (2012), http://www.sec.gov/divisions/riskfin/rsfi_guidance_econ_analy_secrulemaking.pdf [<http://perma.cc/RDN3-NU64>].

1980s – and as rulemaking releases since that time reflect – the [SEC] considers potential costs and benefits as a matter of good regulatory practice whenever it adopts rules.”¹⁴⁴ The SEC guidance went on to set out “[s]ubstantive requirements” for CBA/FR, drawing on the CBA Executive Orders and the OMB Guidance.¹⁴⁵ Rulemaking staff were directed to work with economists on the SEC’s staff to analyze which costs and benefits a rule might create, to quantify those that could be quantified, and to explain why others could not feasibly be quantified.

The bluntest form of congressional pressure has taken the form of bills that would mandate CBA/FR across the board. In June 2013, three Senators reintroduced the Independent Agency Regulatory Analysis Act.¹⁴⁶ That bill would permit the President to order all independent agencies, including all of the financial regulatory agencies, to (among other things) conduct a CBA of any new “rule and, recognizing some costs and benefits are difficult to quantify, propose or adopt a rule only upon a reasoned determination that the benefits of the rule justify its costs.”¹⁴⁷ The bill incorporates the definition of “rule” from

^{144.} *Id.* at 3.

^{145.} *Id.* at 4–15. See sources cited *supra* notes 20 and 81 (citing CBA Executives Orders and OMB Guidance).

^{146.} S. 1173, 113th Cong. (2013). The Senators were Senators Collins (R-ME), Portman (R-OH), and Warner (D-VA). A similar bill was introduced in 2012. S. 3468, 112th Cong. (2012). Other bills promoting CBA have been introduced in this and prior years. *E.g.*, Unfunded Mandates Information and Transparency Act of 2014, H.R. 899, 113th Cong. (2014); Regulatory Sunset and Review Act of 2013, H.R. 309, 113th Cong. (2013); Startup Act 3.0, S. 310, 113th Cong. (2013); SEC Regulatory Accountability Act, H.R. 1062, 113th Cong. (2013); Startup Act 3.0, H.R. 714, 113th Cong. (2013); Congressional Office of Regulatory Analysis Creation and Sunset and Review Act of 2011, H.R. 214, 112th Cong. (2011); Regulatory Improvement Act of 1999, S. 746, 106th Cong. (1999); Regulatory Improvement Act of 1998, S. 981, 105th Cong. (1997); Comprehensive Regulatory Reform Act of 1995, S. 343, 104th Cong. (1995); Regulatory Reform and Relief Act, H.R. 926, 104th Cong. (1995). To date, a small number of former commissioners of independent agencies have backed the bill. *E.g.*, Letter to the Chair and Ranking Member of the Senate Homeland Sec. and Gov’t Affairs Comm., June 18, 2013, http://www.portman.senate.gov/public/index.cfm/files/serve?File_id=6f3f466c-e744-4d99-892a-91f6e6348ebf [<http://perma.cc/9V34-W5X9>].

^{147.} S. 1173, § 3(a)(6). The independent financial regulatory agencies include, among others, the Bureau of Consumer Financial Protection (CFPB), Commodity Futures Trading Commission (CFTC), Federal Deposit Insurance Corporation (FDIC), Federal Reserve System, Federal Housing Finance Agency (FHFA), Federal Trade Commission (FTC), Office of the Comptroller of the Currency (OCC), Office of Financial Research (OFR), and Securities Exchange Commission (SEC). S. 1173, § 2(4) (incorporating 44 U.S.C. § 3502(5) (2012)). The newly created CFPB and OFR were added to the list in the Dodd-Frank Act, § 1100D, and the OCC was added to the list in § 315 of that Act. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1524 (codified in scattered sections).

the APA and excepts only rules of the Federal Reserve “relating to monetary policy.”¹⁴⁸

In addition, for any “economically significant rule” (ESR), an independent agency could be required to give OIRA and to publicly disclose (1) “an assessment, including the underlying analysis, of benefits . . . [and] costs . . . anticipated . . . with, to the extent feasible, a quantification of those benefits . . . [and] costs,” (2) a similar assessment of all “potentially effective and reasonably feasible alternatives to the rule, identified by the agencies or the public,” and (3) a statement of why the rule is superior to alternatives.¹⁴⁹ For this purpose, the bill defines an ESR as a rule with an annual effect on the economy of \$100 million or more. Independent agencies could be required to submit any ESR for a ninety-day OIRA review of whether the rule “has complied” with these requirements, with the OIRA review also to be part of the published record for the rule. Independent agencies would also be required to publish a finding that the rule did comply with the bill, with an explanation of that finding, or “if applicable, an explanation why the independent regulatory agency did not comply.”¹⁵⁰

The bill states that “compliance” by an independent agency with the bill is not subject to judicial review. However, it also states that in any court challenge to an independent agency’s rule under other laws, such as the APA, all material produced by the independent agency and OIRA under this bill would be “part of the whole record” for the court to review.¹⁵¹ As discussed more in Part IV, mandating an open interagency process formally not subject to judicial review might seem innocuous: how could it impede rulemaking for an independent agency to simply get the input of another agency? But this naïve reading misses the fact that any public interagency process will create a larger record that will be used by litigators to attack particular agency judgments as arbitrary and capricious under the APA: any disagreement between the agencies, for example, will provide grist for the litigation mill. The cases reviewed in this Part show how aggressive some D.C. Circuit panels have been in overturning agency actions on CBA grounds, particularly when an agency’s commissioners have been divided over judgments needed for any regulatory change. Trebling the number of pages or components of a CBA available for judicial second-guessing, and adding the possibility of interagency disagreement to the

148. S. 1173, § 2(5) (incorporating the definition of “rule” under 5 U.S.C. § 551 (2012), which defines a “rule” as any “statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy”).

149. *Id.* § 3(b).

150. *Id.* § 3(c)(3)(B).

151. *Id.* § 4(b).

mix, will almost certainly incite more judicial interventions.¹⁵² Before we can assess whether such interventions might be net beneficial, however, we need to consider CBA/FR itself. Could it offer precise, reliable estimates of the costs and benefits of financial regulation?

III. HOW MIGHT CBA OF FINANCIAL REGULATION WORK?

In this Part, I outline how the kind of quantified CBA/FR envisioned by its proponents might work in practice. The goals of this Part are to illuminate what we might expect of CBA/FR policy, to advance the substantive research project of developing CBA/FR, and to provide a better empirical basis for evaluating CBA/FR law in Part IV.

To accomplish these goals, I outline the CBA/FR that was performed for four specific rules: (1) SEC regulations under Sarbanes-Oxley Act section 404 (SOX 404); (2) the SEC's 2002 mutual fund governance proposals; (3) Basel III's enhanced capital requirements for banks; and (4) the Volcker Rule. These analyses are followed by a review of two rules that have been subject to CBA/FR and have been held up as the "gold standard" by CBA advocates: (5) the SEC's cross-border swap rules and (6) the UK/FSA's mortgage market rules.

The first, third, and fourth case studies represent the kind of significant rulemakings that CBA/FR proponents agree should be the focus of CBA/FR,¹⁵³ and because they are clearly "economically significant rules," they would trigger the highest degree of interagency review under the CBA Executive Orders and OMB Guidance if the independent agencies were brought under those process requirements. The second case study focuses on rules that led to the D.C. Circuit decisions reviewed above and stimulated the SEC's Chief Economist to publish two extensive CBA/FR-related memos that provide one of the better (if imperfect) examples of what CBA/FR as conducted by a financial agency could look like.

In each case the analysis draws on the best research by economists, finance scholars, and legal scholars, all using the kinds of methods that are closest to the idealized vision of quantified CBA/FR that its proponents are asking finan-

152. See Alan B. Morrison, *The Administrative Procedure Act: A Living and Responsive Law*, 72 VA. L. REV. 253, 256 (1986) ("[R]ulemakings are often more controversial than adjudications [under the APA], whose very processes are hidden from outsiders.").

153. See CCMR REPORT, *supra* note 4, at 1 (stating that CBA/FR should "[f]ocus on economically significant rules").

cial agencies to pursue.¹⁵⁴ This review illustrates that guesstimated CBA/FR of each of the rules reviewed would (or did) require the same kinds of macroeconomic or political models used to set monetary policy, or entailed causal inferences that are unreliable under standard regulatory conditions, or both.

These case studies were also chosen to reflect representative types of major financial regulations. They focus on regulations promulgated by a variety of financial regulators: the SEC, the Federal Reserve, the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC), the CFTC, and the UK's Financial Services Authority (FSA). The regulations employ a range of the kinds of regulatory instruments that are commonly analyzed or proposed for the financial markets: disclosure, governance regulations, capital requirements, activity restrictions, and transactional restrictions and process requirements. The regulations address a variety of market failures: fraud, asymmetric information more broadly, conflicts of interest, externalities (systemic crises arising from the effects of transactions on third parties), and the absence of competition. But they also give rise to a typical array of regulatory costs: compliance costs, constraints on potentially optimal private governance arrangements, smaller or less complete markets, and prohibition of potentially optimal transactions, possibly reducing economic activity and surplus. And, finally, most of the regulations were adopted following at least some conceptual CBA by the relevant agencies, and two were adopted after at least some efforts at quantification of the relevant costs and benefits.

*A. Case Study #1: Control Disclosures for Public Companies*¹⁵⁵

The first case study is of the Sarbanes-Oxley Act (SOX). SOX was Congress's response to the widespread fraud at Enron, Tyco, Worldcom, and other corporations. The core of SOX consisted of two parts¹⁵⁶: (1) the creation of a quasi-public regulatory body to oversee public company audit firms – the Pub-

154. It is worth noting that no similar efforts can be found in the more prominent publications advocating CBA/FR of financial regulation. *E.g.*, CCMC REPORT, *supra* note 6; CCMR REPORT, *supra* note 4. The closest proponents come is to point to selected CBA/FR as “gold standard” CBA/FR, but CBA/FR advocates do not review that CBA in any detail, and as discussed in Part III.E below, these “gold standards” are no more compelling in their guesstimated CBA/FR components than the examples reviewed here. This gap between what the CBA/FR proponents promise can be done and what they can demonstrate has been done is troubling.

155. This section draws extensively on John C. Coates IV & Suraj Srinivasan, *SOX After Ten Years: A Multidisciplinary Review*, 29 ACCT. HORIZONS (forthcoming 2015), <http://ssrn.com/abstract=2379731> [<http://perma.cc/6SVZ-ELZW>].

156. For a review and evaluation of the core elements of SOX, see John C. Coates IV, *The Goals and Promise of the Sarbanes-Oxley Act*, 21 J. ECON. PERSP. 91 (2007).

lic Company Accounting Oversight Board (PCAOB) – and (2) the requirement of new disclosures by public companies about “control systems.”¹⁵⁷ Among other things, the case study illustrates the way that a common goal of financial regulation – the reduction of fraud – implicates important externalities, as well as non-market goods (such as psychological effects of fraud), which cannot be reliably reduced to precise monetary estimates, given current research technologies.

1. *The SEC’s CBA of Rules Implementing SOX 404*

SOX required the SEC to enact regulations to carry out the goals of SOX 404.¹⁵⁸ The SEC did this in August 2003, a year after SOX’s passage.¹⁵⁹ In its adopting release, the SEC included a 1400-word CBA, which, as noted above, was not a legal requirement for the SEC.¹⁶⁰ The release contained a separate 500-word analysis of the rule’s effects on efficiency, competition, and capital formation,¹⁶¹ and a longer analysis under the PRA and RFA.¹⁶² In its CBA, the SEC provided a qualitative listing but no quantification of the rule’s benefits. The benefits identified were: (1) generally to (a) enhance the quality of public company reporting and (b) increase investor confidence, and (2) specifically to (a) improve disclosure about management’s responsibility for financial state-

157. Such systems consist of methods by companies that monitor use of the company’s assets and produce accurate financial reports, including (for example) computer programs designed to detect inconsistencies between customer orders and accounting records, rules for which corporate agents can authorize certain expenditures and transactions, internal audits, and verification procedures. *See* Commission Guidance Regarding Management’s Report on Internal Control Over Financial Reporting, Exchange Act Release Nos. 33-8810, 34-55929, 72 Fed. Reg. 35,324 (June 27, 2007).

158. Sarbanes-Oxley Act of 2002 § 3(a), 107 Pub. L. No. 204, 116 Stat. 745, 749 (codified at 15 U.S.C. 7202 (2012)).

159. Management’s Report on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, 68 Fed Reg. 36,636 (June 18, 2003) (codified at 17 C.F.R. pts. 210, 228, 229, 240, 249, 270, 274). For brevity, I refer to the SEC’s “rule” in this section, although in fact the release modified a number of separate SEC rules. The effect of the SEC’s rules in practice would turn out to be heavily influenced by rules separately adopted by the PCAOB.

160. *See supra* notes 77-78, 87-88, 95-98 and accompanying text.

161. This was required by the National Securities Markets Improvement Act of 1996, Pub. L. No. 104-290, 110 Stat. 3416, 3424-25 (codified in scattered sections of 15 U.S.C.), which amended three of the SEC’s governing statutes – the Securities Act of 1933, the Exchange Act of 1934, and the Investment Company Act of 1940 – to require the SEC to consider whether any rulemaking done “pursuant to” those statutes would “promote efficiency, competition, and capital formation.” 15 U.S.C. §§ 77b(b), 78c(f), 80a-2(c) (2012).

162. *See supra* notes 81-82.

ments and controls and how management discharges that responsibility, (b) encourage companies to devote adequate resources and attention to controls, (c) help companies detect fraud earlier, and (d) deter fraud or minimize its effects. The bottom-line benefit, then, was to reduce fraud.¹⁶³

The SEC also provided a qualitative listing of the rule's direct costs (administrative burdens and fees to attorneys and auditors). The SEC noted that companies were already required to have a control system under the Foreign Corrupt Practices Act (FCPA) and that many issuers were already voluntarily providing the required disclosures, raising conceptual issues (discussed below) for what baseline and set of effects to assume in any CBA/FR of the rule—issues that the SEC did not explicitly address. The SEC provided a partial quantification of the costs of its rules under SOX 404. That estimate focused exclusively on the requirements of subsection (a) of SOX 404, disclosures by management, which the SEC estimated would cost covered companies an average of \$91,000 per year.¹⁶⁴ The SEC explicitly noted it had no information that would allow it to quantify the costs created by subsection (b) of SOX 404, the auditor attestation requirements, which it acknowledged could be large.¹⁶⁵

Of note for assessing CBA/FR's effects on public understanding, the SEC has been strongly criticized for the CBA/FR in its release—but only for the part of its CBA/FR that provided a quantitative estimate of costs, which one commentator has claimed is “off by a factor of over 48.”¹⁶⁶ However, this critique of the SEC's CBA/FR is demonstrably mistaken. The SEC's estimate was solely

163. 68 Fed. Reg. 36,636, 36,656-57 (June 18, 2003).

164. *Id.* at 36,657.

165. Management's Report on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, Exchange Act Release Nos. 33-8238, 34-47986, Investment Company Act Release No. IC-26068 at pt. V(B) & n.174 (Aug. 14, 2003), <http://www.sec.gov/rules/final/33-8238.htm> [<http://perma.cc/XZN4-GMZ5>] (“The estimate does not include the costs of the auditor's attestation report, which many commenters have suggested might be substantial.”).

166. *Full Committee Hearing on Sarbanes-Oxley Section 404: Will the SEC's and PCAOB's New Standards Lower Compliance Costs for Small Companies?: Hearing Before the H. Comm. on Small Bus.*, 110th Cong. 97 (2007) (statement of Hal S. Scott, Dir., Comm. on Capital Mkts. Regulation) (“[The SEC's] estimate was, we now know, off by a factor of over 48.”). Presumably, this claim is based on comparing the SEC's cost estimate with the results of a survey ($n=274$) conducted by the Financial Executives International (FEI) and Financial Executives Research Foundation (FERF). That survey found the average cost of SOX 404 reported in 2004 was \$4.4 million ($4,400,000 / 91,000 = 48.4$). FEI is a trade group, and the FERF is a related organization that performs research on topics of interest to chief finance officers of large companies and other members. The FEI/FERF study is formally titled FINANCIAL EXECUTIVES INTERNATIONAL AND FINANCIAL EXECUTIVES RESEARCH FOUNDATION, SPECIAL SURVEY ON SARBANES-OXLEY SECTION 404 IMPLEMENTATION (2005) [hereinafter FEI/FERF SURVEY].

for SOX 404(a), while the FEI/FERF estimate was for both SOX 404(a) and 404(b).¹⁶⁷ For several reasons, auditor attestation costs can be expected to exceed internal costs by a multiple (as in fact has been the case).¹⁶⁸ The SEC explicitly acknowledged this gap in its cost estimate,¹⁶⁹ but the criticisms of the SEC ever since—including by SEC Commissioner Gallagher himself—have mistakenly claimed the estimate was for SOX 404 as an entirety.¹⁷⁰ CBA/FR advocates, in other words, have publicly and repeatedly criticized the SEC for underestimating the cost of apples and oranges when the SEC's estimate was for the cost of apples alone. The spectacle may undermine an observer's faith in the value of public discourse stimulated by CBA/FR.

A better critique of the SEC's CBA/FR of SOX 404 is that it failed as conceptual CBA/FR for not identifying indirect costs of the rule. Indirect costs include potential reductions in risk-taking, dilution in strategic focus, and the opportunity costs of devoting excessive management time to compliance and working through the initial control attestation process with outside auditors, internal audit staff, and members of companies' audit committees (which SOX required to be wholly independent for the first time).¹⁷¹ While quantifying these costs would have been nearly impossible for the SEC at the time (as discussed below), the SEC could have pointed to the possibility of these costs in its rulemaking.

Conversely, the SEC in 2006 did not identify (much less quantify) increased fraud as a possible cost of the deferral of SOX 404 requirements for small and newly public companies, nor did it identify (much less quantify) in-

167. Criticisms of the SEC's cost estimate are misplaced for two other reasons. The FEI/FERF survey, *see supra* note 166, was of large firms (average revenues of \$6 billion, as compared to overall average revenues for all public firms in Compustat in 2004 of \$2 billion, and median revenues for such firms of \$96 million). Since compliance costs generally, and control system costs in particular, increase at a decreasing rate in relation to firm size, \$4.4 million would have been too high as an average for all covered firms even in 2004. In addition, the FEI/FERF estimate was based on data that was gathered from companies during their first year under the rule. The costs of any new rule will fall over time, with learning, as has been the case with SOX 404. Further, the agency ultimately charged with supervising section 404(b) work by audit firms, the PCAOB, modified the requirements applicable under that section in 2007, further dramatically reducing the costs of the rule. The upshot is that the best current estimate of section 404 costs is closer to \$400,000 than to \$4.4 million—still higher than the SEC's estimate of section 404(a) costs, but reasonably close, once one acknowledges that the \$91,000 estimate was for a part and not all of section 404's costs.

168. *See* Coates & Srinivasan, *supra* note 155, at 25.

169. *See* Management's Report on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, *supra* note 165, at pt. V(B).

170. *See supra* note 166.

171. *See infra* text accompanying notes 182-203.

creased fraud as a possible side effect (cost) of the relaxation of the SOX 404 requirements in 2007.¹⁷² While these efforts were deregulatory in nature, they would be just as subject to CBA under Executive Order 12,866 for an executive agency as would the imposition of new regulations.¹⁷³ The fact that the more prominent CBA/FR proponents¹⁷⁴ do not mention these gaps in the SEC's *deregulatory* rulemaking process under SOX tends to undermine their general depictions of CBA/FR as a politically neutral procedure for improving regulation generally.

2. *An Overview of CBA/FR of SOX 404*

Now that ten years have passed since its adoption, how might SOX 404 fare under a CBA/FR? Quantifying the costs and benefits of the rule would require multiple research tasks. These include (1) establishing better estimates of the incidence and direct costs of fraud,¹⁷⁵ (2) securing consensus on how to treat “transfers” for purposes of analyzing fraud, (3) generating new models and data on fraud’s externalities, (4) creating better instruments for estimating the rule’s causal effects, (5) developing better models and data on the chilling effects that the rule could have on legitimate activity, and (6) promoting better understanding of how compliance costs vary across firms and over time. Each task will be difficult and likely require a separate stream of research before any plausible quantified estimate of the costs and benefits of a rule under SOX 404 could be developed.

172. See Amendments to Rules Regarding Management’s Report on Internal Control Over Financial Reporting, 72 Fed. Reg. 35,310 (June 27, 2007) (codified at 17 C.F.R. pts. 210, 228, 229, 240); Internal Control Over Financial Reporting in Exchange Act Periodic Reports of Non-Accelerated Filers and Newly Public Companies, 71 Fed. Reg. 76,580 (Dec. 21, 2006) (codified at 17 C.F.R. pts. 210, 228, 229, 240, 249).

173. Section 3(e) of Executive Order 12,866, *supra* note 81, defines the “regulatory action” covered by the order to include “any substantive action by an agency . . . that promulgates or is expected to lead to the promulgation of a final rule or regulation,” without regard to whether the final rule adds new restrictions on private activity or exempts private activity covered by a prior regulation. Exec. Order 12,866, 58 Fed. Reg. 51,735 (Sept. 30, 1993).

174. See CCMC REPORT, *supra* note 6; CCMR REPORT, *supra* note 4.

175. Throughout this section, I use “fraud” in a loose sense, and mean it to encompass deceptive, manipulative, or misleading accounting and other financial disclosures that could be prevented or corrected in a cost-effective manner, regardless of whether proof of specific intent to deceive, reasonable reliance, or other elements of the tort or crime of fraud exists, and regardless of whether the accounting technically complies with generally accepted accounting principles.

3. *Estimating the Incidence of Fraud and Its Direct Costs*

The first task is to develop better methods of measuring the incidence of corporate fraud and its direct costs. This task is a prerequisite even to a rough estimate of the effects of regulations aimed at reducing fraud, such as SOX 404. Yet, with few exceptions, research on fraud to date has only attempted to establish relationships between fraud and its correlates, and it does not present evidence of how strong these relationships are, or what the overall incidence of corporate fraud is.¹⁷⁶

One difficulty confronting such studies is that all concerned have incentives to hide fraud.¹⁷⁷ Partial observability presents challenges to empirical modeling,¹⁷⁸ but until recently, few researchers used models adapted to those challenges. Such models study both fraud incidence and detection together, exploiting partial overlap in indicators of fraud incidence and detection to draw better inferences about correlates of fraud overall from detected frauds.¹⁷⁹

Building on this work, one study exploits the collapse of Arthur Andersen to estimate an incidence of fraud among public companies at approximately fif-

176. See Coates & Srinivasan, *supra* note 155.

177. *Id.* at 46. Interestingly, the U.S. crime victimization survey does not ask questions that would be likely to elicit data on fraud incidence, instead focusing on violent crime, sexual assaults, and stalking. See Census Bureau, *OMB No. 1121-0111, National Crime Victimization Survey: NCVS-1 Basic Screen Questionnaire*, U.S. DEP'T COMMERCE, http://www.bjs.gov/content/pub/pdf/ncvs1_2012.pdf [<http://perma.cc/Q8BM-N3WU>]; Census Bureau, *OMB No. 1121-0302, Supplemental Victimization Survey*, U.S. DEP'T COMMERCE (2006), http://www.bjs.gov/content/pub/pdf/svs1_06.pdf [<http://perma.cc/RJ8H-XYUN>]. Identity theft and cyber crimes are types of fraud surveyed by the Bureau of Justice Statistics, see ERIKA HARRELL & LYNN LANGTON, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T JUSTICE, VICTIMS OF IDENTITY THEFT, 2012, (Dec. 2013), <http://www.bjs.gov/content/pub/pdf/vit12.pdf> [<http://perma.cc/DDX4-HWPU>]; Bureau of Justice Statistics, *Cyber-crime*, U.S. DEP'T JUSTICE, <http://www.bjs.gov/index.cfm?ty=tp&tid=41> [<http://perma.cc/9LWR-VJTY>], but no general survey of fraud is conducted by the Bureau of Justice Statistics.

178. See Jonathan S. Feinstein, *Detection Controlled Estimation*, 33 J.L. & ECON. 233, 233-34 (1990).

179. E.g., Vikramaditya S. Khanna et al., *CEO Connectedness and Corporate Frauds*, J. FIN. (forthcoming 2015), <http://ssrn.com/abstract=2323251> [<http://perma.cc/S3YL-ZKBM>]; Si Li, *Corporate Financial Fraud: An Application of Detection Controlled Estimation* (Sch. of Bus. and Econ., Wilfrid Laurier Univ., Working Paper, July 2013), <http://ssrn.com/abstract=1698038> [<http://perma.cc/WB8G-ZRNZ>]; Tracy Yue Wang, *Corporate Securities Fraud: An Economic Analysis* (Carlson Sch. of Mgmt., Univ. of Minn., Working Paper, Apr. 2006), <http://home.business.utah.edu/finea/paper1-theory.pdf> [<http://perma.cc/AW9P-33SF>]. Such models have their weaknesses, as they rely in an ad hoc fashion on different instruments that are assumed to be exogenous, when none truly are exogenous; they are, however, the best that researchers have yet devised.

teen percent.¹⁸⁰ The study also estimates that fraud generates direct losses of between twenty-two percent and forty percent of enterprise value, implying a lower bound on hidden fraud of three percent of enterprise value ($0.15 \times 0.22 = 0.03$), or losses of over \$500 billion. This study is a promising start to estimating how much fraud exists and how costly it is. But it is, as yet, unpublished and relatively isolated,¹⁸¹ and it needs more scrutiny before it can provide a reliable rulemaking foundation. Future research could use more comprehensive measures of fraud, including fraud outside the scope of audits that nevertheless might be revealed by a stronger control system, such as insider trading and self-dealing (as at Enron), fraudulently obtained compensation (as at Tyco), frauds involving third parties (as at Worldcom), or technically GAAP-compliant but deceptive accounting choices (as at Lehman).

4. *How Should Transfers Be Treated?*

An open conceptual issue in estimating the costs of fraud is how to treat transfers accomplished through fraud—in other words, whether to count the utility of a fraudster in estimating welfare effects of fraud.¹⁸² Data on crime generally suggests the issue could have a significant effect on a CBA/FR of SOX 404.¹⁸³ Canonical economic theory would count the loss as zero, as would

180. I.J. Alexander Dyck et al., *How Pervasive Is Corporate Fraud?* 4 (Rotman Sch. of Mgmt. Working Paper No. 222608, Feb. 2013), <http://ssrn.com/abstract=2222608> [<http://perma.cc/D7H6-G47F>]. They validate this measure with a survey of fraud observed by business school students at former employers. *Id.* at 21-23.

181. For related research, using different and less theoretically grounded empirical methods, see Anastasia K. Zakolyukina, *Measuring Intentional GAAP Violations: A Structural Approach* (Univ. of Chicago Booth Sch. of Bus., Working Paper No. 13-45, Apr. 25, 2014), <http://ssrn.com/abstract=2242251> [<http://perma.cc/X4QR-4JSC>] which estimates undetected intended earnings manipulation from a sample of 1400 CEOs after SOX. She finds the probability of detection is six percent and that intended earnings manipulation generates a loss of twenty-four percent to a firm's CEO wealth when detected. The inference she draws is that seventy-three percent of her sample has incentives to manipulate earnings, and that the value-weighted bias in stock prices is 2.82%. *Id.* at 3. A survey-based study is provided in Ilia Dichev et al., *Earnings Quality: Evidence from the Field*, 56 J. ACCT. & ECON. 1, 30 (2013), in which respondents suggest around twenty percent of firms exploit GAAP to misrepresent reported performance in their financial statements.

182. Assume, for example, a fraudster obtains \$1 from a victim and spends it on food. Is the social loss \$0 or \$1? If the criminal's utility is ignored and the fraud has no effect besides the transfer of \$1, the social loss is \$1. If the criminal's utility is counted equally with the victim's, and neither attaches unusual utility to the dollar, the social loss is \$0.

183. For example, David A. Anderson, *The Aggregate Burden of Crime*, 42 J.L. & ECON. 611, 629 tbl.7 (1999), estimates that such gains, if counted, roughly double the costs of crime.

the OMB Guidance on CBA,¹⁸⁴ but it seems implausible as a political, policy, or legal matter for the SEC to ignore for purposes of CBA/FR of SOX 404 the losses of Enron's defrauded investors on the ground that they were mere transfers to Ken Lay and Andrew Fastow. OMB Guidance suggests including transfers in an analysis of "distributional effects" distinct from quantified costs and benefits,¹⁸⁵ but that does not answer the question of how an agency should weigh the transfers in its overall CBA.¹⁸⁶

5. *Measuring the Externalities and Psychological Costs of Fraud*

If more work is needed to model the incidence of and transfers caused by fraud, no researchers have systematically attempted to study and measure the social costs of corporate fraud. Without estimates of such costs, an assessment of rules that reduce fraud, such as SOX 404, would have to remain qualitative. Research is needed both on *externalities*¹⁸⁷ and *psychological costs*. On externalities, consider these categories¹⁸⁸: (a) fraud increases the *cost of capital* for all firms;¹⁸⁹ (b) fraud results in the *misallocation of resources*;¹⁹⁰ (c) fraud destroys

184. OMB Guidance, *supra* note 20.

185. *Id.*

186. In the context of crime, compare Philip J. Cook, *Crime Statistics: Costs of Crime*, in 1 ENCYCLOPEDIA OF CRIME AND JUSTICE 373 (Sanford H. Kadish et al. eds., 1983) (criminals' utility should count) with MARK A. COHEN, THE COSTS OF CRIME AND JUSTICE (2005) (criminals' utility should not count), and *The Cost of Crime: Understanding the Financial and Human Impact of Criminal Activity: Hearing Before the S. Comm. on the Judiciary*, 109th Cong. 7 (2006) (statement of Jens Ludwig, Professor, Georgetown Public Policy Institute) (same).

187. Fraud is criminalized in part because it causes large externalities: direct remediable civil damages are not thought to be large enough to provide sufficient incentive for private actors to enforce optimally. S. Shavell, *The Judgment Proof Problem*, 6 INT'L REV. L. & ECON. 45 (1986) (tort-feasors may be "judgment proof" against large civil sanctions). But criminal sanctions are reserved for a small subset of frauds—those in which clear evidence is available *ex post* for frauds caused by individuals with specific intent—and the nature of fraud is such that this type of evidence is often unavailable. Section 24 of the Securities Act of 1933 imposes criminal liability for "willful" violations. Securities Act of 1933, ch. 38, § 24, 48 Stat. 74 (codified at 15 U.S.C. § 77x (2012)); *see also* Securities Exchange Act of 1934, 15 U.S.C. § 78a (2012).

188. Baruch Lev, *Corporate Earnings: Facts and Fiction*, 17 J. ECON. PERSP. 27, 42-44 (2003). Anderson, *supra* note 183, at 616-17, 629, presents a similar list of indirect effects of crime generally. He estimates the indirect costs—what he categorizes as "crime-induced production," opportunity costs, and risks to life and health—as roughly double the value of victim-to-criminal property transfers, and when he counts the costs incurred by criminals, the total costs of crime are more than double the value of those transfers. *Id.* at 629 tbl.7. In other words, the external effects of crime generally greatly exceed their direct effects.

189. Reduced quality of financial information provided by one firm will in the first instance lower expectations of the quality of information provided by other firms, heighten expected

value through (*costly*) *acquisitions and bankruptcy*;¹⁹¹ (d) fraud induces *precautionary costs*;¹⁹² and (e) fraud imposes costs on non-investor *third parties*.¹⁹³

fraud-related losses generally, and reduce confidence in public securities markets and in markets more generally. Market-wide liquidity deteriorated following Enron and related scandals, and improved after SOX's adoption. Pankaj K. Jain et al., *The Sarbanes-Oxley Act of 2002 and Market Liquidity*, 43 FIN. REV. 361 (2008). Mariassunta Giannetti and Tracy Yue Wang show that revelation of corporate frauds in a state caused equity holdings of households in that state to fall, increasing the cost of capital for non-fraudulent firms. Mariassunta Giannetti & Tracy Yue Wang, *Corporate Scandals and Household Stock Market Participation* (Eur. Corp. Governance Inst., Finance Working Paper No. 405/2014, 2014), <http://ssrn.com/abstract=2331588> [<http://perma.cc/73LY-VSWS>]. For a more general study of the effect of trust on finance, see Luigi Guiso et al., *Trusting the Stock Market*, 63 J. FIN. 2557 (2008). See also Emilia Bonaccorsi di Patti, *Weak Institutions and Credit Availability: The Impact of Crime on Bank Loans* (Bank of It., Occasional Paper No. 52, 2009), <http://ssrn.com/abstract=1606242> [<http://perma.cc/84L3-UWXL>] (demonstrating that crime, including fraud, increases borrowing costs and increases capital constraints by the public generally).

190. Misallocation is caused by fraudulent signals of the value of firms or whole industries, as in the telecom and Internet bubbles. For a review of studies showing that corporate finance decisions are driven by capital market prices, including prices that deviate from fundamental values (that is, mispricing), see Malcolm Baker, *Capital Market-Driven Corporate Finance*, 1 ANN. REV. FIN. ECON. 181 (2009). See also Malcolm Baker et al., *When Does the Market Matter? Stock Prices and the Investment of Equity-Dependent Firms*, Q. J. ECON. 969 (2003) (modeling and presenting evidence that bubbles affect corporate investment). Simi Kedia and Thomas Philippon model investment decisions of firms during periods of fraud and find empirical support for their prediction that fraud and earnings management distort hiring and investment decisions of firms, leading to over-investment and excessive hiring during periods of suspicious accounting; this over-investment and excessive hiring, in turn, lead to misallocation of resources in the economy. Simi Kedia & Thomas Philippon, *The Economics of Fraudulent Accounting*, 22 REV. FIN. STUD. 2169 (2009).
191. One can view costly acquisitions by fraudulent companies of other companies as an example of the prior category (misallocated resources), but it is important enough to warrant estimating separately. Such acquisitions are often followed by mismanagement or outright theft, contributing to otherwise avoidable bankruptcies. While bankruptcy can reorganize firms, resulting in transfers among investors, they also use up real resources. For a model of merger and acquisition activity driven by mispricing, see Andrei Shleifer & Robert W. Vishny, *Stock Market Driven Acquisitions*, 70 J. FIN. ECON. 295 (2003). For estimates of the costs of bankruptcy, see, for example, Arturo Bris et al., *The Costs of Bankruptcy: Chapter 7 Liquidation Versus Chapter 11 Reorganization*, 61 J. FIN. 1253 (2006), which estimates that the range of firm assets resulting from formal bankruptcy is between two and twenty percent.
192. Such costs include bonding and monitoring by investors to avoid fraud, such as for audit firms, independent directors, appraisers, analysts, regulatory and enforcement agencies, and prisons. Audit fees were rising prior to SOX, due to market-driven demand for increased scrutiny of financial statements following the scandals that led to SOX. Sharad Asthana et al., *The Effect of Enron, Andersen, and Sarbanes-Oxley on the US Market for Audit Services*, 22 ACCT. RES. J. 4 (2009). Likewise, separate from SOX, the New York Stock Exchange and the Nasdaq adopted tighter corporate governance requirements in response to Enron et al., which tightened the criteria for and likely increased the costs of recruiting independent directors. See Coates, *supra* note 156, at 111.

Consider the Madoff scandal, which imposed significant direct losses on over 15,000 individual investors, each of whom presumably had an average of two dependents or heirs, and many of whom were co-investors and borrowers with yet others, or makers of charitable donations to non-profits.¹⁹⁴ To date, the liquidation of the Madoff entities has generated over \$700 million in expenses—all a pure loss to investors, over and above the amounts stolen by Madoff himself.¹⁹⁵

As a broader example, consider how fraudulent home loans (whether due to borrower fraud, lender fraud, or both) had ripple effects in the last financial bubble, partly generated through leverage and intermediation, so the one fraudulent loan would affect not only the immediate parties to the loan but also securitization lenders, sponsors, and related parties; collateralized debt obligation investors, sponsors, and related parties; structured investment vehicle investors, sponsors, and related parties; investors in the banks that sponsored those vehicles; borrower-customers of those banks, whose capital constraints and heightened risk-aversion following the crisis caused a withdrawal or increase in the cost of credit; employees and customers of businesses that failed as a result of the capital constraints generated by the banks' losses; family members of those employees; and so on.

Psychological effects (fear, distrust, stress) can result in tangible consequences, including drug addiction, job loss, reduced income, health effects, and even suicide. In the context of securities fraud, elevated levels of post-traumatic stress disorder and related behavioral effects have been found among Madoff's victims.¹⁹⁶

193. These third parties include those dependent on the victims of the initial fraud (e.g., family, business partners, creditors, and communities). For studies showing spillover effects of restatements, see Coates & Srinivasan, *supra* note 155, at 51 n.21.

194. While SOX 404 would have had no effect on Madoff's scheme, since he kept his brokerage private and outside the scope of SOX, the findings are suggestive of what might be discovered if the prospect of quantifying such harms to fraud victims more generally were undertaken. For the number of investors affected, see Trustee's Ninth Interim Report for the Period Ending March 31, 2013, exhibit A at 4-5, Sec. Investor Prot. Corp. v. Bernard L. Madoff Inv. Sec. (*In re Bernard L. Madoff*), No. 08-01789 (Bankr. S.D.N.Y. Apr. 30, 2013). For charities harmed by the Madoff scandal, see Anthony Weiss & Gabrielle Birkner, *Charities, Day Schools Hard Hit by Madoff Scandal*, JEWISH DAILY FORWARD (Dec. 17, 2008), <http://forward.com/articles/14729/charities-day-schools-hard-hit-by-madoff-scandal> [<http://perma.cc/AZ7D-CPRA>].

195. See Trustee's Ninth Interim Report, *supra* note 194, exhibit A at 2.

196. Audrey Freshman, *Financial Disaster as a Risk Factor for Posttraumatic Stress Disorder: Internet Survey of Trauma in Victims of the Madoff Ponzi Scheme*, 37 HEALTH & SOC. WORK 39, 44-47 (2012).

The take-away from these thought experiments—and they remain just that—is that the external costs of fraud are likely to exceed, perhaps by a large amount, direct transfers from victim to fraudster. As a result, the quantified benefit of SOX 404 is likely to be found not in estimating direct losses prevented, but in increasing those losses by a *multiple* to reflect its externalities. How do we translate anecdotal examples into more general methods for estimating the full effects of fraud on society as a whole?

In the context of SOX, only one unpublished paper attempts to estimate fraud's social costs.¹⁹⁷ The authors treat widespread revelations of fraud as a “shock” to the equity premium and estimate its social effects with a macroeconomic model. For this purpose—and this is worth stressing in light of the discussion of the Taylor Rule in Part I.D above—they adapt a model used by the Treasury Department and the Federal Reserve to set monetary policy.¹⁹⁸ They first guesstimate that 25% to 100% of the market decline from March to July 2002 was caused by the scandals of Enron, Tyco, Worldcom, and other companies.¹⁹⁹ They then rely on the U.S./Fed. model to estimate that investment would fall 0.8% per year in response to a 20% decline in the stock market, guesstimating first-year impacts ranging from nineteen to fifty-seven billion dollars.²⁰⁰ These projections underestimate costs if the impact of the frauds lasts longer, and could over- or underestimate costs if the economy's response to fraud-driven equity shocks differs from responses to other kinds of shocks, or if the assumptions of the U.S./Fed. model are varied.²⁰¹

197. Carol Graham et al., *The Bigger They Are, the Harder They Fall: An Estimate of the Costs of the Crisis in Corporate Governance* (The Brookings Inst., Working Paper, 2002), <http://www.brookings.edu/views/papers/graham/20020722Graham.pdf> [<http://perma.cc/MK3C-MWDY>]. Another attempt to assess the size of externalities (without quantifying them for society overall) uses brokerage data of a sample of retail investors across the United States and shows that, upon the revelation of fraud in a company in a particular state, all households in the state, not just the ones owning stocks of fraud firms, reduce their equity holdings. Giannetti & Wang, *supra* note 189.

198. This is the model described in David Reifschneider et al., *Aggregate Disturbances, Monetary Policy, and the Macroeconomy: The FRB/US Perspective*, 85 FED. RES. BULL. 1 (1999), sometimes referred to as the “FRB/US” (pronounced “ferbus”) model. See DIV. OF RESEARCH & STATISTICS, FED. RESERVE BD., *A GUIDE TO FRB/US: A MACROECONOMIC MODEL OF THE UNITED STATES* (Flint Brayton & Peter Tinsley eds., Oct. 1996), <http://www.federalreserve.gov/pubs/feds/1996/199642/199642pap.pdf> [<http://perma.cc/H6LF-TC2Q>].

199. Graham et al., *supra* note 197, at 5.

200. *Id.* at 6.

201. The sensitivity of estimates of social harms to assumptions in similar macroeconomic models is discussed more in connection with the Basel III rules in Part III.C, *infra*.

Finally, research on fraud's social costs could draw on research on crime generally, which uses several families of methods²⁰²: (1) estimating hedonic models in which variation in prices affected by crime is used to infer social costs;²⁰³ (2) surveying willingness-to-pay for a reduction in crime;²⁰⁴ (3) aggregating estimates of each direct and indirect effect;²⁰⁵ and (4) relating responses to surveys of crime victims to respondent wealth or income and inferring a "shadow price" for the effects of crime.²⁰⁶ Each method has limitations²⁰⁷: guesstimates based on willingness-to-pay surveys have been stringently criticized as too subjective and internally inconsistent to be reliable for CBA purposes,²⁰⁸ and to date these methods have not been undertaken in the context of fraud.

6. *Estimating Causal Effects of SOX 404*

With a better framework for estimating the incidence and costs of fraud in hand, researchers could then better estimate the benefits of regulatory changes

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202. For overviews, see John J. Donohue III, *Assessing the Relative Benefits of Incarceration: Overall Changes and the Benefits on the Margin*, in *DO PRISONS MAKE US SAFER? THE BENEFITS AND COSTS OF THE PRISON BOOM* 269, 270-341 (Steven Raphael & Michael A. Stoll eds., 2009); and Jens Ludwig, *The Costs of Crime*, 9 *CRIMINOLOGY & PUB. POL'Y* 307, 307-11 (2010).
203. See John P. Hoehn et al., *A Hedonic Model of Interregional Wages, Rents and Amenity Values*, 27 *J. REGIONAL SCI.* 605 (1987); Richard Thaler, *A Note on the Value of Crime Control: Evidence from the Property Market*, 5 *J. URB. ECON.* 137 (1978).
204. See Mark A. Cohen et al., *Willingness-to-Pay for Crime Control Programs*, 42 *CRIMINOLOGY* 89 (2004); Daniel S. Nagin et al., *Public Preferences for Rehabilitation Versus Incarceration of Juvenile Offenders: Evidence from a Contingent Valuation Survey*, 5 *CRIMINOLOGY & PUB. POL'Y* 627 (2006).
205. See Anderson, *supra* note 183, at 616-29.
206. See Simon Moore & Jonathan P. Shepherd, *The Cost of Fear: Shadow Pricing the Intangible Costs of Crime*, 38 *APPLIED ECON.* 293 (2006).
207. These methods are probably best used in combination, as described in Donohue, *supra* note 202, at 321 ("Instead of trying to resolve these normative questions, this chapter illustrates their importance by presenting various estimates of the cost of crime based on different assumptions. The effort to highlight the underlying assumptions and methodologies will enable readers to implement their own normative choices in conducting cost-benefit analyses of incarceration.").
208. Peter A. Diamond & Jerry A. Hausman, *Contingent Valuation: Is Some Number Better than No Number?*, 8 *J. ECON. PERSP.* 45, 63 (1994) (concluding that "survey responses [in contingent valuation surveys] are not satisfactory bases for policy" because they are internally inconsistent, unreliable and biased by such factors as the "warm glow" from answering questions in particular ways); see also John Bronsteen et al., *Well-Being Analysis vs. Cost-Benefit Analysis*, 62 *DUKE L.J.* 1603 (2013) (advocating use of hedonic surveys as more reliable than willingness-to-pay surveys, which are conventionally used in CBA in the non-financial regulatory context).

such as SOX 404. Where a regulation is an innovation, regulators are not in a position to “study” its causal effects at all, but must forecast those effects. For SOX 404, this type of prediction would have been impossible; indeed, few observers (even hostile commentators, who had incentives to exaggerate) anticipated the full extent of the direct costs that SOX 404 would initially generate.

Ex post or retrospective studies, coupled with regulations that sunset absent re-adoption based on the result of the ex post studies, are more promising, and would be better able to enlist academic research in the service of better financial regulation. To date, however, most retrospective studies of SOX have not used research designs allowing reliable causal inferences about its effects. Instead, most researchers have used before-and-after comparisons that fail to control for contemporaneous changes in the objects of study.²⁰⁹ Better are a handful of difference-in-difference studies, such as those used to study some of the effects of SOX.²¹⁰ In such studies, researchers match, as best they can, the companies affected by a regulation with unaffected companies and compare the before-and-after effects. But even those studies are commonly misleading in the kinds of rich, interdependent environments that characterize the financial markets. Long-term trends may manifest differently in the treated and nominal control group, and common factors omitted from the matching criteria that affect events in the nominal control sample may differentially affect the nominally “treated” sample, creating a spurious impression that the regulation had effects it did not actually have.²¹¹

Better for identifying causal effects ex post are discontinuity designs, which look at the before-and-after effects of a regulation on firms just above a threshold triggering compliance and compare them with changes at firms just below the threshold.²¹² However, the findings of such studies rarely generalize beyond firms “near” the discontinuity, making them of limited use in CBA/FR.²¹³

209. See Coates & Srinivasan, *supra* note 155, at 17.

210. See, e.g., Ehud Kamar et al., *Going-Private Decisions and the Sarbanes-Oxley Act of 2002: A Cross-Country Analysis*, 25 J.L. ECON. & ORG. 107 (2009) (studying whether SOX drove firms out of the public capital market); see also Coates & Srinivasan, *supra* note 155, at 55 (touting difference-in-difference studies).

211. This seems to have been true in some of the earliest studies of the effects of SOX, which found differences in U.S. firms after SOX compared to Canadian or U.K. firms. For a selection of these studies, see Coates & Srinivasan, *supra* note 155, at 29-31. Those differences, however, either started well before SOX, or affected U.S. firms not subject to SOX as much as they did U.S. firms subject to SOX, such that no consensus has emerged as to whether SOX had the studied effects. *Id.*

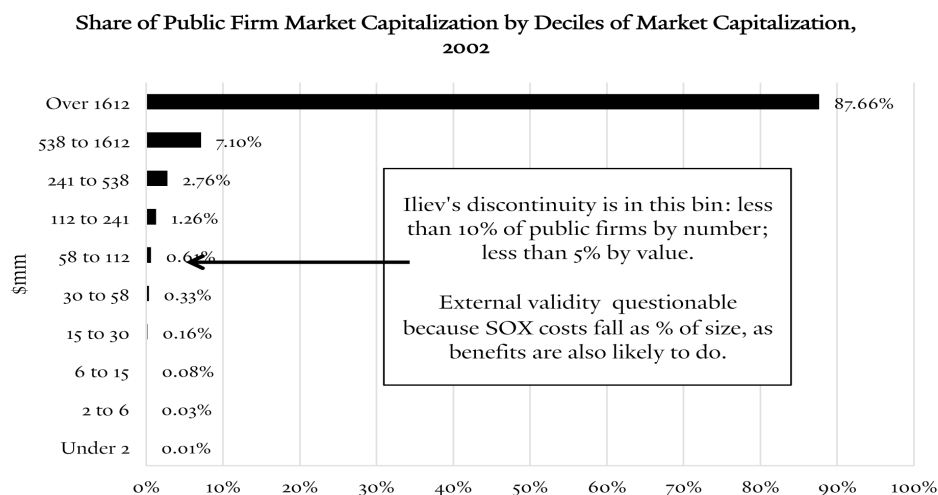
212. See the studies reviewed in Coates and Srinivasan, *supra* note 155, at 27, 30, 56.

213. One could imagine a law like SOX 404 applying to all firms with a past (and so not easily manipulated) market capitalization of between \$75 million and \$100 million, or between \$100 million and \$125 million, or between \$150 million and \$175 million, and so on all the

This point is illustrated by Figure 1, which depicts how one of the best studies of SOX 404, by Peter Iliev, used such a discontinuity design.²¹⁴ While that study provided convincing evidence on causality, it provides very limited information about SOX's overall effects, because of how different the firms near the discontinuity are from the firms most likely to generate significant costs and benefits.

Figure 1.

LIMITS ON EXTERNAL VALIDITY OF SINGLE BEST SOX STUDY TO DATE²¹⁵



Perhaps the best of feasible ex post studies are time-series designs studying multiple events, which were used by a small number of studies to analyze SOX 404. Leuz and coauthors studied differences-in-differences among covered and exempt groups of companies over several events in the phase-in of the rule, including extensions by the SEC of exemptions for small firms, and Arping and Sautner studied the staged phase-in for foreign firms cross-listed in the United

way through the full distribution of market capitalizations. Needless to say, even though it may be the only way to derive reliable estimates of the aggregate social costs and benefits of the rule, such a novel regulatory design would likely generate protest from covered companies, who would rightly complain that they compete with the exempt companies in the product, labor, and capital markets and that they were being potentially disadvantaged by any regulatory costs the rule might impose.

214. Peter Iliev, *The Effect of SOX Section 404: Costs, Earnings Quality, and Stock Prices*, 65 J. FIN. 1163 (2010).

215. Coates & Srinivasan, *supra* note 155.

States.²¹⁶ Neither study attempted comprehensive measurement of changes in fraud or direct and indirect costs at covered firms, but in principle these types of studies provide the best path towards a possible retrospective CBA/FR of SOX 404.

7. *What Baseline and Set of Counterfactuals Should Be Used?*

Even if a research design could produce reliable inferences about the effects of financial regulation, it is unclear how (if at all) to modify the results of such a study to reflect the context in which the rule was adopted. As mentioned above, the SEC's CBA/FR of SOX 404 noted two facts about the rule's context: (1) covered companies were already subject to the FCPA, which requires companies to have effective control systems, and (2) many companies already voluntarily made disclosures similar to ones required by the rule. These facts raise several open questions about the baselines and counterfactuals to be used in assessing the rule.

First, what baseline should be used to assess the effects of SOX? One possibility is to assume a baseline of full compliance with prior law. Another is to use a realistic baseline of average actual compliance, in which case both costs and benefits would likely be higher (reflecting the gap between full and average compliance, on the reasonable assumption that effects of new enforcement pressures from SOX would have a diminishing effect as compliance increases). A third possibility is to try to estimate levels of baseline compliance that vary with observable firm characteristics. Nothing in the SEC's governing statutes or other relevant law resolves which baseline to use, but the answer would likely have a significant effect on any quantified CBA/FR of the rule.²¹⁷

216. Stefan Arping & Zacharias Sautner, *Did SOX Section 404 Make Firms Less Opaque? Evidence from Cross-Listed Firms*, 30 CONTEMP. ACCT. RES. 1133 (2013); Christian Leuz et al., *Why Do Firms Go Dark? Causes and Economic Consequences of Voluntary SEC Deregistrations*, 45 J. ACCT. & ECON. 181 (2008).

217. At first pass, it might seem that the dual effects of this choice on both costs and benefits would cancel out as long as the choices were consistent, but in fact that would require a further debatable assumption—that is, that the functional relationship between actual legal compliance on the rule's effects is the same for both costs and benefits. That assumption seems at least possibly mistaken, because (for example) the extra costs from assuming a realistic baseline should be larger for larger companies, but they should increase at a decreasing rate in relation to firm size. On the other hand, the extra benefits might not follow that pattern, and in fact might increase at an increasing rate, if (for example) large firm frauds (as at Enron) have externalities that are not only larger than externalities of smaller firms, but also larger by a multiple greater than one due to informational cascades and threshold effects in how the media report on frauds.

Second, how should analysts treat indirect behavioral effects of eliciting information for purposes of CBA/FR? Suppose, for example, that disclosure reduces risk-taking (as SOX 404 may have done) not because it distracts management but simply because it prevents managers from hiding behind information asymmetries to deflect blame from losses caused by risks they caused the firm to take. Assume that in a world of symmetric information, those risks would not have been taken, but might have generated expected net gains for a firm (perhaps due to differences in risk aversion between managers and diversified shareholders). Should the lost gains due to this reduction in risk-taking be counted? Asymmetric information is treated as a market failure in conventional economics and in the OMB Guidance on CBA. Does that imply that “costs” (such as reduced risk-taking) causally attributed to elimination of some (but not all) information asymmetries should not be counted in CBA/FR? Such a question arises for all disclosure regulations, which anticipate and rely on private responses to the disclosure.²¹⁸

8. *How Do Compliance Costs Vary Across Firms and over Time?*

Better methods are also needed for estimating costs, even direct costs. Affected companies and their agents (who know the most about the likely direct costs of a rule) have incentives to exaggerate costs in public comments.²¹⁹ These exaggerations are evident from the strong contrasts between the FEI/FERF

218. Another open issue for CBA/FR is whether to use a national or supranational unit of analysis for purposes of estimating welfare effects. If, for example, SOX 404 prevented fraud by U.S.-listed but foreign-based companies that harms foreign investors, should that count as a social gain? What if, as some studies suggest, *e.g.*, Coates & Srinivasan, *supra* note 155, SOX 404 reduced cross-listings in the U.S. of foreign firms but with an effect that was concentrated among the most fraud-prone firms? If the result was to shift sales of stock by fraud-prone companies from the U.S. to other countries but not to reduce the total amount of fraud, should that count as a “benefit” for CBA/FR purposes under U.S. law? A similar unresolved issue concerns the costs of the rule: if the shift of firms from the U.S. to foreign stock markets harmed the New York economy but benefited the London or Hong Kong economies, should the losses count in a CBA/FR of the rule? The authors of the CCMR report seem to think such losses to the U.S. economy should count as “costs” under CBA. CCMR REPORT, *supra* note 4, at 10 (criticizing the SEC for not attempting to measure whether new rules “would . . . deter foreign companies from tapping U.S. capital markets”). But that report does not defend the position and does not take the correlative position that an increase in larger company cross-listings (for example, by lowering the cost of capital relative to foreign jurisdictions by reducing information asymmetries) should count as a benefit (and if a benefit, whether it should be a gross benefit to the United States or net of lower benefits to the issuers’ home countries). Neither the CFTC’s nor the SEC’s governing statutes specify the United States as the governing unit when commanding those agencies to consider “costs and benefits” or “efficiency,” respectively. See sources cited *supra* note 6.

219. See Harrington et al., *supra* note 34, for evidence of this outside the financial context.

survey results on SOX 404²²⁰ and the findings on direct costs from surveys by the SEC, the GAO, and CAQ, a firm catering to the audit industry.²²¹ Compliance costs also vary across firms.²²² The SEC's own studies of the effects of SOX 404²²³ contain information on some relevant differences, but future CBA/FR could usefully build such differences into better models of direct compliance costs, rather than relying on rationally biased inputs from private actors.

9. *Modeling and Measuring Chilling Effects of Financial Regulation*

Although direct costs of SOX 404 were most salient to firms, because these costs were borne directly by firms and paid out of their treasuries, indirect costs of SOX 404 may have been larger. They are likely to remain high and may increase rather than diminish over time, as direct costs typically do. Indirect costs include those flowing from changes in risk-taking and investment, which can plausibly dwarf direct costs in magnitude. SOX 404 is said to have caused changes in the risk of personal liability facing managers and directors and in the risk of reputational harms and opportunity costs created by litigation.²²⁴ If true, difficult-to-explain and legitimate business risks may be foregone, and firms may decline to go public or otherwise avoid the burdens of the law, with resulting social costs. However, the challenges of estimating indirect costs are also larger than for direct costs. Causal inference for indirect costs is just as difficult as for a regulation's benefits, requiring quasi-experimental research de-

220. See FEI/FERF SURVEY, *supra* note 166.

221. See Coates & Srinivasan, *supra* note 155, at 25-29.

222. SOX 404, for example, generates higher costs for larger firms, as well as for firms with less centralized decision making and more dispersed or fragmented assets. *Id.* To some extent, the RFA and analyses thereunder have produced useful methods of breaking down costs by firm size, but some of the more important differences may have less to do with size and more to do with industry, complexity, or geographic dispersion.

223. Office of Chief Accountant, *Study and Recommendations on Sections 404(b) of the Sarbanes-Oxley Act of 2002 for Issuers with Public Float Between \$75 and \$250 Million*, SEC. & EXCH. COMMISSION (2011) [hereinafter SEC, *Study and Recommendations*], <http://www.sec.gov/news/studies/2011/404bfloat-study.pdf> [<http://perma.cc/L5P7-PSHX>]; Office of Econ. Analysis, *Study of the Sarbanes-Oxley Act*, *supra* note 64.

224. See Leonce L. Barger et al., *Sarbanes-Oxley and Corporate Risk-Taking*, 49 J. ACCT. & ECON. 34 (2010) (finding reduced risk-taking by U.S. companies subject to SOX compared to non-U.S. companies not subject to SOX). *But see* Ana M. Albuquerque & Julie L. Zhu, *Has Section 404 of the Sarbanes-Oxley Act Discouraged Corporate Risk-Taking? New Evidence from a Natural Experiment* (Bos. Univ. Sch. of Mgmt. Research Paper Series, Working Paper No. 2013-6, 2013), <http://ssrn.com/abstract=1997228> [<http://perma.cc/J88G-TTN9>] (finding a trend towards reduced risk-taking by U.S. companies prior to SOX).

signs that will only be imperfect, even after the fact. Powerful empirical proxies for risk-taking, investment, and capital costs remain elusive and contested.

10. Summary and Illustrative Integrated Assessment Model

The previous sections have described the kind of CBA/FR of SOX 404 that could (in theory) be done today, from the distinctly advantaged after-the-fact perspective of ten years after the rule was adopted. The bottom line is that no one could hope to conduct a precise and compelling quantified CBA/FR of such a rule now or in the near future. The one component of CBA/FR that could be quantified—direct costs—has generated estimates that vary by an order of magnitude.²²⁵ Other, larger components, including benefits from reduced fraud and indirect costs from effects on risk-taking, investment, and management, all remain unquantifiable.

To produce quantified CBA/FR, the SEC would need an “integrative assessment model” (IAM) similar to those used in estimating the social cost of carbon in climate change analysis.²²⁶ An IAM would have to combine a sub-model of fraud incidence, a sub-model of the costs of fraud, including transfers and externalities (possibly consisting of a macroeconomic model), and a predictive empirical sub-model for how SOX 404 would affect the incidence of fraud. Indirect costs would have to be estimated in yet another sub-model.

To illustrate what an IAM might look like, consider the following: beginning with the formula for the present value of a perpetuity,²²⁷ an annual per-firm direct cost stream for SOX 404 ranging from \$300,000 to \$2 million per year²²⁸ would range from \$10 to \$67 million (at a three percent discount rate)

225. The cost estimates range from more than \$4.4 million per year on average (firms with an average of \$6 billion in revenues in 2004, based on a FEI/FERF survey) to \$350,000 (firms with market capitalizations under \$10 billion in 2012, based on a GAO survey). See FEI/FERF Survey, *supra* note 166; U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-13-582, INTERNAL CONTROLS: SEC SHOULD CONSIDER REQUIRING COMPANIES TO DISCLOSE WHETHER THEY OBTAINED AN AUDITOR ATTESTATION 23 (2013).

226. For one economist's highly skeptical assessment of IAMs in the environmental context, see Robert S. Pindyck, *Climate Change Policy: What Do the Models Tell Us?*, 51 J. ECON. LIT. 860 (2013). Pindyck calls for environmental policymaking to be informed by research, including empirical research, but ultimately based not on IAMs or guesstimated CBA but on “simpler” policy approaches that use a “plausible” range of outcomes and probabilities, where “plausible” is what is acceptable to a range of economists and subject matter experts (in his analysis, climate scientists). *Id.* at 869-70.

227. $PV=C/R$, where PV is the present value, C is the annual cost, and R is the discount rate.

228. This is a rough range of per-year, per-firm direct cost estimates reflected in the SEC's comprehensive survey of such costs in 2007 and 2008. See Office of Econ. Analysis, *Study of the Sarbanes-Oxley Act*, *supra* note 64, at 46 tbl.9 (2009). The estimates were reduced by an ar-

or from \$4 to \$29 million (at a seven percent discount rate).²²⁹ As of 2003, there were roughly 4,400 U.S. public companies covered by SOX 404,²³⁰ producing a present value of direct costs ranging from \$19 to \$293 billion.

How would this compare to a possible range of benefits for SOX 404? Suppose fraud incidence was – as estimated by Dyck et al.²³¹ – three percent of market capitalization, on average, but could range from 50% to 200% of that estimate. These assumptions produce direct fraud costs ranging from \$140 to \$700 billion. Suppose SOX 404 permanently reduced annual fraud risk by an amount ranging from 1% to 10%.²³² When applied to our direct fraud cost estimates, the range of fraud reduction implies benefits from SOX 404 ranging from \$2 to \$84 billion. Finally, assume fraud externalities range from one to three times direct costs.²³³ This implies benefits ranging from \$4 to \$336 billion.

bitrary thirty percent to reflect increases that would have occurred without SOX, due to market pressures reacting to Enron and related scandals.

229. The Office of Management and Budget suggests these discount rates. OMB Guidance, *supra* note 20, at 18. Whether they are appropriate at all, or for assessing financial regulation, is unclear. See Martin L. Weitzman, *Tail-Hedge Discounting and the Social Cost of Carbon*, 51 J. ECON. LIT. 873 (2013) (critiquing the current discount rate of three percent recommended by OMB and suggesting one percent instead, based on current yields on U.S. Treasuries). If a discount rate of one percent were used instead of three percent, the sensitivity to the net costs and benefits reported in Table 3 below for discount rates would increase by another 852%. One can also argue for discount rates higher than seven percent, depending on what time period one uses to average returns on equity investments. As discussed in Part III.C, two further discount rates (2.5% and 5%) are used by the Bank for International Settlements in its CBA/FR of the Basel III capital rules discussed below, and yet another (3.5%) is used by the FSA in its CBA/FR of the mortgage reforms discussed in Part III.E below. That six different discount rates (1%, 2.5%, 3%, 3.5%, 5%, 7%) are plausible is itself a source of concern about CBA/FR.
230. See Office of Econ. Analysis, *Study of the Sarbanes-Oxley Act*, *supra* note 64, at 27 tbl.1 (showing 2205 companies subject to 404(b) that did not answer the survey and 2081 companies subject to 404(b) that did answer the survey, totaling 4286, grossed up to 4400 to reflect growth in the number of listed companies since 2009).
231. See *supra* text accompanying note 180.
232. This range is roughly equivalent at the high end to reductions in the shares of U.S. public companies that were meeting or just beating analyst estimates in the post-SOX period, with the low end being motivated by the likelihood that SOX's effects on fraud are diminishing over time and/or caused by changes other than SOX 404. Eli Bartov & Daniel A. Cohen, *The "Numbers Game" in the Pre- and Post-Sarbanes-Oxley Eras*, 24 J. ACCT. AUDITING & FIN. 505, 517 fig.2 (2009).
233. This range extends from 50% to 200% of the point estimate of the relationship between transfers and externalities of crime from Anderson, *supra* note 183, at 629 tbl.7.

Table 2.
ILLUSTRATIVE QUANTITATIVE CBA/FR OF SOX 404

<i>Present value of aggregate direct costs</i>		<i>Present value of direct benefits (transfers)</i>		<i>Present value of aggregate benefits, including externalities</i>				
Direct costs per firm per year	Discount rate		% of current equity market cap of public firms due to fraud	Fraud reduction rate		Ratio of externalities to transfers from fraud	Low end of direct transfers	High end of direct transfers
	3%	7%		1%	10%			
\$0.3 mm	\$44 bn	\$19 bn	1.5%	\$2 bn	\$21 bn	1.0x	\$4 bn	\$168 bn
\$2.0 mm	\$293 bn	\$126 bn	6.0%	\$8 bn	\$84 bn	3.0x	\$8 bn	\$336 bn

Table 2 summarizes. The high end of costs is far higher than the low end of benefits, producing a net cost of \$289 billion, but the low end of costs is far lower than the high end of benefits, producing a net benefit of \$317 billion. Depending on assumptions, guesstimated CBA suggests that SOX 404 could be a very good idea, a very bad idea, or anything in between. If one arbitrarily chose the range's midpoint, SOX 404 created a net benefit of \$9 billion. But this bottom line is highly sensitive, as reflected in Table 3, with net benefits changing by between 2x and 13x as one moves from low to high values for each of five major inputs into the illustrative IAM.

Table 3.
SENSITIVITY OF OUTPUT OF ILLUSTRATIVE IAM TO INPUTS

<i>Low to high</i>	<i>Absolute value of difference between net benefits from low to high of various inputs, relative to mean net benefit of \$9 billion, holding other inputs constant at mean</i>
Discount rates	+243%
Direct costs	+440%
Ratio of externalities to direct costs	+511%
Fraud rates	+1033%
Fraud reduction rates	+1267%

This illustrative IAM is crude: it implicitly resolves all of the open issues reviewed above and uses many assumptions. The IAM could be challenged on numerous fronts: (a) indirect costs are omitted; (b) open issues on baselines and counterfactuals are resolved in favor of higher cost estimates, but discounted by an arbitrary thirty percent; (c) the current run-rate for direct costs is assumed to last indefinitely, contrary to the SEC's survey of SOX 404 costs that suggests that costs can be expected to fall;²³⁴ (d) transfers from U.S. to non-U.S. persons are ignored; (e) transfers from fraud victims to other shareholders are counted; (f) the ratio of externalities to transfers is borrowed from research on crime, not fraud; (g) discount rates are from OMB Guidance; (h) the fraud reduction effect is assumed to be a one-time permanent reduction; (i) the rate of fraud reduction is derived from a before-and-after study that may wrongly misattribute changes to SOX; (j) the rate of fraud reduction is derived from studies of earnings, and not the full range of fraud that SOX might reduce; and so on. A change in any of these assumptions would change the bottom line. This list of serious debatable limits could be extended for many pages. Any serious contest between opposed analysts would add to the upper ends of ranges of both costs and benefits.²³⁵

234. SEC, *Study and Recommendations*, *supra* note 223, at 53-55; Office of Econ. Analysis, *Study of the Sarbanes-Oxley Act*, *supra* note 64.

235. Another method for estimating the net costs and benefits of a financial regulation is the "event study," which examines market reactions to events leading up to a regulation's enactment. One estimate of the negative effects of SOX overall, based on stock market reactions to events leading to its passage, was roughly -0.07% of the U.S. equity market capitalization. Ivy Xiyang Zhang, *Economic Consequences of the Sarbanes-Oxley Act of 2002*, 44 J. ACCT. & ECON. 74, 92 tbl.2 (2007). That represented a net effect of more than negative \$980 billion, based on U.S. equity market capitalization in 2003 (when SOX § 404 was adopted) of roughly \$14 trillion. *Market Capitalization of Listed Companies*, WORLD BANK, <http://www.data.worldbank.org/indicator/CM.MKT.LCAP.CD> [<http://perma.cc/8FYT-9CNM>]. By contrast, other studies of the stock market reaction to SOX produced results ranging from positive \$420 billion to \$1.7 trillion. Aigbe Akhigbe & Anna D. Martin, *Valuation Impact of Sarbanes-Oxley: Evidence from Disclosure and Governance Within the Financial Services Industry*, 30 J. BANKING & FIN. 989 (2006); Pankaj K. Jain & Zabihollah Rezaee, *The Sarbanes-Oxley Act of 2002 and Capital-Market Behavior: Early Evidence*, 23 CONTEMP. ACCT. RES. 629 (2006); Haidan Li et al., *Market Reaction to Events Surrounding the Sarbanes-Oxley Act of 2002 and Earnings Management*, 51 J.L. & ECON. 111 (2008). The studies were published in peer-reviewed journals, and they included plausible cross-sectional tests of the validity of the estimates. For example, each contrasted differing market reactions to firms that theory would predict to be more or less benefited or harmed by SOX and found results consistent with at least some of those theories.

B. Case Study #2: Independent Boards for Mutual Funds

The second case study is of the mutual fund governance rules proposed by the SEC in the wake of the market-timing scandals of the early 2000s. Together with the review of the *Chamber of Commerce* case in Part II.B, this case study illustrates, among other things, how judicial review of CBA can penalize an agency for transparency about the limits of its ability to quantify the costs and benefits of a rule.

The ill-fated mutual fund governance rules had their origins in 2003, when New York Attorney General Eliot Spitzer ended his prepared remarks at a Harvard Law School reunion event with a dramatic *J'accuse!* Pointing a finger at a fellow panelist—a lawyer from Fidelity Management²³⁶—Spitzer announced that his office was about to reveal widespread fraud in the mutual fund industry. Over the next year, twenty-six advisory companies settled cases alleging violations of the securities laws in which select investors were permitted to harm funds and other investors by engaging in late or frequent trading that was either contrary to SEC rules or contrary to disclosed fund policies.²³⁷

Scandals at this scale had not hit the fund industry in decades, and while the wrongdoing alleged varied from fund complex to fund complex, the most troubling charges involved conflicts of interest between the fund advisors and the funds they advised.²³⁸ Conflict-of-interest transactions had been banned in 1940, but because many conflict-of-interest transactions could benefit funds, the SEC had adopted a series of exemptions, subject to a fund's meeting set

236. Fidelity turned out not to be a target of the investigations, but Spitzer did not let that get in the way of a dramatic moment.

237. 2006 *Performance and Accountability Report*, SEC. & EXCH. COMM'N 23 (2006), <http://www.sec.gov/about/secpar/secpar2006.pdf> [<http://perma.cc/A474-TGZ4>] (noting that “fair funds” were established pursuant to SEC enforcement actions concerning market timing and late trading); John C. Coates IV, *Reforming the Taxation and Regulation of Mutual Funds: A Comparative Legal and Economic Analysis*, 1 J. LEGAL ANALYSIS 591, 592-93 & n.3 (2009). I served as an independent distribution consultant in connection with one of the Fair Funds created as a result of the SEC's investigations of the fund industry that came in the wake of Spitzer's announcement. See Order Approving Modified Distribution Plan, Mass. Fin. Servs. Co., S.E.C. 56122 (2007), <http://www.sec.gov/litigation/admin/2007/34-56122.pdf> [<http://perma.cc/G36G-JK3F>].

238. See, e.g., Complaint at ¶¶ 9, 20, *New York v. Canary Capital Partners, LLC*, No. 2003-402830, 2003 WL 25691660 (N.Y. Sup. Ct. Sept. 3, 2003), http://www.ag.ny.gov/sites/default/files/press-releases/archived/canary_complaint.pdf [<http://perma.cc/9GLR-VXG8>] (alleging that Bank of America agreed to let a hedge fund place illegal late trades in return for keeping investments in funds sponsored by Bank of America). For a good analysis of the market reaction to the revelation of the scandals, see Stephen Choi & Marcel Kahan, *The Market Penalty for Mutual Fund Scandals*, 87 B.U. L. REV. 1021 (2007).

conditions.²³⁹ In 2001, the SEC had tightened the conditions, increasing the share of independent directors from forty percent to a majority for funds wanting to use the exemptions (as most funds wanted).

1. *The Rules*

In response to the scandals highlighted by Attorney General Spitzer, the SEC proposed further tightening of the conditions for exemption, (1) requiring a fund's board to contain seventy-five percent independent directors and (2) adding a requirement that a fund board chair be independent of the advisor.²⁴⁰ The latter requirement was anathema to Fidelity Management—one of the largest fund complexes, privately held, and dominated by its founder, Ned Johnson, who chaired boards of all 292 funds advised by Fidelity.²⁴¹ Fidelity paid for a study that found a negative correlation between independent board chairs and fund performance but which acknowledged that the correlation could be due to “other important differences that may have impacted performance results,” such as the prevalence of split chairs in bank-sponsored fund groups.²⁴²

The SEC adopted the more stringent conditions by a three-to-two partisan vote in August 2004. In its rule release, the SEC included a 1,680-word CBA/FR and a lengthier discussion of the conditions' benefits in its general as-

239. Various sections of the ICA govern conflict of interest transactions. *See, e.g.*, Investment Company Act of 1940, Pub. L. No. 76-768, § 17, 54 Stat. 815 (codified as amended at 15 U.S.C. § 80a-17 (2012)) (banning purchases, sales, borrowing, and loans to or from a fund by “any affiliated person”). The exemptions adopted by the SEC under the ICA are numerous and collected at Investment Company Governance, 69 Fed. Reg. 46,378, 46,379 n.9 (Aug. 2, 2004) (to be codified at 17 C.F.R. pt. 270).

240. Investment Company Governance, 69 Fed. Reg. at 46,582-82. The SEC also added requirements for fund boards to perform self-assessments at least annually, hold executive sessions for independent directors at least quarterly, and give independent directors authority to hire their own staff. *Id.* at 46,381. None of these requirements were the focus of subsequent litigation, although each plausibly contributes to both the overall benefits and overall costs of the combined package of conditions, by enhancing the power of independent directors, for both good and ill.

241. Amy Borrus & Paula Dwyer, *Who's Right, the SEC or Ned Johnson?*, BLOOMBERG BUSINESSWEEK, June 27, 2004, <http://www.businessweek.com/stories/2004-06-27/whos-right-the-sec-or-ned-johnson> [<http://perma.cc/9YVJ-76ED>].

242. *See* Letter from Eric D. Router, Senior Vice President and Gen. Counsel, Fidelity Mgmt. & Research Co. to Jonathan G. Katz, Sec'y, U.S. Sec. & Exch. Comm'n (Mar. 18, 2004), <http://www.sec.gov/rules/proposed/s70304/fidelity031804.htm> [<http://perma.cc/UF86-8JGK>].

assessment of the conditions.²⁴³ The CBA/FR was qualitative, and the rule was justified because, in the SEC's view, independent directors and chairs were "more likely to be primarily loyal to the fund shareholders rather than the fund adviser";²⁴⁴ in addition, the independent directors and chairs were more likely to effectively manage conflicts of interest such as those involved in the 2003 scandals.²⁴⁵ The SEC explicitly noted it had not conducted a quantified CBA/FR, as it could not quantify either costs or benefits. The agency also stated that it was "not aware of any conclusive research that demonstrates that the hiring of an independent chairman will improve fund performance or reduce expenses, or the reverse."²⁴⁶ Within weeks, Fidelity persuaded Senator Judd Gregg (a Republican from New Hampshire) to include a rider to an omnibus bill;²⁴⁷ the rider required the SEC to study the need for tightened conditions, resulting in an SEC study that was released in April 2005. That study contained seventy-seven pages of conceptual CBA/FR, showing that the Fidelity-commissioned study was sensitive to assumptions and could not reliably establish what it purported to show. After the SEC conducted the study, the Chamber of Commerce sued to overturn the rule under the APA and the ICA, a suit that ended in *Chamber of Commerce v. SEC* as described in Part II.²⁴⁸

2. *The Aftermath of Chamber of Commerce II*

After the second *Chamber of Commerce* decision,²⁴⁹ the SEC requested that the SEC's Chief Economist²⁵⁰ reevaluate the governance rules yet again. That

243. Investment Company Governance, 69 Fed. Reg. at 46,386-87 (applying cost-benefit analysis); *id.* at 46,381-86 (discussing conditions, including qualitative assessment of benefits).

244. *Id.* at 46,386.

245. *Id.* at 46,380.

246. The SEC noted that "[e]ven accepted at face value, Fidelity's data constitute muddy and unpersuasive evidence for continuing to allow senior management company officials to sit in the fund chairman's chair." *Id.* at 46,383 n.52 (citing John C. Bogle, Founder and Former CEO, Vanguard Group, Remarks Before the Institutional Investor Magazine Mutual Fund Regulation and Compliance Conference (May 5, 2004)).

247. As noted by Sherwin, this rider was first introduced in S. 2908, 108th Cong. (2004), by Senator Gregg on September 15, 2004, and was later incorporated into H.R. 4818, 108th Cong. (2004), the version of the spending bill passed into law, during the House-Senate conference. Sherwin, *supra* note 15, at 27 n.159. For Fidelity's role, see Carrie Johnson, *Trade Groups, Firms Push to Ease Tough Federal Scrutiny*, WASH. POST, Jan. 3, 2005, <http://www.washingtonpost.com/wp-dyn/articles/A43168-2005Jan2.html> [<http://perma.cc/76AJ-K8CB>].

248. 412 F.3d 133, 144 (D.C. Cir. 2005).

249. *Chamber of Commerce v. SEC*, 443 F.3d 890 (D.C. Cir. 2006).

request led to two memos—publicly released with a request for public comment.

In those memos, the Chief Economist concluded that (1) more independent boards were more likely to better protect investors, but (2) little evidence existed to establish that board composition would create higher returns.²⁵¹ These two conclusions, seemingly in tension, could be reconciled by one or more of three further conclusions: (a) “no sound structural model [exists] . . . to isolate the effect of a . . . board decision on performance”; (b) “inherent limitations to data and statistical tools . . . may render it difficult for research to identify relations that . . . may be economically significant”; or (c) “there may not be a unique relation between governance and performance.”²⁵² In other words, the state of finance research was such that no CBA/FR of the mutual fund governance rules was feasible. At the same time, economic theory (particularly agency cost theory) and the Chief Economist’s judgment, based on the research reviewed in the memos, supported a qualitative judgment that the rules would better protect investors.

3. *What Would CBA of the Mutual Fund Governance Rules Require?*

Implicit in the Chief Economist’s memos is a sketch of what quantified CBA/FR of the governance rules would look like. As the memos noted, the best board structure (in terms of independence) depends

250. The SEC’s Chief Economist was Chester S. Spatt, who had been a Professor of Finance at Carnegie-Mellon.

251. See OEA Memorandum re: Literature Review on Indep. Mutual Funds and Dir. from Chester Spatt, Chief Economist, Sec. & Exch. Comm’n, to the Inv. Co. File S7-03-04 (Dec. 29, 2006), <http://www.sec.gov/rules/proposed/s70304/oeamemo122906-litreview.pdf> [<http://perma.cc/XF8H-FXYE>]; OEA Memorandum re: Power Study as Related to Indep. Mut. Fund Chairs from Chester S. Spatt, Chief Economist, Sec. & Exch. Comm’n, to the Inv. Co. Governance File S7-03-04 (Dec. 29, 2006), <http://www.sec.gov/rules/proposed/s70304/oeamemo122906-powerstudy.pdf> [<http://perma.cc/4PXD-F42K>].

252. OEA Memorandum re: Literature Review on Indep. Mutual Funds and Dir., *supra* note 251, at 1. While the Chief Economist did not spell out the point, “structural model” here presumably refers to a model in which potential causal relationships among exogenous and endogenous variables needed to measure fund value or fund performance are specified—in other words, a theoretical model of fund value or performance. See, e.g., Peter C. Reiss & Frank A. Wolak, *Structural Econometric Modeling: Rationales and Examples from Industrial Organization*, in 6A HANDBOOK OF ECONOMETRICS 4277, 4363 (James J. Heckman & Edward E. Leamer eds., 2007) (contrasting structural models with non-structural “descriptive” empirical models). Most empirical corporate governance research, including research relevant to mutual funds, remains closer to the “descriptive” than to the “structural.”

on the . . . consequences of increasing the influence of outsiders [O]utside directors may bring expertise and independence [and] improve the quality of management decisions and manage conflicts of interest that insiders have, thereby increasing the value of the firm [but] may lack information about the “inner-workings” of the firm and other firm-specific knowledge [which if] difficult to extract . . . may diminish the quality of management decisions and reduce the value of the firm.²⁵³

Because this tradeoff may vary by fund, a fixed minimum share of independent directors may benefit investors in one fund by preventing an advisor from influencing the board to nominate too few independent directors. The same minimum may harm investors in another fund by raising the level of independence beyond the optimum for that fund.

Because optimal boards likely vary, however, and because board structure is only one of many factors that influence firm value, an empirical comparison of value at funds with more independent directors in the pre-rule context would not generate reliable information about the effect of the rules. Governance scholars have known this fact—that cross-sectional observational studies produce only weak information about the merits of endogenously chosen governance structures—for some time.²⁵⁴ A source of governance variation that is exogenous with respect to fund value is a necessary but insufficient condition for identifying the average effect of a proposed rule about the feature. Few exogenous sources of variation for fund governance exist, other than as a result of SEC rule changes—and even for those changes, the effects they have caused are likely to be sufficiently small as to be difficult to discover, even with the best cross-sectional modeling.

This identification challenge is fundamental and greatly undermines the reliability of any guesstimated CBA/FR of rules on fund (or corporate) governance.²⁵⁵ The difficulty is even more severe than it was in the SOX case study be-

253. OEA Memorandum re: Literature Review on Indep. Mutual Funds and Dir., *supra* note 251, at 2.

254. *E.g.*, Sanjai Bhagat & Bernard Black, *The Non-Correlation Between Board Independence and Long-Term Firm Performance*, 27 J. CORP. L. 231 (2002); Benjamin E. Hermalin & Michael S. Weisbach, *The Effects of Board Composition and Direct Incentives on Firm Performance*, 20 FIN. MGMT. 101 (1991); Eugene Kang & Asghar Zardkoobi, *Board Leadership Structure and Firm Performance*, 13 CORP. GOV.: INT’L REV. 785 (2005); April Klein, *Firm Performance and Board Committee Structure*, 41 J.L. & ECON. 275 (1998); Hamid Mehran, *Executive Compensation Structure, Ownership, and Firm Performance*, 38 J. FIN. ECON. 163 (1995); M. Babajide Wintoki et al., *Endogeneity and the Dynamics of Internal Corporate Governance*, 105 J. FIN. ECON. 581 (2012).

255. *E.g.*, SANJAI BHAGAT & RICHARD H. JEFFERIS, JR., *THE ECONOMETRICS OF CORPORATE GOVERNANCE STUDIES* (2002); Michael R. Roberts & Toni M. Whited, *Endogeneity in Empirical*

cause the plausible importance of any detail of governance is lower for SOX, which combined multiple institutional and enforcement changes. Anything that changes fund values—for example, anything that changes the value of a fund’s investments—can confound the ability of researchers to identify the effects of governance changes. Fund investment values undergo changes that are continuous and large (money funds aside) relative to the effect of governance details. A shift from fifty percent to seventy-five percent independent directors will not have an effect on value approaching a small fraction of common market-affecting events.²⁵⁶ In the language of econometrics, the “power” of statistical tests given available data is too weak to detect, much less reliably and precisely quantify, the effects of most governance changes—even if we had examples of changes that were plausibly exogenous. All of these points are made plain in the Chief Economist’s memos, even if they were not explained in the SEC’s releases or subsequent D.C. Circuit opinions.²⁵⁷

Corporate Finance, in 2 HANDBOOK OF THE ECONOMICS OF FINANCE 493 (George M. Constantinides et al. eds., 2013); Yair Listokin, *Interpreting Empirical Estimates of the Effect of Corporate Governance*, 10 AM. L. & ECON. REV. 90 (2008). This does not mean empirical studies of governance are useless. Such studies are essential sources of descriptive information about important organizations, without which neither social scientists nor practitioners can hope to understand them at all. For example, the fact of the extent and generality of variation in governance’s fine details emerged only from such studies. Such studies can provide partial, weak, and provisional evidence about the effects of governance arrangements, and when replicated with sufficient frequency in a variety of settings by a variety of researchers, they may allow tentative inferences to augment raw experience-based judgment in tentative evaluations. They can reject certain theories about governance, prompt refinements in theory, and provide a basis for more serious experimentation. At least over short time frames, they can allow for useful out-of-sample predictions even without reliable proof of causal mechanisms.

256. Compare, for example, the effect of financial collapse (as in 2008), accounting scandals (as in 2002), a market crash (as in 1987 and 1989), or war (shooting or trade), pandemic, or drought.
257. Thus, as with SOX, a valid criticism of the SEC’s CBA/FR is that the SEC failed to adequately explain why quantitative analysis was not feasible, and that it failed to present an adequate conceptual CBA/FR—not, as argued by others, that it failed to conduct adequate quantitative analysis. See, e.g., *Chamber of Commerce v. SEC*, 412 F.3d 133, 144 (D.C. Cir. 2005); CCMR REPORT, *supra* note 4, at 9; Edward Sherwin, *The Cost-Benefit Analysis of Financial Regulation: What the SEC Ignores in the Rulemaking Process, Why It Matters, and What To Do About It* 53, 65 (Working Paper, 2005), <http://www.law.harvard.edu/faculty/hjackson/pdfs/CBA.article.doc.pdf> [<http://perma.cc/7TWL-8G9R>]. For example, the SEC never noted in its rule release that heightened independence requirements could result in less informed and more cumbersome boards or divisiveness and conflict on boards, undermine board culture, and dilute the effectiveness of board decision making. *Investment Company Governance*, 69 Fed. Reg. at 46,386-87. These costs seem likely to swamp the short-term compliance costs on which the SEC, the D.C. Circuit, and commentators have focused. See Letter from John C. Coates IV, Professor of Law and Econ., to Nancy M. Morris, Sec’y, Sec. & Exch. Comm’n (Mar. 1, 2007), <http://www.sec.gov/rules>

To be sure, any change in governance mandates will generate adjustment costs—the focus of both the SEC in the “cost” section of its rule release and of the Chamber of Commerce in its lawsuit—that could be quantified (or at least bounded) based on survey evidence. But if benefits of a rule cannot be quantified, and larger potential costs of the rule due to fund performance cannot be quantified, it remains unclear why the failure to quantify adjustment costs is a significant failing or how (if provided) such information would materially improve public understanding of the effects of the rule. This point is even more compelling when, as here, even the quantifications would vary depending on private responses that could not be forecast with any precision, as the D.C. Circuit acknowledged in *Chamber of Commerce*. Put differently, litigation challenging the SEC’s rule focused on an immaterial subset of the likely costs and benefits of the rule, and had the SEC done exactly what the D.C. Circuit ultimately said it had to do, the result would likely have had no material effect on any assessment of the rule. Yet one would not know this from reading the D.C. Circuit’s opinions or much of the commentary on the case.²⁵⁸ The litigation is a perfect example of how CBA law—here, judicial review of CBA/FR—can obscure more than illuminate.

4. *The Aftermath of the Aftermath*

Because it was unclear if the Chief Economist’s memos represented the end or the beginning of another stage in the SEC’s efforts to revise governance rules, Fidelity filed a 141-page comment in response, including a twenty-two-page analysis of the Chief Economist’s memos by me (for which I was paid a fee, giving me a financial interest in this topic).²⁵⁹ In my analysis, I critiqued the memos on the ground that the research used to support the qualitative conclusion that the rules would better protect investors was weak, inconsistent, and at times at odds with the summary in the memos. I also outlined a number of potential costs to the proposed rules that had not been noted in the Chief Economist’s memos.²⁶⁰

/proposed/s70304/s70304-554.pdf [http://perma.cc/8R5X-F38D] (discussing the costs of an independent board chair).

258. *Chamber of Commerce v. SEC*, 443 F.3d 890 (D.C. Cir. 2006) (nowhere discussing these costs); *Chamber of Commerce v. SEC*, 412 F.3d 133 (D.C. Cir. 2005) (same); CCMR REPORT, *supra* note 4, at 4; CCMC REPORT, *supra* note 6, at 29-30; Sherwin, *supra* note 15, at 32-33.

259. See Letter from John C. Coates IV, *supra* note 257.

260. I also argued that “[i]f [CBA/FR] is to assist the regulatory process, the minimum one would expect before adding regulations is at least some economic evidence that the regulations will provide some benefit.” *Id.* at 2. I continue to hold that view. But a desire for “evi-

Subsequently, the SEC has taken no more action to re-propose its governance reforms. What is unclear, however, is whether its decision was based on a genuine change of policy. Two less optimistic possibilities exist: (1) between *Chamber of Commerce II* and the SEC's giving up on the rules, the SEC Chair changed identity (William Donaldson was replaced by Christopher Cox); and (2) the ongoing litigation threat, coupled with the fact that reliable quantified CBA/FR for the rules remains unfeasible, led the SEC not to want to risk another morale-draining, resource-depleting court loss,²⁶¹ even if it continued to believe that the governance rules would benefit investors at a low cost. In favor of the last possibility is the fact that the Chief Economist's memos were released *after* Christopher Cox became Chairman, but they supported re-adoption, and nothing in the public commentary (including my comment) provided any compelling *quantitative* reason for the SEC to change its mind. While the qualitative reasoning in the public comments may be part of the explanation, a dysfunctional system of judicial review seems likely to be a bigger part of the explanation.

C. Case Study #3: Heightened Capital Requirements for Banks

The third case study is of bank capital rule reforms adopted in the wake of the 2008 to 2009 financial crisis. Among other things, the case study illustrates how difficult it is to quantify one of the core benefits of a great number—perhaps the majority—of financial regulations: reductions in systemic risk. The difficulty is in part due to the relatively small number of comparable crises from which to draw reliable inferences about the effects of crises or the effects of regulations on them.

“[Y]ou only find out who is swimming naked when the tide goes out.”²⁶² Warren Buffett's perhaps self-congratulatory moral was occasioned by losses facing casualty insurers after 9/11, but it captures a central fact of the 2008 crisis: banks were revealed to be grossly undercapitalized for risks they had been

dence” is not the same as a mandate to conduct *quantified* CBA/FR. One can believe financial regulations aimed at improving or constraining governance are not susceptible to quantified CBA/FR without giving up on the goal of obtaining “evidence” that can inform consideration of the rules and their alternatives. Evidence is commonly adduced in court and in other contexts that do not admit of quantification, reliable causal inference, or anything approaching “science.”

261. Cf. Robert A. Kagan, *Adversarial Legalism and American Government*, in *THE NEW POLITICS OF PUBLIC POLICY* 88 (Marc K. Landy & Martin A. Levin eds., 1995) (litigation drains agency resources, causing agencies to alter their behavior in an effort to avoid it).

262. Letter from Warren Buffett, Chairman, Berkshire Hathaway Inc., to Shareholders (Feb. 28, 2002), <http://www.berkshirehathaway.com/2001ar/2001letter.html> [<http://perma.cc/S7WA-BH85>].

running. Undercapitalization was evident in the failures of both commercial banks—Washington Mutual, Wachovia—and investment banks—Lehman, Bear Stearns. But it was also true of the more than 700 banks bailed out by the United States.²⁶³ Even the “best” performing U.S. banks during the crisis lost significant amounts of money, needed to raise capital on terms suggesting pre-crisis undercapitalization,²⁶⁴ and would have failed without massive infusions of liquidity by the Federal Reserve, through near-zero interest rates and three rounds of “quantitative easing,” six years after the crisis began.²⁶⁵

Capital shortfalls were global but not universal. Banks in the United Kingdom, France, Germany, and Belgium failed or needed government support to stay open, while banks in Canada and Australia did not, in part due to tight capital regulation.²⁶⁶ In a cross-section of banks, those with more capital and

263. See *Capital Purchase Program: Program Purpose and Overview*, U.S. DEP’T OF TREASURY (Jan. 15, 2014, 3:10 PM), <http://www.treasury.gov/initiatives/financial-stability/TARP-Programs/bank-investment-programs/cap/pages/default.aspx> [<http://perma.cc/YY5Y-M5RN>].

264. Wells Fargo’s then-CEO has criticized what he viewed as U.S. government efforts to pressure his company to accept a bailout under the Emergency Economic Stabilization Act (also known as the Troubled Asset Relief Program), and Wells Fargo repaid the investment as soon as it was permitted under the terms of the investment. Mark Calvey, *Former Wells Fargo CEO Dick Kovacevich Blasts TARP: An ‘Unmitigated Disaster,’* S.F. BUS. TIMES, June 13, 2012, <http://www.bizjournals.com/sanfrancisco/blog/2012/06/wells-fargo-dick-kovacevich-occupy-tarp.html> [<http://perma.cc/86D4-5NW4>]; *Wells’ TARP Plan Brings End to Bailout Era*, N.Y. TIMES: DEALBOOK (Dec. 14, 2009, 6:33 PM), <http://dealbook.nytimes.com/2009/12/14/wells-fargo-to-repay-25-billion-to-us> [<http://perma.cc/ZMA2-N7VD>]. However, Wells Fargo was found to need more capital in the course of the “stress tests” conducted during the crisis, in circumstances in which not all banks were required to raise capital. Wells Fargo & Co., Annual Report (Form 10-K) 8 (Feb. 26, 2010), <http://www.sec.gov/Archives/edgar/data/72971/000095012310017877/f54129e10vk.htm> [<http://perma.cc/YW49-8TJE>] (“[I]n 2009, the [Federal Reserve] conducted a test under the [Supervisory Capital Assessment Program, i.e., the stress test program] to forecast capital levels . . . in an adverse economic scenario. Following . . . that stress test, the [Federal Reserve] required [Wells Fargo] to generate a \$13.7 billion regulatory capital buffer . . . [Wells Fargo] exceeded this requirement through an \$8.6 billion . . . common stock offering . . .”).

265. See Brett W. Fawley & Christopher J. Neely, *Four Stories of Quantitative Easing*, 95 FED. RESERVE BANK ST. LOUIS REV. 51 (2013), <http://research.stlouisfed.org/publications/review/13/01/Fawley.pdf> [<http://perma.cc/EV39-BRNT>].

266. See Jennifer G. Hill, *Why Did Australia Fare So Well in the Global Financial Crisis?*, in *THE REGULATORY AFTERMATH OF THE GLOBAL FINANCIAL CRISIS* 203, 287 (Eilís Ferran et al. eds., 2012) (reporting that no bailouts occurred in Australia or Canada, and noting that “[b]etween 2003 and 2005, [Australia’s financial services regulator] created a new regulatory framework, which was focused on close supervision, effective risk management, governance, and strong, well-enforced, capital adequacy rules”); Michael D. Bordo et al., *Why Didn’t Canada Have A Banking Crisis in 2008 (or in 1930, or 1907, or . . .)?* 25 (Nat’l Bureau of Econ. Research, Working Paper No. 17312, 2011), <http://www.nber.org/papers/w17312.pdf> [<http://perma.cc/ZYUs-CMTD>] (“Canadian regulation under OSFI proved tougher than in the United States, mandating higher capital requirements, lower leverage, less securitiza-

those based in countries with more stringent capital regulation did better than banks elsewhere, controlling for other factors.²⁶⁷

1. *Regulatory Response*

It was thus inevitable that regulators around the world would impose new, higher capital requirements. Capital regulation is coordinated for global banks (on a voluntary multilateral basis) by the Bank for International Settlements (BIS) based in Basel. More precisely, BIS hosts the Basel Committee on Banking Supervision (Basel Committee), composed of members from twenty-seven countries, which from time to time reaches consensus on a unified set of capital regulations for banks.²⁶⁸ Bank regulators in the member countries then transpose the consensus to national regulation.

Each U.S. banking agency (the Federal Reserve, the Office of the Comptroller of the Currency (OCC), and the Federal Deposit Insurance Corporation (FDIC))²⁶⁹ participates in the Basel Committee.²⁷⁰ Following the crisis, the Committee hosted talks on new capital guidelines (called Basel III to distinguish them from two prior guidelines). This new round focused on tougher capital guidelines for large banks engaged in cross-border transactions or activities with a lack of substitutes,²⁷¹ and on liquidity requirements—with the aim of addressing liquidity risks that played a greater role in 2008 than in prior crises.²⁷² The new capital guidelines included leverage ratios so banks will need to

tion, the curtailment of off balance sheet vehicles, and restricting the assets that banks could purchase.”).

267. See Andrea Beltratti & René M. Stulz, *The Credit Crisis Around the Globe: Why Did Some Banks Perform Better?*, 105 J. FIN. ECON. 1, 8-10 (2012).

268. See *Basel Committee on Banking Supervision*, BANK FOR INT’L SETTLEMENTS, <http://www.bis.org/bcbs> [<http://perma.cc/7YUX-FQPA>].

269. The Federal Reserve supervises systemically important financial institutions and other bank and financial holding companies, as well as state banks that are members of the Federal Reserve System (FRS). The OCC supervises national banks and federal thrifts. The FDIC supervises state FDIC-insured banks that are not members of the FRS and has back-up authority over other insured banks. See EDWARD V. MURPHY, CONG. RESEARCH SERV., R43087, WHO REGULATES WHOM AND HOW? AN OVERVIEW OF U.S. FINANCIAL REGULATORY POLICY FOR BANKING AND SECURITIES MARKETS 13, 16 (2013).

270. See *Basel Committee Membership*, BANK FOR INT’L SETTLEMENTS, <http://www.bis.org/bcbs/membership.htm> [<http://perma.cc/69B3-76LZ>].

271. Basel Comm. on Banking Supervision, *Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems*, BANK FOR INT’L SETTLEMENTS 1 (June 2011), <http://www.bis.org/publ/bcbs189.pdf> [<http://perma.cc/7D9U-YM8F>].

272. See Basel Comm. on Banking Supervision, *Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools*, BANK FOR INT’L SETTLEMENTS paras. 1-3, at 1 (Jan. 2013), <http://www.bis.org/publ/bcbs238.pdf> [<http://perma.cc/DU8G-YDLM>]. The new requirements in-

hold a minimum ratio of capital to assets, even if those assets nominally have a low level of risk, such as highly rated mortgage-backed securities.²⁷³ Other requirements in the guidelines included more common equity; tougher treatment for credit default swaps and counterparty risk; securitizations; and risk management; and a surcharge for the very largest, most complex, and interconnected banks, known as “systemically important financial institutions,” or SIFIs.²⁷⁴ The Committee circulated capital guidelines in December 2010 (revised in June 2011) and liquidity guidelines in January 2013. The U.S. agencies proposed capital requirements for U.S. banks in August 2012, eliciting over 2,500 comments before being finalized in October 2013, and proposed new liquidity requirements in November 2013.²⁷⁵

clude a liquidity coverage ratio, which requires banks to have enough high quality liquid resources to survive an acute stress scenario lasting for one month, and a net stable funding ratio, designed to address liquidity risk by creating incentives for banks to rely on funding with maturities of a year or longer. *Id.* paras. 14-17, at 4. In general terms, liquidity is the amount of cash or other assets readily convertible to cash on a timely basis, to meet withdrawal demands or other cash requirements. The Basel Committee also circulated an earlier discussion paper related to liquidity. See Basel Comm. on Banking Supervision, *Basel III: International Framework for Liquidity Risk Measurement, Standards and Monitoring*, BANK FOR INT’L SETTLEMENTS (Dec. 2010), <http://www.bis.org/publ/bcbs188.pdf> [<http://perma.cc/6J2Y-64BE>].

273. Under prior capital rules, securitized assets with high credit ratings were given a low risk weighting and so required less capital than other kinds of assets. See Basel Comm. on Banking Supervision, *Revisions to the Basel Securitisation Framework*, BANK FOR INT’L SETTLEMENTS 4 (Dec. 2012), <http://www.bis.org/publ/bcbs236.pdf> [<http://perma.cc/QF6Z-RBCL>] (“The recent financial crisis revealed that external credit ratings often did not adequately reflect the risk of certain structured finance asset classes, such as mortgage backed securities, including but not limited to resecuritisation exposures.”).
274. See Basel Comm. on Banking Supervision, *Basel III Counterparty Credit Risk and Exposures to Central Counterparties - Frequently Asked Questions*, BANK FOR INT’L SETTLEMENTS (Dec. 2012), <http://www.bis.org/publ/bcbs237.pdf> [<http://perma.cc/9329-V35D>]; Basel Comm. on Banking Supervision, *Basel Committee on Banking Supervision Reforms - Basel III*, BANK FOR INT’L SETTLEMENTS, <http://www.bis.org/bcbs/basel3/b3summarytable.pdf> [<http://perma.cc/D6KL-V4A7>]; Basel Comm. on Banking Supervision, *Global Systemically Important Banks: Assessment Methodology and the Additional Loss Absorbency Requirement*, BANK FOR INT’L SETTLEMENTS (July 2011), <http://www.bis.org/publ/bcbs201.pdf> [<http://perma.cc/TQH2-UCXP>].
275. See Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk-Weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule, 78 Fed. Reg. 62,018, 62,023 (Oct. 11, 2013) (to be codified at 12 C.F.R. pts. 208, 217, 225) (final rule, consolidating three proposed rules, and noting that there were over 2,500 comments for these proposed rules); Liquidity Coverage Ratio: Liquidity Risk Measurement, Standards and Monitoring, 78 Fed. Reg. 71,818 (proposed Nov. 29, 2013) (to be codified at 12 C.F.R. pt. 249); Regulatory Capital Rules: Advanced Approaches Risk-Based Capital Rule; Market Risk Capital Rule, 77

2. *CBA/FR of Basel III*

Although U.S. banking agencies briefly discussed costs in reviewing comments on their rules,²⁷⁶ none of the U.S. banking regulators included formal CBA in transposing Basel III to U.S. law. However, the Basel Committee itself, in consultation with the International Monetary Fund, published its own CBA/FR.²⁷⁷ The Committee elicited CBA/FR that focused on costs to its members (central banks and bank regulatory agencies), twenty-three of which obtained data and analyses from 263 large banks worldwide.²⁷⁸ Subsequently, the Fed's counterpart in the United Kingdom (then the FSA)²⁷⁹ extended the Basel Committee's CBA/FR in published white papers.²⁸⁰

Fed. Reg. 52,978 (proposed Aug. 30, 2012) (to be codified at 12 C.F.R. pts. 3, 217, 324); Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Minimum Regulatory Capital Ratios, Capital Adequacy, Transition Provisions, and Prompt Corrective Action, 77 Fed. Reg. 52,792 (proposed Aug. 30, 2012) (to be codified at 12 C.F.R. pts. 208, 217, 225); Regulatory Capital Rules: Standardized Approach for Risk-Weighted Assets; Market Discipline and Disclosure Requirements, 77 Fed. Reg. 52,888 (proposed Aug. 30, 2012) (to be codified at 12 C.F.R. pt. 217).

276. Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk-Weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule, 78 Fed. Reg. at 62,024.
277. See Basel Comm. on Banking Supervision, *An Assessment of the Long-Term Economic Impact of Stronger Capital and Liquidity Requirements*, BANK FOR INT'L SETTLEMENTS (Aug. 2010) [hereinafter BCBS 173], <http://www.bis.org/publ/bcbs173.pdf> [<http://perma.cc/JL5H-4PU6>] (estimating both costs and benefits of higher capital requirements); Macroeconomic Assessment Grp., *Final Report: Assessing the Macroeconomic Impact of the Transition to Stronger Capital and Liquidity Requirements*, BANK FOR INT'L SETTLEMENTS (Dec. 2010), <http://www.bis.org/publ/othp12.pdf> [<http://perma.cc/FZ45-39XB>] (estimating the effects of higher capital requirements).
278. Basel Comm. on Banking Supervision, *Results of the Comprehensive Quantitative Impact Study*, BANK FOR INT'L SETTLEMENTS 1, 4 (Dec. 2010), <http://www.bis.org/publ/bcbs186.pdf> [<http://perma.cc/BY4F-QSE8>]. The Basel Committee compiled those inputs and analyzed the results in a "quantitative impact study," *id.*, and the results are reflected in the Committee's final CBA/FR, Macroeconomic Assessment Grp., *supra* note 277. This consultation was confidential, at both agency and bank levels, and individual bank or national regulator inputs to the Basel Committee process are not available to the public. *Id.*
279. The FSA was required to conduct CBA/FR. See *supra* text accompanying note 83.
280. Ray Barrell et al., *Optimal Regulation of Bank Capital and Liquidity: How To Calibrate New International Standards*, FIN. SERVICES AUTHORITY (Occasional Paper Series No. 38, July 2009) [hereinafter FSA 38], [<http://www.fsa.gov.uk/pubs/occpapers/op38.pdf>] [<http://perma.cc/G7JM-2ZTH>]; Sebastian de-Ramon et al., *Measuring the Impact of Prudential Policy on the Macroeconomy: A Practical Application to Basel III and Other Responses to the Financial Crisis*, FIN. SERVS. AUTH. (Occasional Paper Series No. 42, May 2012) [hereinafter FSA 42], <http://www.fsa.gov.uk/pubs/occpapers/op42.pdf> [<http://perma.cc/5TWP-WT65>].

Collectively, the work of the Basel Committee and the FSA on Basel III's higher capital rules provides another detailed illustration of what CBA/FR looks like for a financial regulation with large if narrow significance. A review of these publications does not leave a reader with much confidence in using guesstimated CBA/FR to guide regulation. CBA/FR of the new rules required complex social and economic predictions. First, the analysis had to estimate benefits of heightened capital and liquidity requirements; those benefits were identified as less frequent and/or severe financial crises. Two sub-models were needed, one to estimate the cost of a crisis and one to predict the frequency of crises. The CBA/FR then faced the challenge of forecasting the causal effect of the requirements on each modeled relationship (incidence and effects). Finally, the CBA/FR had to estimate the costs of the requirements – posited to be lower lending by the banks subject to the rules. Each of these models is discussed below.

3. *Costs of a Financial Crisis*

Focus first on the costs of a crisis. One pair of commentators has suggested that this element of CBA/FR should be “easy”: “Agreement on a figure in the range 150 billion to 3 trillion dollars (viz. a crisis cost between 1 percent and 20 percent of US GDP . . .) would seem relatively easy to reach given the widely respected estimates of Reinhart and Rogoff.”²⁸¹ Unfortunately, this view is too sanguine by more than half. Other estimates of the costs of financial crises range from 90% to 350% of world GDP (Bank of England); 18% to 48% of UK GDP (FSA 42); and 10% to 210% of UK GDP.²⁸²

To state the obvious: these ranges do not even overlap. The high end of Posner and Weyl's range (20% of U.S. GDP) is less than one-fourth of the low end of the Bank of England's range and is barely above the low end of the FSA's range. The high end of the Bank of England's estimate is seventeen times that of Posner and Weyl's, and Yan et al.'s estimate is eleven-and-a-half times larger than Posner and Weyl's. In absolute, comparable, present value dollars, these differences are enormous: trillions, not billions.

281. Eric Posner & E. Glen Weyl, *Benefit-Cost Analysis for Financial Regulation*, 103 AM. ECON. REV., May 2013, at 393, 394 (citing CARMEN M. REINHART & KENNETH S. ROGOFF, THIS TIME IS DIFFERENT: EIGHT CENTURIES OF FINANCIAL FOLLY (2009)).

282. Andrew G. Haldane, Exec. Dir., Fin. Stability, Bank of Eng., Address at the Institute of Regulation & Risk in Hong Kong: The \$100 Billion Question (Mar. 30, 2010), <http://www.bankofengland.co.uk/archive/Documents/historicpubs/speeches/2010/speech433.pdf> [<http://perma.cc/9SEQ-9KYK>]; FSA 42, *supra* note 280, at 63 tbl.7; Meilan Yan et al., A Cost-Benefit Analysis of Basel III: Some Evidence from the UK 26 tbl.10 (Working Paper, Aug. 20, 2011), <http://ssrn.com/abstract=1913433> [<http://perma.cc/UAD5-64BB>].

One may object, fairly, that Posner and Weyl's estimate is for all future crises, whereas the other ranges are for the recent crisis. But there are two responses. First, with respect to the recent crisis, the ranges still vary substantially. Second, as discussed more below, no consensus approach exists to resolve which historical data one should use in estimating the cost of future crises. Data from 1929, included in Reinhart and Rogoff, on which Posner and Weyl rely,²⁸³ are not obviously more or equally relevant to future crises than data from 2008. A longer set of historical data has the advantage of allowing costs to vary with factors that fluctuate or cycle over decades, and dampens the effect of differences of estimated costs of any particular crisis. A shorter set of data from more recent periods has several advantages as well. First, a shorter dataset promotes better modeling of current economic, legal, and political conditions, including the centrality of finance to the economy,²⁸⁴ which has arguably increased over time; it also allows one to account for the presence of laws and institutions that socialize some of the risks of crises, such as FDIC deposit insurance, and that did not exist in 1929. Second, a shorter dataset enables one to reduce the number of disputes that can be expected over which crises to include in the dataset. Given the tradeoffs between a shorter and a longer dataset, neither choice clearly dominates.

An examination of CBA/FR conducted for the Basel Committee reveals methodologies and estimates of the costs of crises more disparate than in the studies just summarized. The Committee reviewed twenty-one studies. Two provided estimates of peak-to-trough losses during the crises studied, while thirteen provided cumulative loss estimates. The present value of the average cost in the latter studies ranged from 16% to 302% of pre-crisis GDP (sometimes measured against domestic GDP, sometimes global). Several include a lower bound of zero(!),²⁸⁵ while the highest upper bound was 1041% of pre-

283. This date is from REINHART & ROGOFF, *supra* note 281, at 230 fig.14.4. Posner and Weyl do not provide details on which of Reinhart and Rogoff's estimates they used; in some of the latter's datasets, for example, *id.* at 295 app.A.1, they list datasets on crises dating back to 1800 or even 1258. I assume few would use data from the thirteenth century in modern CBA/FR.

284. See *infra* Part IV.A.1.

285. That a crisis could have zero social cost disconcerted the authors of BCBS 173, *supra* note 277, who found the result driven by "definitions of what constitutes a systemic banking crisis. For example, some studies assume that Canada had a banking crisis in 1983. While two small banks failed, experts at the Bank of Canada do not consider this event a systemic banking crisis. Unsurprisingly, most studies find zero output costs for this crisis." *Id.* at 36 (citation omitted).

crisis GDP. One study presented results from two methods that varied at the mean by a factor of five and at the high end by a factor of ten.²⁸⁶

The Basel Committee's qualitative summary is "that results in the literature are surprisingly consistent."²⁸⁷ But this conclusion is inconsistent with the committee's statement elsewhere in its report that one can find "a significant range of crisis outcomes across studies and individual episodes."²⁸⁸ Presumably, the "significant range" of outcomes is "surprisingly consistent" when measured against prior expectations that the results would lack coherence altogether.

The table summarizing the committee's findings,²⁸⁹ converted into Figure 2 here, shows the sensitivity of the results to assumptions and methodological choices. The primary drivers of the sensitivity of results are: (1) selection of historical data points; (2) assumptions about whether economic losses will be permanent or temporary, and if temporary, how long crises will last; and (3) what policy response will be triggered by the crisis. For each driver, a number of choices must be made, and each choice has large effects on the bottom line of the CBA/FR.

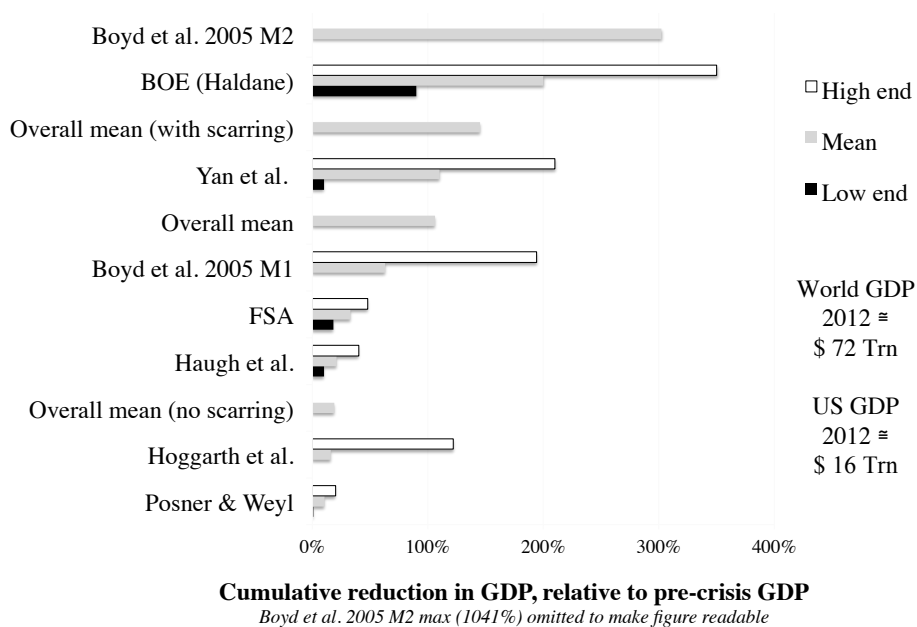
²⁸⁶ John H. Boyd et al., *The Real Output Losses Associated with Modern Banking Crises*, 37 J. MONEY, CREDIT & BANKING 977, 978, 994 tbl.7 (2005).

²⁸⁷ BCBS 173, *supra* note 277, at 34.

²⁸⁸ *Id.* at 11.

²⁸⁹ *Id.* at 35 & tbl.A1.1.

Figure 2.
RANGE OF ESTIMATES OF COSTS OF FINANCIAL CRISIS²⁹⁰



For the simplest driver—choice of data—at least three contestable choices are required. First, a “financial crisis” must be defined: crises can be subjectively and judgmentally chosen (“I know it when I see it” approach)²⁹¹ or objectively chosen, and either way can be based on a variety of data, including data regarding market volatility,²⁹² bank runs,²⁹³ bank closures or nationalizations,²⁹⁴ bank bailouts,²⁹⁵ stock market declines,²⁹⁶ and ratios of non-

290. *Id.*

291. One prominent study asserts that the definitions used in it and in other cross-country studies are “qualitative.” Glenn Hoggarth et al., *Costs of Banking System Instability: Some Empirical Evidence*, 26 J. BANKING & FIN. 825, 829 (2002).

292. See, e.g., Michael Bordo et al., *Is the Crisis Problem Growing More Severe?*, 16 ECON. POL’Y 53, 55 (2001).

293. See, e.g., REINHART & ROGOFF, *supra* note 281, at 8-11; FSA 38, *supra* note 280, at 12.

294. See, e.g., REINHART & ROGOFF, *supra* note 281, at 8-11; Bordo et al., *supra* note 292, at 55; FSA 38, *supra* note 280, at 12.

295. See, e.g., Bordo et al., *supra* note 292, at 55; FSA 38, *supra* note 280, at 12.

296. See, e.g., Boyd et al., *supra* note 286, at 980-81.

performing loans to bank assets.²⁹⁷ Some distinguish banking from market crises; others include banking crises as a subset of financial crises.²⁹⁸ Second, time periods must be chosen—both for the overall dataset (how far back to go in history?) and for each crisis (because the duration of a crisis affects the count and size of effects).²⁹⁹ Third, one must decide what geographic scope to consider: should one consider only crises in the United States, in developed countries (and if so, how to define “developed”?), or all countries?

These choices have large effects on outputs. One study of the costs of financial crises presents two historical samples, with its bottom line estimate doubling depending on which sample is used.³⁰⁰ Even over the same historical period, one study counts 160 banking crises, including many that caused relatively small losses, reducing the average loss caused by the crises counted, while another study counts twenty-three, which caused large average losses.³⁰¹ The differences are attributable to (a) basic definitional choices; (b) whether to count poor, developing nations or nations with poorly developed financial markets; and (c) how (and whether) to count countries that experienced multiple crises close in time: if all crises are counted separately, the average cost falls, because some of the crises are brief episodes paving the way to a larger crisis.³⁰²

Further illustrating the fragility of cost-of-crisis models is the recent kerfuffle involving Reinhart and Rogoff (R&R), on whose “widely respected estimates” Posner and Weyl rely. R&R’s publications on the effects of crises

297. See, e.g., FSA 38, *supra* note 280, at 12.

298. See, e.g., Bordo et al., *supra* note 292, at 55.

299. As the FSA noted, the use of binary crisis dummies (as is typical in the studies reviewed here) “inevitably mean[s] that the start and end dates are ambiguous.” FSA 38, *supra* note 280, at 12. The use of annual dummies allows for up to twenty-two months of variance in actual duration without affecting the data used (eleven months for the start date, eleven months for the end date), and, “[s]ince the end-dates are to some extent subjectively chosen[,] there are potential endogeneity problems with estimation: the explanatory variables will be affected by ongoing crises.” *Id.*

300. E.g., Bordo et al., *supra* note 292, at 68 tbl.3.

301. Boyd et al., *supra* note 286, at 980 (comparing their choice of twenty-three crises with 160 “or so” identified by Gerard Caprio, Jr. & Daniela Klingebiel, *Bank Insolvency: Bad Luck, Bad Policy, or Bad Banking?*, in ANNUAL WORLD BANK CONFERENCE ON DEVELOPMENT ECONOMICS (Michael Bruno & Boris Pleskovic eds., 1997)); see also BCBS 173, *supra* note 277, at 9 (“Different authors classify crises differently. Reinhart and Rogoff (2008) find 34 crises over the 25 year period, while Laeven and Valencia (2008) report only 24.”).

302. If a stable or smooth relationship existed between the number of crises and the average losses caused by crises, then choices affecting size might be balanced by effects in the second component of the CBA/FR of capital rules, namely, the probability of a crisis, but no such relationship is evident from the studies.

turned out to be indisputably³⁰³ flawed because of a spreadsheet error that went undetected for over three years³⁰⁴ (in spite of the fact that the study was cited prominently in policy debates).³⁰⁵ While the spreadsheet error caused R&R's analysis to drop data for five countries they intended to include, the error had no effect on their estimates of the *direct* costs of financial crises – that is, the fiscal costs incurred by governments attempting to resolve crises. However, the error did affect estimates of the *indirect* costs of financial crises – that is, the depressive effects on growth caused by higher levels of debt incurred as part of a policy response. As discussed below, whether and how to count indirect effects of policy responses are further sources of sensitivity in modeling the cost of crises. The same researchers who discovered the spreadsheet error also challenged separate choices by R&R in their analyses – what the critics termed a “selective exclusion of . . . data” (for Australia, New Zealand, and Canada) and an “unconventional weighting of summary statistics” that amplified the effects of exclusion of New Zealand.³⁰⁶ While R&R disagree on these points, they do

303. R&R concede the spreadsheet error, see *Full Response from Reinhart and Rogoff*, N.Y. TIMES: ECONOMIX, Apr. 17, 2013, <http://www.nytimes.com/interactive/2013/04/17/business/17economix-response.html> [<http://perma.cc/W5VJ-2GFA>], but not other critiques of their estimates, see *id.*; Paul Krugman, *Reinhart-Rogoff Continued*, N.Y. TIMES: CONSCIENCE OF A LIBERAL (Apr. 16, 2013, 7:31 PM), <http://www.krugman.blogs.nytimes.com/2013/04/16/reinhart-rogooff-continued> [<http://perma.cc/S6AW-476F>]. Krugman takes R&R to task for their response to their critics; R&R take Krugman to task for his taking them to task. Carmen M. Reinhart, *Letter to PK*, CARMEN M. REINHART AUTHOR WEBSITE (May 25, 2013), <http://www.carmenreinhart.com/letter-to-pk> [<http://perma.cc/BLQ3-BM75>].

304. The original R&R publication was a working paper released in early 2010. See Carmen M. Reinhart & Kenneth S. Rogoff, *Growth in a Time of Debt* (Nat'l Bureau of Econ. Research, Working Paper No. 15639, 2010), <http://www.nber.org/papers/w15639.pdf> [<http://perma.cc/9QR3-2NGL>]. The data flaw did not get noticed until 2013. See Thomas Herndon et al., *Does High Public Debt Consistently Stifle Economic Growth? A Critique of Reinhart and Rogoff* (Political Econ. Research Inst., Working Paper No. 322, 2013), <http://www.peri.umass.edu/236/hash/31e2ff374b6377b2ddeco4deaa6388b1/publication/566> [<http://perma.cc/W3TL-NX6B>].

305. As noted in Herndon et al., *supra* note 304, at 4, R&R's 2010 paper “is the only evidence cited in the ‘Paul Ryan Budget’ on the consequences of high public debt for economic growth.” British politician George Osborne (later Chancellor of the Exchequer) relied on R&R to argue most financial crises are caused by excessive public debt in a speech quoted in an April 2013 *New Yorker* article on the R&R kerfuffle. John Cassidy, *The Reinhart and Rogoff Controversy: A Summing Up*, NEW YORKER: JOHN CASSIDY, Apr. 26, 2013, <http://www.newyorker.com/rational-irrationality/the-rogooff-and-reinhart-controversy-a-summing-up.html> [<http://perma.cc/K33X-YCR5>].

306. Herndon et al., *supra* note 304, at 5.

so in part on the ground that their work is historical, consisting of “archival research, involving constant judgments at every step.”³⁰⁷

Even if observers agreed on historical crises to estimate the cost of future crises, two additional output-sensitive inputs—temporary versus permanent effects and policy responses—intensify the unreliability of CBA/FR of Basel III. Some studies assume the effects of a crisis on the economy are transient—that is, a crisis causes a temporary drop in activity, followed eventually by higher-than-normal “catch-up” growth, bringing long-term output trends back to where they would have been without the crisis. Other studies assume that the effects are permanent—that is, economic activity never catches up to where it would have been without the crisis. If one takes the median of the average of estimated losses across studies, as the authors of the BCBS 173 did, the difference caused by this one assumption triples the losses.³⁰⁸ If harms are large (for example, 158% of pre-crisis GDP in BCBS 173), then differences between permanent-harm and temporary-harm models are even larger—up to a *hundred times* larger.³⁰⁹ A related force increasing the sensitivity of results in permanent-harm models—which by definition extend into the indefinite future—is the choice of discount rate.³¹⁰

A third source of sensitivity of social costs to modeling assumptions is perhaps the most troubling for anyone hoping CBA/FR can produce reliable information: the political and policy response to the crisis. As the last crisis reminded us, a major financial crisis can provoke a range of policy responses. Politicians may bail out banks; tighten, loosen, or repeal regulations; increase liquidity through conventional monetary policy (cutting interest rates) and less conventional instruments (“quantitative easing”); stimulate activity directly with government spending or tax cuts; other responses; or some combination.

307. Carmen M. Reinhart & Kenneth S. Rogoff, Op-Ed, *Reinhart and Rogoff: Responding to Our Critics*, N.Y. TIMES, Apr. 25, 2013, <http://www.nytimes.com/2013/04/26/opinion/reinhart-and-rogooff-responding-to-our-critics.html> [<http://perma.cc/46UB-RH8V>].

308. BCBS 173, *supra* note 277, at 3 (“Using the median estimate . . . across all comparable studies . . . each 1 percentage point reduction in the annual probability of a crisis yields an expected benefit per year equal to 0.6% of output when banking crises are allowed to have a permanent effect on real activity. Using the median estimate . . . when crises are seen to have only a temporary effect . . . each 1 percentage point reduction . . . yields an expected benefit per year equal to 0.2% of output.”).

309. BCBS 173, *supra* note 277, at 29 tbl.8 (subtracting amounts in the column labeled “Net benefits (large permanent effect)” from amounts in the column labeled “Net benefits (no permanent effect),” adding back the amount in column labeled “Expected costs,” and comparing the difference).

310. BCBS 173, *supra* note 277, at 36 (noting that “median losses are sensitive to the choice of discount rate,” and that “the median loss . . . is 82% if a discount rate of 2.5% is used” but is 63% if 5% is assumed). On discount rates in CBA/FR, see generally Pindyck, *supra* note 226.

Each response can have benefits and costs, ranging from lending constraints, moral hazard, and the future frequency of crises; inflation; deficits; debt; and reduced medium- to long-term growth. These policy responses can vary in intensity as well. Depending on the policy response, the effect of a crisis can vary significantly, and the models reviewed in the Basel Committee CBA/FR make assumptions about the policy responses and their effects.

To predict policy responses, CBA/FR must include what amounts to political speculation. For if economic inputs to CBA/FR models are uncertain, political inputs are even more so.³¹¹ To see this, simply note the varying policy responses across developed economies to the recent crisis. The United States created a very large (relative to the economy or the tax base) fiscal stimulus through deficit spending, while the United Kingdom “committed itself to early fiscal retrenchment.”³¹² The United States implemented the most aggressive monetary program in history, through the novel technique of buying massive amounts of mortgage-backed and other fixed income securities, while the European Central Bank remained more focused on preventing inflation, and the Bank of Japan’s balance sheet increased only slightly over the crisis period.³¹³ Policy responses also change in response to learning (or claims to learning) from past crises – compare recent U.S. monetary and fiscal policy to responses to the Great Depression³¹⁴ and to that of Japan during the 1990s³¹⁵ – but that implies that predicting future policy requires predicting the future path of economic theory and the results of retrospective analyses of past policy interventions. This is not to mention financial rescue programs, such as TARP.

These are not second-order considerations. Informed observers have attributed much of the difference in the duration of the current U.S. recession, on the one hand, and the contemporaneous U.K. recession and the historical

311. See generally TETLOCK, *supra* note 66.

312. Edward Ashbee, *Fiscal Policy Responses to the Economic Crisis in the United Kingdom and the United States: A Comparative Assessment 1* (Am. Political Sci. Ass’n, Annual Meeting Paper, 2011), <http://ssrn.com/abstract=1899700> [<http://perma.cc/Y8BN-8RNV>].

313. See Michael Joyce, *Quantitative Easing and Other Unconventional Monetary Policies: Bank of England Conference Summary*, 52 BANK ENG. Q. BULL. 48, 49 (2012), <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/qb1201.pdf> [<http://perma.cc/NU62-CQ3V>] (contrasting the U.S., U.K., and European Central Bank responses to the crisis); Leonardo Gambacorta et al., *The Effectiveness of Unconventional Monetary Policy at the Zero Lower Bound: A Cross-Country Analysis 5-6* (Bank for Int’l Settlements, Working Paper No. 384, 2012), <http://www.bis.org/publ/work384.pdf> [<http://perma.cc/FU6G-LEVM>].

314. E.g., James R. Lothian, *U.S. Monetary Policy and the Financial Crisis*, 6 J. ECON. ASYMMETRIES 25, 27-28 (2009).

315. E.g., Mariko Fujii & Masahiro Kawai, *Lessons from Japan’s Banking Crisis, 1991-2005*, at 4-8 (Asian Dev. Bank Inst., Working Paper No. 222, 2010), <http://www.adbi.org/files/2010.06.29.wp222.lessons.japan.banking.crisis.1991.2005.pdf> [<http://perma.cc/RT9B-S2UM>].

U.S. Great Depression, on the other hand, to policy responses.³¹⁶ Should the current legitimacy of otherwise desirable regulation turn, to any significant degree, on debates or assumptions about predictions of future politics? That is what CBA/FR advocates effectively, if tacitly, presume.³¹⁷

4. Frequency of Financial Crises

Even if the costs of financial crises could be estimated with precision and reliability, these costs would have to be paired with estimates of the frequency of crises to arrive at an estimate of the benefit from regulations that reduce crises' frequency. This modeling faces similar challenges as estimating effects: subjectivity in selection among relatively small numbers of historical data points and sensitivity of results to choice of data points. The Basel Committee simply took average frequencies from two studies³¹⁸ over an arbitrarily chosen

316. E.g., Lothian, *supra* note 314; Adam S. Posen, External Member of the Monetary Policy Comm., Bank of Eng. and Senior Fellow, Peterson Inst. for Int'l Econ., *Why Is Their Recovery Better Than Ours? (Even Though Neither Is Good Enough)*, Speech at the National Institute of Economic and Social Research, London 2 (Mar. 27, 2012), <http://www.bankofengland.co.uk/publications/Documents/speeches/2012/speech560.pdf> [<http://perma.cc/WK2L-U3LE>] (“[T]he US has had significantly more GDP growth with somewhat lower inflation over the last thirty-two months than in the UK . . . [because, among other factors] there was significantly less net withdrawal of fiscal stimulus in the US than the UK.”); Jeremy C. Stein, Member, Bd. of Governors of the Fed. Reserve, *Evaluating Large-Scale Asset Purchases*, Remarks at the Brookings Institution (Oct. 11, 2012), <http://www.federalreserve.gov/newsevents/speech/stein20121011a.htm> [<http://perma.cc/P8FH-K6W4>] (noting that large-scale asset purchases by the Federal Reserve “played a significant role in supporting economic activity and in preventing a worrisome undershoot of the Committee’s inflation objective”); Martin Feldstein, *Quantitative Easing and America’s Economic Rebound*, PROJECT SYNDICATE (Feb. 24, 2011), <http://www.project-syndicate.org/commentary/quantitative-easing-and-america-s-economic-rebound> [<http://perma.cc/N8WQ-JJ8S>] (suggesting that the 2011 economic rebound in the United States was due to increases in stock prices and consumer spending driven by quantitative easing, which would not be sustainable beyond 2011).

317. It is tempting to suggest that CBA/FR could be made tractable by just ignoring future policy responses in modeling the costs of future crises. But that is to make an implicit assumption, too, and one that is more likely to be counterfactual than an assumption based on past (or at least recent) policy responses. The assumption would tend to inflate the cost of future crises beyond reasonable levels because every crisis would tend, absent a policy response, to generate large and sustained reductions in GDP, as in the Great Depression. The result would be to expand greatly the range of defensible regulations and to eliminate any disciplining effect of CBA/FR while adding a great deal of camouflage to the regulatory process.

318. BCBS 173, *supra* note 277, at 9 (citing Carmen M. Reinhart & Kenneth S. Rogoff, *Banking Crises: An Equal Opportunity Menace* (Nat’l Bureau of Econ. Research, Working Paper No. 14587, 2008), <http://www.nber.org/papers/w14587> [<http://perma.cc/BX8V-CD5F>]); Luc Laeven & Fabian Valencia, *Systemic Banking Crises: A New Database* (Int’l Monetary

period and set of countries (1985 to 2009 for G10 and BCBS countries, except Russia and China, which were included from 1992 on) and made the heroic assumption that this average was a good estimate of the probability of a crisis for any given year and country.³¹⁹

The FSA, by contrast, used a longer time period (1970 to 2007), a narrower set of countries (OECD countries), and relied on a multivariable logit approach relating the likelihood of a crisis in a given year “to a vector of explanatory variables,” with observed crises in the past coded one and non-crisis years coded zero.³²⁰ This approach relies on the logistic cumulative distribution to predict future crises and is an improvement over BCBS 173 if interdependencies among time-varying observables affect crisis frequency, as seems likely. For example, housing prices have varied over time, and crises often coincide with (partly causing, partly being caused by) bubbles in housing prices, so crisis odds would not be uniform over time but would vary in cycles and across countries. However, the small number of crises that can be modeled this way (FSA 38’s data included fourteen) limits the value of this approach, in statistical degrees of freedom and in robustness, and the functional form imposes assumptions on the shape of the distribution of crisis probabilities that is nowhere defended in the FSA’s publications.

Because of differences in approach, the FSA’s results differ markedly from the Committee’s results. BCBS 173 reports an estimated baseline probability of a crisis per year for all countries of 4.5%.³²¹ FSA 38 reports a baseline probability ranging from 0.7% (for Germany) to 21.7% (for the United Kingdom)—that is, from one-sixth to five times the estimate used by BCBS 173.³²² Again, the sensitivity of outputs to assumptions illustrates how fragile CBA/FR of capital regulation remains.³²³

Fund, Working Paper No. 08-224, 2008, <https://www.imf.org/external/pubs/ft/wp/2008/wp08224.pdf> [<http://perma.cc/FVC8-7XHY>].

319. See BCBS 173, *supra* note 277, at 39 tbl.A1.4.

320. FSA 38, *supra* note 280, at 12.

321. BCBS 173, *supra* note 277, at 9.

322. FSA 38, *supra* note 280, at 15 tbl.2.

323. FSA 42, *supra* note 280, at 38 & tbl.5.1, adds current account balances to the logit model used in FSA 38, and adjusts the data for comparability across countries. The modest change “results in a significant improvement in” the model’s classification performance. *Id.* FSA 42 also examines a larger family of different crisis prediction models. *Id.* at 38-45. The authors later present information on the overall uncertainty associated with their bottom-line estimates of the net benefits of higher capital requirements, *id.* at 60-64, but they do not break out the specific potential impact of different models of crisis frequency.

5. *Effects of Higher Capital Requirements on Financial Crises*

A third task necessary to estimate the benefits of higher capital requirements is to estimate how higher capital will affect the frequency and effects of future crises. The challenges are similar to those outlined in the case studies of SOX and mutual fund governance above, if slightly less difficult. The challenges are less difficult because capital levels have a more mechanical relationship to bank failure than disclosure and governance regulations have to fraud and fund performance, respectively. If a bank's capital falls below zero, it is by definition insolvent and will be either closed, nationalized, or bailed out (and/or suffer a bank run) – all of which (at least by most definitions) feed directly into the occurrence of a financial crisis.

Nevertheless, the modeling exercise remains difficult here, too, and includes a long list of challenges. Three are reviewed here: (1) baselines; (2) packages; and (3) international externalities.³²⁴ The first question in any CBA is what baseline to use. Similar to the effect of fraud revelation on disclosure practices in the SOX case study, financial crises stimulate banks to raise their capital levels even without regulatory reform, as private actors increase the price of lending or investing in now apparently riskier banks. So how should one measure the effect of a regulatory mandate for new capital – against the baseline of pre-crisis capital levels, or against levels that could be expected in the wake of the crisis without the regulation? The argument for the former – advanced in FSA 42 – is that “banks will tend to relax their post-crisis holdings of capital as the economic cycle strengthens.”³²⁵ This seems sensible as a rough prediction, but it is not anchored in an equilibrium model of bank behavior. After all, banks observe the same indicia of the probability of a crisis as used in the FSA's CBA/FR of Basel III. Bank investors can observe those indicia and bank capital levels, so why should we assume that bank capital levels only subside, rather than rise and fall as the risk of a systemic crisis rises and falls? It may be that private actors lack sufficient incentives to demand that an optimal level of capital be retained by banks, but for CBA/FR of capital requirements, the baseline itself – the capital that private actors would demand – is likely to change over time in unpredictable ways.

324. A fourth, equally difficult challenge is to anticipate and model the private market responses to the rule, particularly responses that include moving assets or activities outside of regulated banks into unregulated entities – that is, Basel III may shift risk into “shadow banks.” If those assets or activities nevertheless create risks for the financial system as a whole, or otherwise generate external risks, such a response would represent an offset to the benefits of higher capital requirements, to be included on the cost side of the CBA/FR ledger.

325. FSA 42, *supra* note 280, at 47.

Part of the reason that private actors may lack incentives to demand that banks retain optimal capital is that they face moral hazard due to the likelihood of bailouts and other policy interventions. But that fact calls into question the validity of using pre-crisis capital levels as appropriate baselines altogether. Has moral hazard increased, decreased, or remained the same after the bailouts of 2008? Lehman failed, and Bear Stearns and Merrill Lynch were forced to sell at fire-sale prices—so perhaps investors are now less certain about future bailouts. But, of course, more than 700 U.S. banks were bailed out,³²⁶ not to mention the indirect bailouts through the various liquidity facilities established by the Federal Reserve Board—so perhaps investors face even more moral hazard than before. FSA 42 asserts that the pre-crisis period was one in which “banks’ decisions . . . were not distorted by the immediate influence of the crisis or regulators’ response to the crisis.”³²⁷ But it presents no evidence to support that assertion. Any rational actor who anticipates a crisis should, given policy responses to past crises, also anticipate that a bailout may occur with some probability, and the capital levels it will demand will be affected by that anticipation. The better point, then, is that a model of the effect of future capital regulation should start with a baseline that explicitly takes into account moral hazard as a permanent condition of financial markets without adequate regulation. However, establishing such a baseline would require estimating the subsidy provided by the moral hazard to bank investors—a task not yet convincingly tackled by researchers.

Another challenge is that Basel III consists of a package of reforms, not one reform. As FSA 42 notes, if the probability of a crisis is non-linear in the level of bank capital, as assumed in a logit model (and as seems likely), then the effect on that probability of each piece of the reform package will depend on the sequence in which the pieces are adopted.³²⁸ As with SOX, the best one may be able to do in estimating the causal impact of a package of reforms is to evaluate the package as a whole. For the CBA/FR of any given package of reforms, this is not a critical problem, but it does undermine the value of CBA/FR because it allows regulators to determine (to an extent) what is being evaluated—and may allow a package to include some reforms that are net positive (if evaluated on their own) with other reforms that are net negative (if evaluated on their own), as long as the former outweigh the latter.

326. *The Financial Crisis Response in Charts*, U.S. DEP’T TREASURY 12 (Apr. 2012), http://www.treasury.gov/resource-center/data-chart-center/Documents/20120413_FinancialCrisisResponse.pdf [<http://perma.cc/5HUD-ZBGN>].

327. FSA 42, *supra* note 280, at 47.

328. *Id.* at 48.

A third challenge to estimating the causal impact of Basel III, also noted in FSA 42,³²⁹ is that it is a voluntary multilateral initiative, which means that it will be implemented in different ways at different times in different countries. Implementation in one country will affect how banks in other countries act, independent of the effect of implementation by their own regulators. If, for example, U.K. banks are required to increase capital, they may not only reduce lending but focus continued lending on geographies or sectors where interest margins are highest, which in turn may affect currency and trade flows. An increase in U.S. capital regulation under Basel III, being evaluated in a CBA/FR by a U.S. regulator, should take into account the simultaneous shift in lending activity by U.K. banks, as well as the direct effect on U.S. banks. In a global financial market, the externalities of regulation create modeling difficulties of their own – adding yet more necessary assumptions regarding how the regulations will actually affect the probability or impact of future crises.

6. *Costs of Higher Capital Requirements: Less Lending?*

Finally, the costs of higher capital requirements must be estimated. The standard framework, employed by the Basel Committee and the FSA,³³⁰ is to assume that a bank required to hold an increased amount of capital will raise corporate borrowing costs and so cut lending. The reasoning is simple: banks must pay their investors a minimum expected rate of return on their invested capital; if more capital is required, the bank will have to generate greater return; to generate a higher return, a bank must charge more to its borrowers; at a higher cost of borrowing, less lending will occur. The model further assumes that with lower lending by banks, economic output will fall.

As with the models of the benefits of capital requirements, however, models of the effects on the amount of lending (and its knock-on effects on output) require numerous contestable assumptions, and their outputs are sensitive to those assumptions. Among the assumptions are: (a) the cost of bank equity and whether it will fall in response to the change in capital levels required by the rule; (b) the ability of borrowers to substitute among different sources of financing (and at what cost); and (c) how non-bank sources will be affected by an increase in bank capital requirements and the reduction in risks and effects of financial crises.³³¹ Each has major impacts on the output of the cost model alone.

329. *Id.* at 50–51.

330. BCBS 173, *supra* note 277, at 21–22; FSA 38, *supra* note 280, at 39 & tbl.4.

331. BCBS 173, *supra* note 277, at 22, notes that reducing the assumed cost of bank equity from the 1993 to 2007 average of 14.8% to 10.0% cuts the impact of higher capital requirements

The uncertainties associated with these assumptions are underscored by the fact that one prominent set of economists believes the social costs of higher capital requirements “would be, if there were any at all, very small.”³³² The authors point out that higher taxes, if paid by banks as a result of shifting from debt to equity finance in response to capital requirements, are not a social cost, because the shift reduces the distortive effects of a socially harmful tax code.³³³ The authors argue that moral hazard induces banks to remain larger than is socially efficient, so that even if higher capital induced large banks to shrink, the overall impact on lending would be offset by increases in lending by other banks or financial institutions.³³⁴ By contrast, the Basel Committee, based on its modeling and inputs from self-interested banks, concluded that the proposed requirements in Basel III would reduce steady-state output (gross domestic product) by between 0.25 and 0.92 percentage points,³³⁵ which trans-

from a one-to-thirteen basis point impact to a one-to-seven basis point impact. The report goes on to note that “there are good reasons to believe that the cost of capital would *decline* in response to a reduction in bank leverage” due to increased bank capital requirements, and that “in the limit, the change in the cost of capital could reduce to tax effects.” *Id.* (citing Franco Modigliani & Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of Investment*, 48 AM. ECON. REV. 261 (1958) (finding that, under stylized assumptions, a firm’s returns are invariant to how it finances itself, but for taxes)). As BCBS 173 notes, prior research suggests that the long-run effect on banks’ funding costs of higher capital requirements is likely to be smaller than the numbers used in BCBS 173—a four percentage point increase is assumed to increase borrowing costs by fifty-two basis points in BCBS 173, *supra* note 277, at 23 tbl.6, versus only twenty basis points in Douglas J. Elliott, *A Further Exploration of Bank Capital Requirements: Effects of Competition from Other Financial Sectors and Effects of Size of Bank or Borrower and of Loan Type*, BROOKINGS INST. 22 (Jan. 28, 2010), http://www.brookings.edu/~media/research/files/papers/2010/1/29%20capital%20elliott/0129_capital_requirements_elliott.pdf [<http://perma.cc/9C6R-5GPF>], and ten to eighteen basis points in Anil K. Kashyap et al., *An Analysis of the Impact of “Substantially Heightened” Capital Requirements on Large Financial Institutions* 17 (May 2010) (unpublished manuscript), http://faculty.chicagobooth.edu/anil.kashyap/research/papers/an_analysis_of_the_impact_of_substantially_heightened-Capital-Requirements-on-Financial-Institutions.pdf [<http://perma.cc/WY6E-GHRE>]. For a discussion of some of the drivers of disagreements on the effect of capital requirements on lending costs, see Douglas J. Elliott, *Higher Bank Capital Requirements Would Come at a Price*, BROOKINGS INST. (Feb. 20, 2013) <http://www.brookings.edu/research/papers/2013/02/20-bank-capital-requirements-elliott> [<http://perma.cc/GJ7J-LRDL>].

332. Anat R. Admati et al., *Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity Is Not Socially Expensive*, at i (Stanford Graduate Sch. of Bus. Working Paper No. 2065, 2013), <http://www.gsb.stanford.edu/sites/default/files/research/documents/Fallacies%20Nov%2013.pdf> [<http://perma.cc/4LR5-97HX>]. These authors also rely on Modigliani & Miller, *supra* note 331.

333. Admati et al., *supra* note 332, at 19–20.

334. *Id.* at 21–23.

335. BCBS 173, *supra* note 277, at 27 tbl.7.

lates into \$1.4 trillion in present value terms at the mid-point of this range for the United States alone. As with estimates of benefits, respectable CBA/FR opinions vary in their assessments of the present value of Basel III's costs by more than \$1 trillion.

D. Case Study #4: The Volcker Rule

The fourth case study also focuses on a rule emerging from the financial crisis: section 619 of the Dodd-Frank Act, colloquially known as the "Volcker Rule." That rule bans U.S. banks from speculating for their own account (that is, from engaging in "proprietary trading" or holding "ownership interests" in hedge or private equity funds, subject to a number of exceptions).³³⁶ This case study reinforces the points made in the prior case study, and also illustrates how difficult it is to assess many important kinds of financial regulations in advance, given the lack of any past data on how new markets will operate.

Specific regulations implementing the Volcker Rule were approved (after many delays) in December 2013 and went into effect on April 1, 2014.³³⁷ The formal releases published by the financial agencies in the *Federal Register* contain no general CBA/FR, presumably because (1) as discussed in Part II.A, no general CBA/FR mandate exists for those agencies; (2) the statutory requirement for and authorization of the rules is part of the Bank Holding Company Act of 1956,³³⁸ which does not contain any equivalent to the requirement in the securities laws that the SEC consider "efficiency" or in the commodities laws

336. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 619, 124 Stat. 1376, 1620 (2010) (codified at 12 U.S.C. § 1851 (2012)). Section 619 is called the "Volcker Rule" because former Federal Reserve Board Chairman Paul Volcker was a prominent backer of the law.

337. The banking agencies and the SEC issued a joint final rule. Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships with, Hedge Funds and Private Equity Funds, 79 Fed. Reg. 5,536 (Jan. 31, 2014) (to be codified at 12 C.F.R. pt. 44 (OCC); 12 C.F.R. pt. 248 (Fed. Reserve); 12 C.F.R. pt. 351 (FDIC); 17 C.F.R. pt. 255 (SEC)). The CFTC issued a final rule separately. Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships with, Hedge Funds and Private Equity Funds, 79 Fed. Reg. 5,808 (Jan. 31, 2014) (to be codified at 17 C.F.R. pt. 75).

338. Bank Holding Company Act of 1956, Pub. L. No. 84-511, 70 Stat. 133 (codified as amended in scattered sections of 12 U.S.C.). The Bank Holding Company Act of 1956 (BHCA) initially contained a broad regulatory delegation of authority to the Federal Reserve Board to "issue such regulations and orders as may be necessary to enable it to administer and carry out the purposes" of the Act and to "prevent evasions thereof." *Id.* § 5(b), 70 Stat. at 137. That provision remains in 12 U.S.C. § 1844(b), with amendments to clarify that the authority includes the power to adopt capital requirements for bank holding companies.

that the CFTC consider costs and benefits;³³⁹ and (3) nothing in the language of section 619 requires CBA.³⁴⁰ The formal rulemaking contained limited cost-related information in its analyses under the RFA and the PRA³⁴¹ but no information about benefits or non-compliance costs.

The OCC, however, did release separately a CBA/FR of the Volcker Rule.³⁴² It identified a number of “non-monetized” (qualitative) benefits: improved supervision by bank regulators (due to metrics reporting required by the rule);

339. See 7 U.S.C. § 19(a)(1) (2012) (requiring the CFTC to “consider the costs and benefits” of its regulatory actions). This is true even though the SEC and the CFTC were also required to adopt the Volcker Rule because their authority (and mandate) to do so is (unusually) in the BHCA, not the statutes that traditionally authorize them to act. Office of the Comptroller of the Currency, *Analysis of 12 CFR Part 44*, U.S. DEP’T TREASURY (Mar. 2014), <http://www.occ.gov/topics/laws-regulations/legislation-of-interest/volcker-analysis.pdf> [<http://perma.cc/BA7-R4PG>].

340. The specific section that authorizes the Volcker Rule, 12 U.S.C. § 1851 (2012), added to the BHCA by the Dodd-Frank Act, contains a similarly broad grant of authority and does not condition rulemaking on any particular finding or process, other than (1) to “consider” a statutorily mandated January 2011 study of how to implement the section conducted by the Financial Stability Oversight Council, see 12 U.S.C. § 1851(b)(1)-(2)(A) (2012); *Study & Recommendations on Prohibitions on Proprietary Trading & Certain Relationships with Hedge Funds & Private Equity Funds*, FIN. STABILITY OVERSIGHT COUNCIL (Jan. 2011), <http://www.treasury.gov/initiatives/documents/volcker%20sec%20%20619%20study%20final%201%2018%2011%20org.pdf> [<http://perma.cc/JFW4-E2XZ>]; and (2) to coordinate rulemaking among the Federal Reserve Board, FDIC, OCC, SEC, and CFTC so as to “assur[e], to the extent possible, that such regulations are comparable and provide for consistent application and implementation . . . to avoid providing advantages or imposing disadvantages to the companies affected . . . and to protect the safety and soundness of banking entities and non-bank financial companies supervised” by the Federal Reserve, 12 U.S.C. § 1851(b)(2)(B)(ii) (2012).

341. Prohibitions and Restrictions on Proprietary Trading, 79 Fed. Reg. at 65,744 (conducting analysis under the PRA); *id.* at 65,778 (conducting analysis under the RFA). The American Bankers Association (ABA) and other plaintiffs sued to enjoin enforcement of the Volcker Rule on the ground that the agencies’ RFA analysis failed to consider the rule’s “significant economic impact on a substantial number of community banks.” See Emergency Motion of Petitioners for Stay of Agency Action Pending Review at 15, *Am. Bankers Ass’n v. Bd. of Governors of the Fed. Reserve Sys.*, No. 13-1310 (D.C. Cir. Dec. 24, 2013), <http://www.aba.com/Issues/Documents/12-24-13ABAEmergencyMotionforStayofVolckerRuleOwnershipInterestProvision.pdf> [<http://perma.cc/6HSX-PNE8>]. The Joint Volcker Rule Release specifically addressed potential impacts by exempting banks below various specified size thresholds from reporting and compliance burdens. The ABA suit focuses on one indirect effect of the rule, which is to ban “banking entities” (including all depository institutions, small or large) from holding “ownership interests” in hedge and private equity funds (Subpart C of the Volcker Rule), including *debt* instruments that give holders the right to remove a collateral manager for a collateralized debt obligation—an entity that holds multiple trust-preferred or other securities, which (as the ABA in its papers admits) collapsed in value during the financial crisis. See *id.* at 2, 7.

342. See Office of the Comptroller of the Currency, *supra* note 339.

better management of risk by bank managers (for the same reason); reduced conflicts of interest; protecting “core banking services” and improved bank safety and soundness (reduced risk of bank failures); reduced “tail risk” from trading activities and reduced risks of financial crises; improved corporate governance of banks resulting from reduced stock market liquidity; and reduced harms caused by excess liquidity.³⁴³ As the OCC noted, “benefits of the regulation can be difficult to quantify including the value of enhanced economic stability.”³⁴⁴

The OCC also identified a number of costs. For a subset, the OCC provides quantified estimates: compliance costs (\$405 to \$541 million); additional capital costs for permissible investments in covered funds (\$0 to \$165 million); the OCC’s own costs of supervising compliance with the new rule (\$10 million); and a one-time hit to the value of assets owned by banks but restricted by the rule, resulting from reductions in demand for those assets due to the rule. For the last type of cost, the OCC drew on academic research estimating a similar haircut in corporate bond values when bonds are downgraded by credit rating agencies and insurance companies (subject to regulations limiting their ownership of junk bonds) are forced to sell such bonds, deriving a range of costs from \$0 to \$3.6 billion.

However, the types of costs that are likely to be the largest ongoing costs were not quantified. Foremost among these non-quantified costs is the reduced liquidity in markets where banks were significant trading participants, particularly arising from inter-dealer trading, which is not treated as a permissible source of “customer” demand under the rule.³⁴⁵ Banks, as a result, will not be able to hold certain assets as “inventory,” which will reduce liquidity in the markets for those assets and make it harder for banks to share risk with other banks when permissible customer-driven trading results in banks’ taking on large blocks of equities. As a result, banks may incur higher costs to hedge or shed those risks, or face more difficulties in managing risks. Further, the reduction in liquidity caused by the ban on inter-dealer trading will likely reduce the depth of those markets and the ability of issuers to raise capital in those markets.³⁴⁶ Another potential cost of the rule is similar to one noted above for the Basel III rules: migration of trading activity to non- or less-regulated “shadow”

343. *Id.* at 18–22. The FSOC also identified the benefit that the rule would reduce the risk that banks have effective liability for nominally off-balance sheet funds they sponsor. FIN. STABILITY OVERSIGHT COUNCIL, *supra* note 340, at 56.

344. Office of the Comptroller of the Currency, *supra* note 339, at 1.

345. *Id.* at 15.

346. *Cf.* James D. Cox et al., *A Better Path Forward on the Volcker Rule and the Lincoln Amendment*, BIPARTISAN POLY CENTER 8 (Oct. 2013), <http://www.sec.gov/comments/s7-41-11/s74111-648.pdf> [<http://perma.cc/4QPL-27Z9>].

banks, which could pose systemic risks, offsetting (and possibly exceeding) the benefits of risk reduction within the banking system.

In sum, as with the foregoing case studies, the OCC's CBA/FR did not include a quantification of the benefits and only quantified a subset – and likely a small portion – of the costs of the Volcker Rule. The result was that the OCC confidently categorized the rule as “major” for purposes of the CRA,³⁴⁷ because that categorization only requires bounding the rule's costs, but did not reach any conclusion about the rule's net costs and benefits.

Could the agencies go beyond conceptual CBA and conduct a reliable, precise, quantified CBA/FR? The short answer is no. There is simply no historical data on which anyone could base a reliable estimate of the benefits of preventing banks from engaging in proprietary trading or investing in hedge and private equity funds. Any effort to quantify those benefits will run straight up against the difficulties described in the case studies above. While Basel III capital rules address the “liability” side of a bank's balance sheet, and the Volcker Rule addresses its “asset” side, both rules have as a core intended benefit the reduction in the frequency and magnitude of systemic financial crises. Thus, as with Basel III, any complete quantified CBA/FR of the Volcker Rule would require the same components discussed above for Basel III to estimate the costs and frequency of financial crises (macroeconomic modeling, subjective data selection, prediction of policy responses).

The difficulties with the Volcker Rule are compounded beyond Basel III, however, for two reasons. First, the rule has additional, separate benefits, such as the mitigation and reduction of conflicts of interest, which (as with the mutual fund governance rules) can only be quantified by relying on causal inferences with low-powered tools about complex institutional arrangements. Second, and perhaps more important, it remains unclear how, if at all, the Volcker Rule will in fact reduce the risk or cost of financial crises. The Rule's proponents (including Volcker himself) strongly believe that it will, by decreasing the role of speculation within banks and perhaps by limiting the ability of banks to attract and retain individuals with a risk-taking temperament.³⁴⁸ But those judgments do not rest on historical data, nor is there any mechanical relationship between an activity (proprietary trading) and failure, as with capital levels. Ironically, then, the primary category of benefits (reduced systemic

347. See Office of the Comptroller of the Currency, *supra* note 339, at 1, 23.

348. Shanny Basar, *Paul Volcker Fights for Volcker Rule*, FIN. NEWS (Feb. 14, 2012), <http://www.efinancialnews.com/story/2012-02-14/paul-volcker-on-volcker-rule> [<http://perma.cc/8R2E-5PZ2>]; Bill Moyers, *Paul Volcker on the Volcker Rule*, MOYERS & CO. (Apr. 5, 2012), <http://billmoyers.com/segment/paul-volcker-on-the-volcker-rule> [<http://perma.cc/5DUN-TWXP>].

crisis risk from less speculation by banks) is inherently speculative, as with any novel structural rule or activity ban of a similar kind.

Quantifying the aggregate costs of the rule would be equally difficult. While the OCC quantified a subset of costs, it did not quantify the costs that are likely to be largest—especially the costs of lower liquidity. As the OCC noted, it is possible to quantify those costs: there are research papers estimating the cost of reduced liquidity for specific categories of assets.³⁴⁹ But, as the OCC also noted, any estimates produced by relating predicted reductions in liquidity to this sparse research literature would be “difficult.”³⁵⁰ Among other things, a full set of cost estimates would require predicting the impact of the rule on liquidity across a range of financial markets (including anticipating entry by institutions not subject to the rule—institutions that could be expected to take advantage of any competitive opportunities opened up by the exit of banks subject to the rule). Those estimates would then have to be linked to estimates of the impact on the cost of capital from any expected reduction in the liquidity of one channel for capital raising, again taking into account possible substitution effects from other channels. Then, finally, the effects on output of any estimated capital cost increase would have to be quantified, using a macroeconomic model. As with Basel III, the result would be complex, difficult, constrained by limited data, highly contestable, and sensitive to modeling assumptions.

E. “Gold Standard” Examples of CBA/FR

Perhaps other significant regulations—beyond those explored in the case studies presented above—are more susceptible to quantified CBA/FR. Taking a cue from the adversarial legal system, in which neutral judges rely on advocates to advance the best evidence in favor of a cause, this section reviews two regulations that CBA/FR proponents hold up as examples of “gold standard” quantified CBA/FR³⁵¹—the SEC’s cross-border swaps rules and the FSA’s mortgage market reforms—on the theory that they should provide the best evidence that quantified CBA/FR is capable of being done in a reliable, precise way. These rules are also high-profile and indisputably significant, and are of interest for evaluating CBA/FR law because the agencies did conduct and publish CBA/FR in response to CBA/FR law: the SEC was responding to the D.C. Circuit deci-

349. Office of the Comptroller of the Currency, *supra* note 339, at 17 (citing Joel Hasbrouck, *Trading Costs and Returns for U.S. Equities: Estimating Effective Costs from Daily Data*, 64 J. FIN. 1445 (2009)).

350. *Id.* at 1, 23.

351. See CCMR REPORT, *supra* note 4, at 13-16.

sions reviewed above, and the FSA was complying with a U.K. statute requiring CBA/FR, precisely the kind of mandate that CBA/FR advocates hope to bring to the U.S.

Does either of those rules demonstrate that quantified CBA/FR is feasible and desirable? Far from it—they instead show how easily CBA/FR can camouflage the effects of rulemaking, rather than discipline it. Both case studies show that even motivated and relatively expert members of the public—specifically, the Center for Capital Market Regulation, composed of leading financial industry participants and staffed by technically trained lawyers and economists—can apparently misread the contents and achievements of a lengthy and technical cost-benefit analysis. The case study of the FSA’s mortgage reforms also illustrates that even the most creative and sustained effort to quantify the costs and benefits of a fairly narrow but important financial regulation remained fragile, imprecise, and incapable of significantly constraining regulatory judgment, by the admission of the staff carrying out the analysis.

1. *The SEC’s Cross-Border Rules on Swaps*

One of the few examples of CBA/FR of U.S. financial regulatory rules praised by CBA/FR proponents was conducted by the SEC, in its proposed rules on cross-border swaps under the Dodd-Frank Act (the Cross-Border Swap Release).³⁵² Those rules are designed to fill a regulatory gap³⁵³ relating to over-the-counter (OTC) derivatives markets, which exploded over the past two decades and exacerbated the 2008 financial crisis, causing the insolvency of one of the world’s largest insurance companies (AIG) and triggering a bailout through an unprecedented series of actions by the U.S. Treasury and the Federal Reserve Board.³⁵⁴

352. Cross-Border Security-Based Swap Activities, 78 Fed. Reg. 30,968 (proposed May 23, 2013) (to be codified at 17 C.F.R. pts. 240, 242, 249) [hereinafter Cross-Border Swap Release].

353. The gap was cemented by the Commodity Futures Modernization Act of 2000, Pub. L. No. 106-554, 114 Stat. 2763, 2763A-365. The 262-page bill, attached as an appendix to a budget bill, barred the SEC from regulating OTC derivatives as “securities” and the CFTC from regulating them as “futures,” leaving regulation only through general (and much less specific) “safety and soundness” oversight by regulatory supervisors of OTC issuers and users (which was non-existent for companies that did not accept deposits, invest or deal in securities or futures, or underwrite or sell insurance, including companies that were affiliated with regulated entities, such as AIG). See SHEILA BAIR, *BULL BY THE HORNS: FIGHTING TO SAVE MAIN STREET FROM WALL STREET AND WALL STREET FROM ITSELF* 333 (2012); SIMON JOHNSON & JAMES KWAK, 13 *BANKERS: THE WALL STREET TAKEOVER AND THE NEXT FINANCIAL MELTDOWN* 7-11, 78-82, 92, 121-26, 134-37, 169-70, 202 (2010).

354. See *Report Pursuant to Section 129 of the Emergency Economic Stabilization Act of 2008: Restructuring of the Government’s Financial Support to the American International Group, Inc. on March*

The Dodd-Frank Act authorizes the SEC and the CFTC³⁵⁵ to register and regulate entities active in the OTC swap markets,³⁵⁶ and to establish rules for clearing and trade execution, recordkeeping, real-time reporting, and disclosure. Pursuant to this authority, the SEC (in conjunction with the CFTC) has issued two releases defining terms³⁵⁷ and proposed or adopted ten sets of rules on domestic swap activities.³⁵⁸ The Dodd-Frank Act was clear that swap regula-

2, 2009, FED. RESERVE SYS. (2009), <http://www.federalreserve.gov/monetarypolicy/files/129aigrestructure03022009.pdf> [<http://perma.cc/V6J8-HNLW>].

355. The CFTC now regulates “swaps,” the SEC now regulates “security-based swaps,” and both have authority over “mixed swaps.” Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, §§ 721, 761, 124 Stat. 1376, 1658-72, 1754-59 (2010). A “swap” is a contract that requires conditional payments between counterparties derived from changes in specified prices or events, generally related to financial markets, such as interest or currency exchange rates, but can also include “credit” events, such as the default by a borrower on an unrelated “reference” security or loan.
356. Regulated entities include swap dealers, major swap participants, data repositories, clearing agencies, and execution facilities. *Id.* Where regulated by the SEC, relevant entities have the phrase “security-based” added to qualify “swap,” but otherwise the definitions are identical to those applicable to the CFTC for other swaps. *Id.* § 761. For definitions of “Swap Dealer,” “Security-Based Swap Dealer,” “Major Swap Participant,” “Major Security-Based Swap Participant” and “Eligible Contract Participant,” see 77 Fed. Reg. 30,596, 30,751-53 (May 23, 2012) (to be codified at 17 C.F.R. pts. 1, 240).
357. Further Definition of “Swap,” “Security-Based Swap,” and “Security-Based Swap Agreement”; Mixed Swaps; Security-Based Swap Agreement Recordkeeping, 77 Fed. Reg. 48,208 (Aug. 13, 2012) (to be codified at 17 C.F.R. pts. 1, 230, 240, 241) (adopting product definitions); Further Definition of “Swap Dealer,” 77 Fed. Reg. at 30,596 (adopting intermediary definitions); *see also* Further Definition of “Swap Dealer,” “Security-Based Swap Dealer,” “Major Swap Participant” and “Eligible Contract Participant,” 75 Fed. Reg. 80,174 (proposed Dec. 21, 2010) (to be codified at 17 C.F.R. pts. 1, 240) (proposing intermediary definitions).
358. Capital Margin and Segregation Requirements for Security-Based Swap Dealers and Major Security-Based Swap Participants and Capital Requirements for Broker-Dealers, 77 Fed. Reg. 70,214 (Nov. 23, 2012) (to be codified at 17 C.F.R. pt. 240) (proposing capital, margin, and segregation rules); Clearing Agency Standards, 77 Fed. Reg. 66,220 (Nov. 2, 2012) (to be codified at 17 C.F.R. pt. 240) (adopting clearing agency standards); Process for Submissions for Review of Security-Based Swaps for Mandatory Clearing and Notice Filing Requirements for Clearing Agencies; Technical Amendments to Rule 19b-4 and Form 19b-4 Applicable to All Self-Regulatory Organizations, 77 Fed. Reg. 41,602 (July 13, 2012) (to be codified at 17 C.F.R. pts. 240, 249) (adopting clearing procedures); Registration of Security-Based Swap Dealers and Major Security-Based Swap Participants, 76 Fed. Reg. 65,784 (Oct. 24, 2011) (to be codified at 17 C.F.R. pts. 240, 249) (proposing registration rules for dealers and major swap participants); Business Conduct Standards for Security-Based Swap Dealers and Major Security-Based Swap Participants, 76 Fed. Reg. 42,396 (July 18, 2011) (to be codified at 17 C.F.R. pt. 240) (proposing standards for external business conduct); Registration and Regulation of Security-Based Swap Execution Facilities, 76 Fed. Reg. 10,948 (Feb. 29, 2011) (to be codified at 17 C.F.R. pts. 240, 242, 249) (proposing registration framework for execution facilities); Trade Acknowledgment and Verification of Security-Based Swap

tion should also cover cross-border activity that could affect the U.S. markets.³⁵⁹ To that end, the SEC proposed a rule in May 2013 to address cross-border swaps comprehensively, issuing one large release collecting, discussing, and analyzing all of the swap-related rules as they would apply to cross-border activities. That release contained roughly 200 pages labeled “economic analysis,” a third of the total release—including both conceptual and limited elements of quantified CBA/FR—and cross-referenced lengthy CBA/FR in previously issued releases.³⁶⁰ By comparison to CBA/FR in most prior SEC releases, the length of the CBA/FR is indeed impressive, which is part of why CBA/FR advocates praised it.³⁶¹ The SEC’s CBA/FR was also praised because it focused on full, quantified CBA/FR, “estimating the *quantitative* impact of *each key aspect* of the proposed rule, rather than simply assess[ing] firm-specific compliance costs.”³⁶²

However, a careful (if exhausting) review of the CBA/FR in the Cross-Border Swap Release shows that it is comprehensive only in its *qualitative* economic analysis of the proposed rules and contains little quantified information, other than for a subset of compliance costs. As noted in passing towards the beginning of the CBA/FR, “Many of the resulting costs and benefits are difficult to quantify with any degree of certainty, especially as the practices of market participants are expected to evolve and adapt to changes in technology and market developments.”³⁶³ The SEC divides its CBA/FR into “assessment”

Transactions, 76 Fed. Reg. 3,859 (Jan. 21, 2011) (to be codified at 17 C.F.R. pt. 240) (proposing trade acknowledgement rules); End-User Exception to Mandatory Clearing of Security-Based Swaps, 75 Fed. Reg. 79,992 (Dec. 21, 2010) (to be codified at 17 C.F.R. pt. 240) (proposing end-user exceptions); Security-Based Swap Data Repository Registration, Duties, and Core Principles, 75 Fed. Reg. 77,306 (Dec. 10, 2010) (to be codified at 17 C.F.R. pts. 240, 249), *corrected at* 75 Fed. Reg. 79,320 (Dec. 20, 2010) (to be codified at 17 C.F.R. pts. 240, 249) *and* 76 Fed. Reg. 2,287 (Jan. 13, 2011) (to be codified at 17 C.F.R. pts. 240, 249) (proposing data repository rules); Regulation SBSR-Reporting and Dissemination of Security-Based Swap Information, 75 Fed. Reg. 75,208 (Dec. 2, 2010) (to be codified at 17 C.F.R. pts. 240, 242) (proposing reporting rules).

359. Dodd-Frank Act § 752.

360. See 77 Fed. Reg. 70,214, 70,299-328 (Nov. 23, 2012) (to be codified at 17 C.F.R. pt. 240) (showing that economic analysis takes up roughly 20% of the total release); 77 Fed. Reg. 66,220, 66,263-84 (Nov. 2, 2012) (to be codified at 17 C.F.R. pt. 240) (showing that economic analysis takes up roughly 30% of the total release); 77 Fed. Reg. 30,596, 30,722-42 (May 23, 2012) (to be codified at 17 C.F.R. pt. 240) (showing that economic analysis takes up roughly 12% of the total release).

361. See CCMR REPORT, *supra* note 4, at 14.

362. *Id.* (emphasis added). The CCMR Report does not provide any specific cites or examples from within the Cross-Border Swap Release to back up this characterization, instead citing to the release as a whole. *Id.*

363. Cross-Border Swap Release, *supra* note 352, at 386.

costs – the costs of determining if a given entity is subject to swap regulation, a subset of compliance costs – and “programmatically” costs and benefits due to subjecting swaps to regulation.³⁶⁴ The primary programmatic benefits the SEC identified were promoting competition by increasing market access and transparency, reducing search costs, and increasing price efficiency.³⁶⁵ The primary programmatic costs the SEC identified were reduced liquidity and depth in the swap markets due to market participants’ withdrawing because transparency requirements will reveal valuable information, and a potentially increased incentive to “race to the bottom” as participants relocate cross-border operations to jurisdictions with less regulation.³⁶⁶

Almost no information relating to “programmatically” costs and benefits is quantified. No models of competition, liquidity, or prices under the rules are presented. Instead, the SEC repeatedly said that it lacks data and/or an inferential basis for quantifying those costs and benefits. Exceptions include, for example, a quantification of the costs of building a compliant swap execution facility from scratch and maintaining it thereafter or modifying an existing trading platform into compliance and maintaining it.³⁶⁷ But these exceptions prove only the general absence of quantification, as they relate to a subset of the costs of a subset of the rules proposed in the release – a subset of a subset of a subset of what a full quantified CBA/FR would include.

This description is not meant to criticize the absence of quantification. The SEC’s decision not to quantify is fully justified, given the state of available information and research methods. The Dodd-Frank Act effectively required the creation of entirely new OTC swaps markets. Private actors will be reacting to these novel regulations in ways that cannot be reliably predicted. The realization of the rules’ major potential benefit – increased competition – depends upon latent demand for products (transparently cleared swaps). Private actors had only limited incentives to provide these products under prior rules and the value of the products will be altered by other new aspects of the rules, such as segregation and capital requirements. The realization of the rules’ major potential cost – reduced liquidity and depth relative to prior markets – will also be a function of latent demand. The size of the cost will also turn on the importance

364. *Id.*

365. *Id.* at 413-16.

366. *Id.* at 416-18.

367. *Id.* at 509-10. In the discussion of the benefits of the rules covering swap executive facilities, there is no quantification, nor does the release quantify major potential non-compliance costs of such rules, which are noted in qualitative terms in the release and include the possibility that disclosure obligations will drive swap participants from the market, reducing liquidity, or force participants to fragment trades to discourage front-running, resulting in greater transaction costs. *Id.* at 505-08 (benefits), 510-12 (non-quantifiable costs).

of proprietary information that may be revealed in more transparent markets. Another major potential cost—an increased incentive for participants to relocate to other jurisdictions—depends on political and policy outcomes in other countries, as well as the ability of international regulatory coordination to cope with or blunt those incentives.

Although justified in this respect, the SEC's CBA/FR nevertheless must be fairly viewed as conceptual, not quantified. Rather than showing quantification is possible and desirable, as a matter of policy or law, the Cross-Border Swap Release shows just the opposite. Yet CBA/FR advocates have singled out the Cross-Border Swap Release for accomplishing something it did not accomplish.³⁶⁸ How could that be? Perhaps the praise was false, a mere rhetorical pretense in service of the political goal of promoting CBA/FR.

But a more charitable possibility exists: perhaps CBA/FR advocates did not see through the camouflage of the SEC's release. As noted, the CBA/FR is 200 pages long and incorporates lengthier CBA/FR sections in other related releases. It is turgid, vague, and full of jargon. Discussions of less important assessment costs are longer than discussions of more important programmatic costs and benefits. Specific quantified amounts appear regularly,³⁶⁹ so someone skimming the analysis might surmise that it was filled with quantitative analysis, while in fact the vast majority of the amounts relate to assessment costs or a small subset of programmatic costs, not to programmatic benefits or the most important programmatic costs.³⁷⁰ The release contains lengthy discussions of qualitative costs and benefits of a *de minimis* exemption from coverage by the rules, while nowhere setting forth a detailed conceptual outline of how one might (in theory) measure the costs and benefits of being covered by the rules. Important points relevant to the limited quantification in the release are buried in footnotes,³⁷¹ while whole pages are taken up with text such as this:

368. See CCMR REPORT, *supra* note 4, at 13-16.

369. *E.g.*, Cross-Border Swap Release, *supra* note 352 at 16 n.5, 34 n.76, 356 & n.1218, 359 & n.1226, 364-66, 365 nn.1245-46, 366 n.1251, 371, 373, 388 n.1301, 392-93. All of these estimates relate to the less important assessment costs, the scope of or changes in relevant markets, or other data, and none are estimates of the more important programmatic costs or programmatic benefits.

370. *Id.*

371. For example, in assessing how much voluntary swap clearing is already occurring, the release notes that "if the counterparties choose to transact in a reference entity that is accepted for clearing in a currency other than U.S. dollars, the transaction is no longer eligible for clearing." *Id.* at 486 n.1618. This fact would be of significance for assessing the rules, since one would expect many cross-border swaps to be denominated in other currencies. No data on the currency profile of cross-border swaps is provided. As another example, the release states in another footnote the fact that less than five percent of margin received by swaps as-

Segregation requirements would limit the potential losses for security-based swap customers if a registered security-based swap dealer fails. The extent to which assets are in fact protected by proposed Rule 18a-4(a)-(d) would depend on how effective they are in practice in allowing assets to be readily returned to customers. In the cross-border context, the effectiveness of the segregation requirement with respect to foreign security-based swap dealers in practice may depend on many factors, including the type and objective of the insolvency or liquidation proceeding and how the U.S. Bankruptcy Code, SIPA, banking regulations, and applicable foreign insolvency laws are interpreted by the U.S. bankruptcy court, SIPC, Federal Deposit Insurance Corporation, and relevant foreign authorities. In the Capital, Margin, and Segregation Proposing Release, we stated that it would be difficult to measure the benefits of the segregation requirements proposed by the Commission under Section 3E of the Exchange Act; however, we believe that Rule 15c3-3, the existing segregation rule for broker-dealers, would provide a reasonable template for crafting the segregation requirements for security-based swap dealers. The ensuing increased confidence of market participants when transacting in security-based swaps, as compared to the OTC derivatives market as it exists today, should increase the desire to trade security-based swaps and generally benefit market participants.³⁷²

Perhaps someone finds this and similar paragraphs illuminating. I do not. Did including it in a 200-page section labeled “economic analysis” in a 650-page release inform the public about the costs and benefits of requiring dealers in cross-border swaps to segregate customer assets? In what way is it “economic” analysis, as distinct from the more general form of analysis that has long been included in adopting releases? The paragraph would look out of place in an economics journal. Even if these 210 words were boiled down to a more succinct, social-scientific style,³⁷³ would a law requiring such a statement discipline the SEC, improve the public’s ability to comment on the proposals, or correct the SEC’s potential cognitive biases? I cannot see how.

sociation members was segregated with a third-party custodian. *Id.* at 467 n.1549. This fact directly bears on the potential gross benefits of a rule requiring segregation.

372. Cross-Border Swap Release, *supra* note 352, at 467-68 (footnotes omitted).

373. I think thirty-five words could preserve the meaning: “Segregation may protect customers, depending on U.S. and foreign laws, and if so may increase market confidence and the value of swaps, consistent with our experience with broker-dealer segregation, but those benefits cannot be quantified.”

Again, I do not intend to criticize the authors of the Cross-Border Swap Release; to the contrary, I commend them. They accomplished an important goal—eliciting praise from a group of critics of the SEC’s CBA practices—and likely helped set up the SEC to defend itself against any court challenges to its rules. The staff accomplished here what any rational actor at a regulatory agency would want to accomplish given the court decisions reviewed in Part II above—decisions that have created a strong incentive for regulators to generate precisely the kind of qualitative, lengthy, and largely opaque “gold standard” CBA/FR included in the Cross-Border Swap Release.

2. *The FSA’s Mortgage Market Reforms*

A second example held up as model CBA/FR is the set of mortgage market rules passed by the FSA in 2011. The FSA was abolished in 2010 (effective in 2013) for its failures to foresee, prevent, and mitigate the 2008 crisis.³⁷⁴ Among its pre-crisis failures was allowing significant amounts of mortgage loans to be made to borrowers who could not repay the loans other than by refinancing or reselling their homes into what optimists hoped would be an ever-rising market.³⁷⁵ Reforms adopted in 2011 require lenders to assess affordability of homes before lending to buyers, to include the possibility of interest rate increases in making those affordability assessments, and to evaluate interest-only mortgages without assuming (as opposed to demonstrating) the possibility of a refinancing.³⁷⁶

a. *The FSA’s CBA/FR*

Since 2000, UK law has required the FSA to publish a CBA/FR of its regulations and guidance,³⁷⁷ such as the mortgage reforms. That 131-page CBA/FR

374. George Parker & Brooke Masters, *Osborne Abolishes FSA and Boosts Bank*, FIN. TIMES, June 16, 2010, <http://www.ft.com/intl/cms/s/0/0203b99e-797f-11df-b063-00144feabdco.html> [<http://perma.cc/BSR2-7GA5>]. The theory of the split-up of the FSA was that it had neglected systemic issues due to a “pre-occupation with consumer protection matters.” Eilis Ferran, *Regulatory Lessons from the Payment Protection Insurance Mis-selling Scandal in the UK*, 13 EUR. BUS. ORG. L. REV. 247, 248 (2012). Going forward, the Prudential Regulation Authority is meant to engage in prudential supervision, while the Financial Conduct Authority will govern consumer finance. *Id.*

375. *Mortgage Market Review: Proposed Package of Reforms, Consultation Paper CP11/31*, FIN. SERVS. AUTH. 7 (Dec. 2011), <https://www.fca.org.uk/static/documents/consultation-papers/fsa-cp11-31.pdf> [<https://perma.cc/K3YW-VWUN>].

376. *Id.*

377. See *supra* note 83.

was attached as an annex to the reform proposal (a “consultation paper” in European legal jargon).³⁷⁸ In it, the FSA summarized the benefit of the main reform (mandatory affordability analysis) as protecting some borrowers “from mortgage impairment,” and its cost as “prevent[ing] [other borrowers] from taking out the mortgage they want.”³⁷⁹

In an effort to quantify and compare those primary benefits and costs, the FSA used a multistep process. First, it applied a multivariate logistic model to a large ($n=730,000$) sample of loans from 2005 to 2010 to estimate the probability of loan “impairment.”³⁸⁰ It then used ordinary-least-squares regression of the probability of impairment on factors it selected as contributing to impairment to quantify the contribution each factor made to impairment risk.³⁸¹ It used “judgment” to choose factors relevant to loan underwriting to identify a cut-off where impairment risk increased “markedly,”³⁸² on the theory that this

378. *Mortgage Market Review*, *supra* note 375, at A1:1.

379. *Id.* at A1:3. The FSA’s conceptual CBA/FR is much more complex than depicted in the text. In one figure alone, it identifies four channels for reforms to affect welfare by cutting both affordable and unaffordable loans and increasing the suitability of loans made: (1) reducing resources spent on loans in arrears or repossession; (2) changing welfare from fewer loans; (3) changes in the buy-to-let mortgage market; and (4) lower home prices. *Id.* at A1:11. The reforms also affect competition and raise compliance costs, increasing mortgage prices and contributing to lower home prices. Lower home prices would cut the odds of a new crisis, benefiting the economy, and would also affect the economy through the rental, savings, and pension markets. All this would be happening simultaneously with changes in the identified baseline, such as market corrections in the home loan market; stricter prudential requirements, such as those imposed under Basel III; the collapse and re-launch of a new securitization market; and changes in the supply and demand for housing due to government policy changes, partly driven in turn by the macroeconomic loss. The FSA’s efforts to guesstimate the costs and benefits of the reforms aim at a subset of these channels. Other effects (e.g., changes in monetary or fiscal policy, effects on the “buy-to-let” market, effects on competition) are not quantified “because they are unlikely to be significant or because data constraints prevent us from providing any meaningful estimate.” *Id.* Also not quantified were benefits from reduced transfers of homes from borrowers to mortgagors, because although reducing transfers “is likely to be regarded as socially beneficial . . . it is difficult to assess the size of the benefit relative to the size of the transfer.” *Id.* at A1:27. Nevertheless, despite this complexity, the bottom line of the FSA’s CBA is driven by what is described in the text. *Id.* at A1:8-9 (noting that “[o]verall CBA balance” is dominated by net well-being benefit).

380. Impairment was defined as either being in arrears (that is, paying late) or having a home repossessed. *Id.* at A1:27. The breakdown between these types was roughly 85%/15%. *See id.*

381. *Id.* at A1:32. For the other two reforms, the FSA used a separate “model” that simply identified a subset of loans that passed the affordability test but were made to borrowers with high debt-service ratios (mortgage payments to after-tax income), which was taken as a proxy for loan non-affordability. *Id.* at 141.

382. *Id.* at A1:4. This cut-off point was identified by looking visually at a plot of the average underwriting risk scores by the lenders in its sample, identifying a region in which the scores

was where the new affordability requirement would have affected sample loans.³⁸³

With those models, the FSA concluded that the rules would have prevented roughly 200,000 loans from entering default (“unaffordable” loans), and constrained approximately 530,000 borrowers to take out smaller or delayed loans than they could have taken out and repaid without the rules.³⁸⁴ The FSA then assumed the rules would prevent similar future defaults, which the FSA assumed would create solely social costs and so counted solely as benefits of the rules.³⁸⁵ The FSA further assumed the rules would generate social costs but no benefits if they prevented or delayed borrowers who could have afforded larger or earlier loans from obtaining consumption benefits.³⁸⁶

To quantify a comparison between these direct costs and benefits of the new rules on borrowers, the FSA needed a common metric. Because the FSA had no data on actual demand for loans in a hypothetical world without information asymmetries (a market failure addressed by the rules),³⁸⁷ it estimated effects not on welfare but on psychological “well-being,” for which it had proxy data, derived from a U.K. government household panel survey with data from

increased at an increasing rate, selecting the midpoint of the visually identified range, and usually the average underwriting score for the lender so identified. *Id.* at A1:35. It then arbitrarily chose a range that bracketed this score by a round +/- 0.1. *Id.* at A1:36.

383. *Id.* at A1:4. The FSA broke its sample into two sub-periods—2005 to 2007 and 2009 to 2010—to “construct different estimates of the impacts the affordability assessment would have in boom and subdued periods” of lending. *Id.* at A1:39. The FSA does note that this period experienced generally low (by historical standards) and falling interest rates, which likely means its estimates of loan defaults are low by historical standards; this may have led it to underestimate the benefits of its rules. *Id.* at A1:32.

384. *Id.* at A1:8. To do this, the FSA estimated the likely impact of the reforms on the size of loans that would be made, breaking down loans into those of new buyers, home movers, and re-mortgagors. *Id.* at A1:69-71. For new buyers, loans were reduced until they “compli[ed]” with the rules under the FSA’s model, unless the reduction exceeded an arbitrarily chosen 30%, at which point the FSA assumed (absent data) the loan would be foregone. *Id.* at 70-71. For other borrowers, they estimated the impact on the marginal increased loan of the new rules. *Id.* Of these, the FSA estimated that 75,000 would obtain a smaller mortgage while the rest would be pushed to delay their borrowing. *Id.* at A1:79.

385. *Id.* at A1:76. The FSA partly motivates this strong pair of assumptions by further assuming that “most borrowers would prefer to borrow affordably.” *Id.*

386. *Id.* at A1:26. “Others whose borrowing is affected by the [rules] would in any case not have experienced mortgage impairment. These consumers experience *only* a reduction in well-being (a cost), for example from having to buy a less desirable property, from delaying their property purchase or, in the case of some re-mortgagors, from not obtaining desired additional lending to support consumption.” *Id.* (emphasis added). The FSA implicitly defends this assumption with the claim that “some of these [borrowers] would have been willing and able to deal with high repayment burdens without much stress.” *Id.* at A1:78.

387. *Id.* at A1:76.

1991 to 2008.³⁸⁸ By regressing self-reported well-being scores on “housing-related events” in a fixed-effects regression with other controls from the survey, the FSA generated parameters³⁸⁹ for changes in well-being for events that were (by assumption) related to unaffordable loans (for example, payment problems) or affordable loans (for example, becoming a home owner rather than a renter, moving into a larger home). The FSA found that effects on well-being were “much greater” for payment problems and defaults than for foregone improvements in housing,³⁹⁰ such that the net effects on all affected borrowers were positive overall, despite being expected to stop more affordable loans than unaffordable loans.³⁹¹

While this procedure allowed for a comparison of direct effects of the rule, by design it did not *monetize* the effects for use in a full, quantified CBA. To do that, self-reported well-being figures needed to be converted to pounds, to compare to other costs and benefits. Nevertheless, the FSA exploited the happenstance that the effects on well-being of loans’ falling into arrears were similar in size to the effects of a person’s becoming unemployed, a condition more easily monetized by reference to income data.³⁹² The bottom line was an average benefit of £350 per borrower over the period 2005 to 2010.³⁹³ Added to this was an additional benefit of ten pounds per borrower in the form of fees and repossession costs that the rules would have prevented.³⁹⁴

Finally, the FSA estimated compliance costs for the new rules at between 47 and 170 million pounds per year, for an average of £109 million per year, based on a combination of its own survey of lenders, input from a consulting group (Oxera) that conducted its own surveys, and internal FSA data.³⁹⁵ Using the FSA’s discount rate of 3.5%,³⁹⁶ one can derive a present value of compliance costs of between £1.3 and £4.9 billion. The FSA did not explain how it was able to relate the per-borrower benefits it estimated from its main analyses to

388. *Id.* at A1:80.

389. *Id.* at A1:82-84. The FSA refers to them as “weights.” *Id.* at A1:83.

390. The FSA generated a variety of comparative statics for different subgroups of borrowers and different types of housing-related events. *Id.* at A1:82-84. Because of the variety of comparisons possible, there is no single ratio that emerges from the analysis, other than the general qualitative conclusion that effects of payment problems and defaults are “much greater” than the effects of delayed or foregone housing improvements. *Id.* at A1:83.

391. *Id.* at A1:84. Positive effects were larger during housing booms, with slightly negative effects in subdued markets. *Id.*

392. *Id.* at A1:85-86.

393. *Id.* at A1:8, A1:86.

394. *Id.* at A1:8.

395. *Id.* at A1:8, A1:102-09.

396. *Id.* at A1:112.

the per-year compliance costs it estimated. However, it did present a per-borrower compliance cost (£120 per borrower), which can be related to its aggregate average compliance cost estimate (£109 million per year), to derive a per-year benefit from the earlier analyses of £300 million per year. Using the FSA's 3.5% discount rate, that annual amount has a present value of nine billion pounds. The bottom line implicit in the FSA's analysis, then, is a total benefit (net of compliance costs) of six billion pounds.

Separately, the FSA used a macroeconomic ("NiGEM")³⁹⁷ model to estimate effects of the rules on output. With many assumptions,³⁹⁸ the model predicted six categories of sequential monetary impacts.³⁹⁹ The long-run effects in the sixth category—increased output from increased business investment—more than outweighed categories (such as reduced home lending, home prices, and household consumption) that would reduce output in the short run. The net effect was estimated at over £300 million more per year of output.⁴⁰⁰ Using the FSA's discount rate of 3.5%, the present value of this increase would be nine billion pounds,⁴⁰¹ as much as the total direct benefits. Yet elsewhere, without explanation or detail, the CBA/FR stated it had not included output in its bottom-line summary of costs and benefits because "the margin of error in-

397. The National Institute for Economic and Social Research created the model, and describes it as using "a 'New-Keynesian' framework in that agents are presumed to be forward-looking but nominal rigidities slow the process of adjustment to external events." See *Model Overview*, NAT'L INST. GLOBAL ECON. MODEL, <http://nimodel.niesr.ac.uk/nigem-intro/nigemintro.php?t=2&b=1> [<http://perma.cc/8VXH-6QP6>].

398. *Mortgage Market Review*, *supra* note 375, at A1:72. This modeling was off a baseline that took into account the effects of Basel III estimated by the FSA, *id.* at A1:72 n.37, and so builds in all of the uncertainties and assumptions of that exercise, see *infra* Part III.C, along with a variety of other assumptions used to calibrate the NiGEM model, including assumptions about economic growth, inflation, and home prices, and how those macroeconomic forces interact. *Id.* at A1:72-74.

399. These categories were (1) a reduction in home lending due to increased lending costs from the rules, (2) reduced home prices, which lower household expectations of capital gains from investments in homes, (3) increased household savings and reduced consumption to offset the reduction in expected home investments, (4) decreased inflation and lower central and interbank borrowing rates due to reduced consumption, increased savings, and lower household borrowing, (5) increased business lending as banks use funds freed up by reduced household and mortgage borrowing, and because of the lower bank rate, and (6) increased business investment due to additional business lending, which adds to productive capacity and increases overall output. *Id.* at A1:72-74.

400. *Id.* at A1:74.

401. This discount rate is mentioned in passing in another part of the FSA's CBA/FR, without explanation of how it was derived. *Id.* at A1:112. The FSA does not translate its macroeconomic impact estimates into present values.

herent in the estimation of the macroeconomic impacts means that in reality this impact could either be positive or negative.”⁴⁰²

b. Assessing the FSA’s CBA/FR

Any assessment of the FSA’s CBA/FR should begin by acknowledging it is better as an academic exercise—more complex, detailed, and creative—than anything yet produced by any U.S. financial regulatory agency. It relies on academic working papers, several different datasets, and multiple modeling techniques, and tackles a host of difficult estimation problems. It actually attempts to quantify the *benefits* of a financial regulation—something that the rest of Part III shows is rarely done. If CBA/FR has a role to play in the United States, the FSA’s CBA/FR is a useful example of a path forward, just as CBA/FR advocates suggest by calling it the “gold standard.”

However, it should also be recognized that the FSA’s job here was by many measures easier than that faced in other regulatory contexts. The mortgage reforms were important and will have complex effects, but their importance and complexity pale beside those of more general regulations such as Basel III or the Volcker Rule. The mortgage reforms impose relatively light mandates on the process and terms of one class of consumer financial product—an important class, to be sure—but one that is considerably simpler than, for example, swaps or even common stock issued by a variety of public companies with a variety of governance arrangements and disclosure practices. A home mortgage is a loan, with clear and definite terms, and a limited set of straightforward purposes. Other important transactions have similar characteristics—consumer loans, credit card loans, student loans—and regulations of those markets are also likely to be more tractable for CBA/FR than the more complex regulations reviewed here.⁴⁰³

Despite being in a simpler regulatory context, a review of the FSA’s CBA/FR of its mortgage reforms nevertheless shows how fragile and unreliable the analysis remains, and how susceptible such CBA/FR is to being used as camouflage, rather than as discipline—particularly as it gets more complex and ambitious (as it will have to do to approach the goals that its advocates have for it). Below is a short list of weaknesses in the FSA’s CBA/FR that illustrate both its shortcomings and how it could just as easily mislead as inform the public.

First, the FSA is clear in its exposition that it used judgment in a number of crucial places. Examples include: (1) it created its own loan impairment model,

⁴⁰² *Id.* at A1:9.

⁴⁰³ This may suggest that if new CBA/FR mandates are to be adopted, which Part IV below argues against, they should be confined to the consumer protection context.

where its staff effectively chose their own underwriting criteria, rather than relying on industry models, due to data limitations; (2) it chose where the new rules would begin to bind on lending decisions, using visual inspection of a figure rather than more quantitative methods; and (3) it chose how to “weight” the well-being results given the multiple comparisons it had with its data. Another important judgment the FSA made was to ignore the output of its macroeconomic modeling, as noted above, despite the fact that the net benefits on output of the rules were comparable to the direct benefits to borrowers. Each of these decisions, while defensible, required judgment.

Second, the FSA’s entire well-being analysis, which is its core method for estimating the effects of the rules, was usable only because of the happenstance that its output could be related to unemployment data. If the net effect on well-being had been significantly larger or smaller, this method would have been unavailable, and the FSA would have had to use another method to monetize the well-being effects, something that is—as the FSA noted—“notoriously problematic.”⁴⁰⁴ This difficulty calls into question the viability of this “gold standard” CBA as a model for the future.

Third, the FSA made a number of assumptions that affected its CBA: (a) it assumed that loans would not be made if they were reduced by thirty percent in size (an arbitrary figure) due to the new rules, but would be made otherwise;⁴⁰⁵ (b) it assumed that delayed loans would never be made;⁴⁰⁶ (c) it assumed that repossession had no effects on well-being distinct from default, because it had too few observations in its well-being dataset to estimate a different effect;⁴⁰⁷ (d) by using a fixed effects model to generate causal inferences about loan rules and well-being, it assumed that unobserved variation in individual respondents does not co-vary with home-related events;⁴⁰⁸ (e) it assumed that data from 2006 to 2011—a period of concededly low and falling interest rates—predicts future home market conditions;⁴⁰⁹ (f) it implicitly as-

404. *Mortgage Market Review*, *supra* note 375, at A1:85.

405. *Id.* at A1:70 n.33. The FSA defends thirty percent as more realistic than zero or 100%, which seems right, but better would have been to present a sensitivity analysis for this assumption.

406. *Id.* at A1:79 n.42. As the FSA laconically notes, “it is therefore likely that over the long run we are over-estimating the impacts of the [rules] on lending volumes in the market.” *Id.*

407. *Id.* at A1:83. This means that benefits are likely understated.

408. *Id.* at A1:82. This assumption seems implausible because borrowers will tend to “stretch” in their borrowing for housing in response to career developments, which will correlate with time, so any time trends in well-being reports will be reflected in the implicit before-and-after comparisons.

409. *Id.* at A1:93. Better would have been to include some data from periods of high or rising interest rates, but the FSA faced data limitations similar to those faced by all financial regulators.

sumed that its modeling of the effects of Basel III were correct, but as discussed in Part III.C above, that is a fragile assumption; (g) it estimated compliance costs from a small survey ($n=15$, response rate 60%) of firms that would be subject to the new rules, resulting in potentially biased data;⁴¹⁰ and (h) it assumed that the social cost of transfers represented by repossessions and resales of repossessed homes (as opposed to the transaction costs of those events, which it did estimate) was zero.⁴¹¹ Each of these assumptions is defensible as a matter of regulatory discretion, as each simplified the analysis or coped with data limits. Together, however, they demonstrate the lack of reliability or precision in the overall analysis.

Two other strong assumptions are nowhere discussed or explained in detail: that all “unaffordable” loans would produce only social losses, and that all “affordable” loans would produce only social gains. Both assumptions seem dubious. Some loans that turn out to be unaffordable represent gambles by borrowers that turn out badly, but which, *ex ante*, even on a fully informed basis, the borrowers would take again. The new rules will likely prevent those gambles, and while one can make good arguments in favor of preventing such gambling, at least some normative approaches to welfare analysis would treat preventing informed consumers from making knowing gambles as a welfare harm. Some loans on which borrowers never default are nevertheless the product of avoidable misunderstandings by borrowers, and others are the product of deception and fraud by lenders: the fact that a borrower chooses not to default on such a loan does not imply that the borrower would take it out again, were the borrower adequately evaluated and warned about the loan’s potential risks. Indeed, the FSA’s own data showed that many non-defaulting borrowers experienced high levels of stress and difficulty in making payments, suggesting that they may regret their loans. The new rules will likely reduce some of those loans, but none of the associated increase in well-being was counted in the FSA’s analysis. Nowhere does the FSA identify these possibilities in a clear manner, and the technical language in which it presents its well-being analysis may prevent many readers from even understanding the assumptions that have been made, much less appreciate what effect they have on the bottom line.

Finally, despite the relative merits of the substance, the FSA’s presentation is not a model of clarity or candor in other respects. The assumptions listed in the two paragraphs above are not collected in one place in the FSA’s paper, but

410. *Id.* at A1:87.

411. *Cf. id.* at A1:8 n.3, A1:27. The FSA noted this assumption was likely counterfactual, although it did not elaborate on why — presumably because the non-market value of a home to the defaulting borrower exceeds the value of the home to the lender and/or a new buyer, on average.

are mentioned in scattered locations, or are not explicitly noted at all. The sensitivity of the bottom-line results of the CBA/FR to important assumptions is not made clear.⁴¹² For example, the FSA does show that parts of its analysis are sensitive to assumptions about future levels of lending activity. It does so by breaking its historical data into two sub-periods: the “boom” period of the 2000s, when the new rules would have affected between 1.7% and 10.5% of borrowers, and the “subdued” period after the collapse, when they would have affected no more than 0.4% of borrowers.⁴¹³ Similarly, the FSA shows that in the subdued period, seven percent of borrowers who would have been affected by the reforms faced actual impairment in its historical data, while thirty percent would have faced impairments in the boom period.⁴¹⁴ The FSA does not, however, translate this sensitivity into bottom-line effects on benefits (gross or net). It does not present sensitivities to most of the assumptions discussed in the prior two paragraphs, and because it does not translate per-borrower benefits from its well-being analysis into present values, it does not allow readers to compare those benefits with the possible range of macroeconomic effects of the rules.

In sum, it is not clear that this “gold standard” CBA/FR, while distinctly more ambitious and interesting than other examples of CBA/FR, was a net benefit to an assessment of the mortgage rules. The FSA’s analysis is thought-provoking and may represent a step on a path toward regulatory capacity to use CBA/FR to generate outputs that can help the public assess the value of regulations such as the mortgage rules. Nevertheless, the bottom line of the FSA’s CBA/FR depends on assumptions and limited data to such an extent that, with equally plausible assumptions or different data, it could have come out with a different sign or order of magnitude attached to it. The FSA does include a number of disclaimers precisely to this effect—writing that “certain data, for example on relevant households’ expenditure, are not available . . . [such that] this CBA has been unusually difficult to prepare [and led to a] wide margin of uncertainty around its results.”⁴¹⁵ Elsewhere, the FSA notes that the analysis “is

412. Compare with OMB Guidance, *supra* note 20, at 2 (“It is usually necessary to provide a sensitivity analysis to reveal whether, and to what extent, the results of the analysis are sensitive to plausible changes in the main assumptions and numeric inputs.”).

413. *Mortgage Market Review*, *supra* note 375, at A1:40. This estimate is for the affordability component of the reforms alone; for the package of reforms, the results were similar. *Id.* at A1:62. The FSA also showed breakdowns by borrower type in the subperiods. *Id.* at A1:41-42, A1:63-64.

414. *Id.* at A1:65.

415. *Id.* at A1:2. Another disclaimer: “No amount of quantification would remove the need to make such a judgement. We illustrate, however, our quantification of the tradeoff. This should not be interpreted as providing a precise measure of well-being effects, but rather as

inherently highly uncertain,” with the result that “[t]o a significant extent . . . the decision on whether to proceed with the proposed rules has to be based on social and political judgments.”⁴¹⁶ And further: “It is extremely difficult to identify exactly how the responsible lending requirements will change borrowing in the market or the likely scale of this. It requires some judgemental assumptions on the basis of imperfect evidence.”⁴¹⁷ None of this would be apparent to anyone reading U.S. white papers advocating CBA/FR legal reform.⁴¹⁸ Therefore, the FSA’s CBA of its mortgage rules came with some unquantifiable cost in increasing misunderstandings of what CBA/FR is capable of, while failing to improve the public’s ability to evaluate the merits of the rules or achieving any other obvious benefit. It is an example of why quantified CBA/FR should not be mandated, rather than an example of why it should be.

F. Summary of Case Studies

The substantive rules reviewed in the foregoing case studies are summarized in Table 4.

supporting some reasonable assumptions about the relative weight attached to different positive and negative effects, and illustrating that such relative weights might support different judgements.” *Id.* at A1:80.

416. *Id.* at A1:5. While the FSA believed those judgments “are best informed” by its CBA/FR, it presented no evidence to show that was true, or if so, how. *Id.*

417. *Id.* at A1:3.

418. *E.g.*, CCMR REPORT, *supra* note 4, at 13 (rebutting the belief that “quantifying the expected benefits of a regulation is impossible,” instead claiming that “rigorous cost-benefit analysis is not only feasible but has been successfully employed by regulators both in the United States and abroad”).

COST-BENEFIT ANALYSIS OF FINANCIAL REGULATION

Table 4.
SUMMARY OF CASE STUDIES

<i>Rule</i>	<i>Agency</i>	<i>Primary Regulatory Instrument</i>	<i>CBA/FR by Agency?</i>	<i>Quantified CBA/FR by Agency?</i>	<i>Primary Benefit</i>	<i>Primary Costs</i>
<i>SOX 404</i>	SEC	Disclosure	Yes	No	Less fraud	Less risk-taking, compliance
<i>Mutual Fund Rules</i>	SEC	Governance	Yes	No	Less harm from conflicts of interest	Reduced board effectiveness
<i>Basel III Capital Requirements</i>	FRB, OCC, FDIC	Capital	FSA: yes; U.S. bank agencies: no	FSA: yes; U.S. bank agencies: no	Fewer systemic financial crises	Less lending
<i>Volcker Rule</i>	FRB, OCC, FDIC, SEC, CFTC	Activity	No	No	Fewer systemic financial crises	Lower liquidity, depth
<i>Cross-Border Swaps Rules</i>	SEC, CFTC	Multiple	Yes	No	Promotes competition	Lower liquidity, depth, incentive to race to bottom
<i>Mortgage Market Reforms</i>	FSA	Process and contract terms	Yes	Yes	Fewer unaffordable loans	Smaller, delayed affordable loans

As reflected in Table 4, the case studies range across representative regulatory instruments⁴¹⁹: *disclosure* (SOX 404), *governance* (mutual fund rules), *capital regulation* (Basel III), and *activity limits* (Volcker Rule). The cross-border swaps rules cover a large number of regulatory instruments, including disclosure and capital requirements, but also rules requiring *segregation*, *risk management*, *margin limits*, and *fair dealing*. The mortgage reforms represent a final, important category of financial regulation—consumer protection, in the form of required *process* and constraints on *contract terms*. The rules’ benefits range across public goods pursued by financial regulation: more competition, fewer

419. John Y. Campbell et al., *Consumer Financial Protection*, 25 J. ECON. PERSP. 91, 98-99 (2011).

systemic crises and harmful conflicts of interest, and reduced levels of asymmetric information.⁴²⁰

Table 5.

CHALLENGES FOR POSSIBLE OR ACTUAL EFFORTS AT GUESSTIMATED CBA/FR IN CASE STUDIES

<i>Rule</i>	<i>Data Challenges</i>	<i>Causal Inference Challenges</i>	<i>Role of Macroeconomic Models</i>	<i>Role of Political/Policy Models</i>	<i>Examples of Output-Sensitive Inputs</i>
<i>SOX 404</i>	Fraud is often unobservable; data on fraud's externalities does not exist; survey data is unreliable and potentially biased	Better instruments or randomized treatment to control for contemporaneous market and other changes; discontinuities have low external validity	Required for estimating externalities of large-scale fraud (shocks to equity premium)	Required to establish baseline for studying individual regulation change in context of multiple policy responses to revelation of fraud	<ul style="list-style-type: none"> • Incidence of fraud • Magnitude of fraud (direct costs) and externalities • Reduction of fraud by rule • Discount rate
<i>Mutual Fund Rules</i>	Conflicts of interest are often unobservable; data relevant to modeling governance outputs often unavailable	Better instruments or randomized treatment to control for unobserved covariates; models have low power	No obvious role	No obvious role	<ul style="list-style-type: none"> • Model specification • Sample period and other criteria selection • Empirical proxies for conflicts
<i>Basel III Capital Requirements</i>	Number of past financial crises is small and identification is subjective	Inferring causal effects of capital requirements on lending difficult due to lack of variation	Required to estimate likelihood and effects of financial crises and effects of reducing lending	Required to estimate policy responses to crises	<ul style="list-style-type: none"> • Past crises in dataset • Duration of effect of crisis on output • Policy response to crisis • Discount rate
<i>Volcker Rule</i>	As with Basel III, plus no use of rule in past	Inferring effects of novel rule impossible	As with Basel III	As with Basel III	As with Basel III
<i>Cross-Border Swaps Rules</i>	No use of rule in past	Inferring effects of novel rule impossible	Required to estimate effect of reduced liquidity on capital costs and output	Required to estimate risk that swap markets move to other jurisdictions	Not meaningful because no quantitative model possible

420. Luigi Zingales, *The Future of Securities Regulation*, 47 J. ACCT. RES. 391, 393-401 (2009).

COST-BENEFIT ANALYSIS OF FINANCIAL REGULATION

<i>Mortgage Market Reforms</i>	Private loan underwriting criteria unknown; period of unusual interest rates; low number of repossession in well-being dataset; survey data is unreliable and potentially biased	External validity of model of effects on reduced lending unclear due to data limitations, unobserved time-varying changes in well-being factors; no model of costs of transfers	Required to estimate effects of rules on output through lower home prices	Required to estimate effects of Basel III to establish baseline	<ul style="list-style-type: none"> • Historical data used (boom vs. subdued) • Basel III outputs • Others not clear due to gaps in FSA presentation
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Table 5 summarizes the conclusions of the case studies on the feasibility of quantitative CBA/FR. As can be seen, it shows that any substantial financial regulatory rules will face one or more of five serious challenges: (1) data limitations, (2) causal inference challenges, (3) the need to incorporate judgmental macroeconomic models, (4) the need to incorporate even more judgmental policy/political models, and (5) the need to make contestable, judgmental assumptions or modeling choices that have large effects on the outputs of the analysis. Not every challenge is as acute for every kind of rule – political/policy modeling is probably not a first-order component of an analysis of an anti-fraud or governance rule, for example. But all rules face data challenges and are highly sensitive to assumptions; all face causal inference challenges more severe in kind than the ones faced in many non-financial contexts (as discussed more in Part IV); and most require the analyst to embed (explicitly or not) a macroeconomic model of the same judgmental nature as that used in setting monetary policy.

The central conclusion of the case studies is that quantitative CBA/FR is not currently feasible with any degree of precision and reliability for representative types of financial regulation. Anything presented as quantified CBA/FR is in fact judgmental in nature, not an actual alternative to judgment but rather its equivalent in numerical form – “judgment in disguise.” Such quantitative CBA/FR as has been done is better understood as “guesstimated,” and has been presented without clear disclaimers and sensitivity analyses. As a result, it is more likely to mislead and camouflage than inform or discipline. The only kind of CBA that is currently feasible for representative types of financial regulation is conceptual CBA, augmented by limited elements of quantified evidence that will be more illustrative than disciplinary.

IV. WHAT ARE THE IMPLICATIONS OF THESE CASE STUDIES?

The case studies in Part III suggest that the capacity of anyone – including financial regulatory agencies, OIRA, academic researchers, CBA/FR propo-

nents, litigators, and courts – to conduct quantified CBA/FR with any real precision or confidence does not exist for important, representative types of financial regulation. This Part discusses the reasons for and implications of this conclusion.

A. *Why Is Quantified CBA/FR So Unreliable?*

A straightforward implication of the case studies is that efforts by the financial agencies at quantified CBA/FR will for the foreseeable future produce only guesstimation. Back-of-the-envelope guesses at ranges of magnitudes are currently feasible, but precise and reliable estimates are not. Too many variables are in play for any given rule, and too many contestable assumptions are required, for anyone producing or consuming guesstimated CBA/FR to have any confidence in any specific estimate of costs or benefits, even if expressed in ranges or bounds.⁴²¹ While guesstimated CBA/FR can draw on social scientific disciplines, such as financial economics, and while the agencies themselves may reasonably attempt quantified CBA/FR on occasion as a way of helping analysts better understand the implications of a given regulation, quantified CBA/FR will not be replicable, reliable, or predictive.

421. Using partially quantified CBA to generate bounds is sometimes offered as a solution to the problematic output of CBA. See, e.g., Sunstein, *supra* note 19, at 2 (describing that estimates of expected value are useful to identifying regulatory benefits). But bounds do not generally make quantified CBA/FR useful, for two reasons. First, estimates of bounds themselves are highly imprecise. For example, even the “easily” quantified subsets of costs for many financial rules, such as the direct costs of SOX 404, have wide confidence intervals; for SOX 404, they range from \$400,000 to \$4 million per firm per year, and that range has changed over time. See *supra* text accompanying notes 164-167. The lower bound on a lower bound (here, that is, \$400,000) is all that partial quantified CBA can typically produce to guide policy judgment. Second, and more importantly, also as shown in Part III, when estimates of costs and benefits are *both* highly uncertain and imprecise, as is common in CBA/FR, the lower bound on the lower bound that can emerge from partial quantified CBA may not be a meaningful aid to policy judgment. If we know, for example, that a subset of costs can be estimated at \$2.2 billion, plus or minus \$1.8 billion, but we do know the benefits, a CBA advocate would argue that we have advanced the analysis because now we know that unless the benefits exceed the lower bound of the lower bound (that is, \$400 million), the rule is not justified. But if any expert would have already had a prior judgment that the *unquantifiable* costs are likely to be an order of magnitude larger than \$400 million, we have not significantly advanced the analysis, because we already knew benefits would have to be more than \$400 million (indeed, more than \$4 billion – an order of magnitude larger than \$400 million). Quantification of the lower bound of the lower bound of the subset of costs may look precise (it produces a number), but it has not in fact improved our bottom-line estimate of the net benefits and costs, because our rough estimate of the benefits would already have had to be far higher before considering the rule. Put differently, only when partial quantification produces a lower bound on a lower bound on costs that is *surprisingly* high (or vice versa, in the case of bounds on benefits) will the exercise aid policymaking judgment.

CBA/FR should be understood not as science but as number-laden guesswork, and should be treated as such by the public, regulators, and courts. While guesstimation can be a legitimate part of decision making, as one input into a judgmental choice, it should not “guide” policy except in the loosest sense. Basing policy on specific quantitative outputs would simply be a poor exercise of judgment.

This conclusion – that quantitative CBA is not a good basis for setting policy – may contrast with practice in other regulatory domains, where quantitative CBA appears to be used in setting policy.⁴²² Possibly the conclusions generated by these case studies might be generalizable to some non-financial domains. But it is worth considering whether there are features of CBA/FR that make it more difficult to perform effectively than CBA in other domains, at least when considering “typical” financial and non-financial regulations. While this topic warrants considerably more analysis than is provided in this Article, here are three tentative explanations for why CBA/FR is so hard, with the recognition that some of what follows may also characterize some non-financial domains, at least in part.⁴²³

1. *Finance Is Central to the Economy*

Part of the explanation for how far we are from reliable and precise quantified CBA/FR estimates is that finance is at the heart of the economy. Any change in regulation with a material impact on finance will have a material impact on the economy, and large and complex effects on welfare. Recall from Part III.E.2 that the FSA’s mortgage reforms – relatively simple consumer protection regulations on the surface – were conceptually identified as having multiple, complex effects on the macroeconomy.⁴²⁴ They would cut home lending, lower home prices, reduce consumer spending, increase consumer saving, reduce consumer borrowing, and increase business lending and investment. The FSA used one of a large family of materially different but respectable macroe-

422. Compare, e.g., SUNSTEIN, *THE COST-BENEFIT STATE*, *supra* note 11, at 20-21 (advocating a “suitably devised system of CBA,” albeit with caveats), with SINDEN, *supra* note 42, at 191-95 (critiquing the use of cost-benefit analysis).

423. See, e.g., Sunstein, *supra* note 36, at 2289 (“A skeptic might conclude that because the range of uncertainty [about the net costs and benefits of a regulation designed to reduce arsenic intake] is so large, any number at all could be justified and the ultimate decision is essentially political or based on ‘values.’ This view is not exactly wrong, but it should not be taken as a convincing challenge to CBA.”). Even the arsenic rule had considerably simpler potential effects on welfare than several of the case studies reviewed in Part III (for example, SOX 404 or the Volcker Rule).

424. See *supra* text accompanying notes 373-375.

conomic models to derive a positive net effect of \$9 billion, which it then claimed it was ignoring as too unreliable. Many rules would have more complex effects.

Macroeconomic models that include finance are still highly contested. They are the stuff of newspaper op-eds and blogs as much as consensus models in academic journals.⁴²⁵ The ripple effects of financial regulation are too large and complex, relative to its direct effects, to allow for reliable predictions of net effects. As noted in Part I.D, this reason explains why even CBA proponents concede that monetary policy should remain unregulated by CBA laws. What advocates have not grasped, but Part III shows, is that important financial regulation is always likely to interact with the economy—perhaps not to the same extent as quantitative easing, but with enough impact to generate large (and uncertain) effects on economic growth.

By contrast, consider the Department of Transportation’s proposed rule to increase rear visibility in motor vehicles.⁴²⁶ While there were uncertainties associated with estimating the rule’s benefits—owing to the question of whether to value children differently than adults—and the costs—owing to the possibility that compliance costs might fall over time and to the appropriate discount rate to use in estimating future costs—estimating neither costs nor benefits required a macroeconomic model.⁴²⁷ Indeed, it is hard to imagine a financial reg-

425. Compare Cliff Asness et al., *Open Letter to Ben Bernanke*, WALL ST. J.: REAL TIME ECON. (Nov. 15, 2010, 12:01 AM), <http://blogs.wsj.com/economics/2010/11/15/open-letter-to-ben-bernanke> [<http://perma.cc/3VKA-UL8W>] (posting an open letter from multiple economists, including former Chairman of Council of Economic Advisors, former Director of the Congressional Budget Office, former Senior Economist of the Board of Governors of the Federal Reserve, and former Deputy Assistant Treasury Secretary, among others, stating that “[w]e believe the Federal Reserve’s large-scale asset purchase plan (so-called ‘quantitative easing’) . . . risk[s] currency debasement and inflation, and we do not think they will achieve the Fed’s objective of promoting employment”), with *Reply to Open Letter to Ben Bernanke from Federal Reserve Spokeswoman*, WALL ST. J.: REAL TIME ECON. (Nov. 15, 2010, 12:01 AM), <http://blogs.wsj.com/economics/2010/11/15/open-letter-to-ben-bernanke> [<http://perma.cc/3VKA-UL8W>] (defending the Federal Open Market Committee’s “recent actions”—that is, “quantitative easing”—as reflecting the Federal Reserve’s “Congressional-ly-mandated objectives [of] promot[ing] increased employment and price stability”). See also *supra* notes 330-335 (noting disagreements among economists over whether an increase in bank capital requirements will reduce socially beneficial lending).

426. See Cass R. Sunstein, *The Real World of Cost-Benefit Analysis: Thirty-Six Questions (and Almost as Many Answers)*, 114 COLUM. L. REV. 167, 185 (2014) (citing 75 Fed. Reg. 76,186, 76,238). The proposed rule was adopted on March 31, 2014. See *NHTSA Announces Final Rule Requiring Rear Visibility Technology*, NAT’L HIGHWAY TRAFFIC & SAFETY ADMIN. (Mar. 31, 2014), <http://1.usa.gov/1fKTYZA> [<http://perma.cc/EJS6-C2FN>].

427. The DOT’s CBA is confusing (and perhaps in error) in its presentation of cost estimates, 75 Fed. Reg. 76,237 (Table 15 and text); 75 Fed. Reg. 76,240 (Table 19 and text), in that it presents both a “primary estimate” and a “high estimate” of costs that are higher when using a

ulation important enough to warrant significant CBA/FR costs that would be as simple to model as this rule. Yet this rule is typical of many non-financial regulations, which generate direct compliance costs and result in straightforward improvements in safety, with few knock-on systemic effects.

2. *Finance Is Social and Political*

A second reason why quantitative CBA/FR is hard is that the main units of variation and change in finance are not things, or even individuals, but *groups* of people—groups with not only economic but also social and political relations. Finance is about firms, corporations—groups of people coming together to form and fund a business—and financial markets—groups of people routinely trading intangibles. These features of finance can be contrasted with some non-financial domains, where objects of regulation are inanimate (for example, chemicals, rear-facing car cameras) and regulations are designed to achieve relatively simple ends (for example, changing the frequency and intensity of the use of identified chemicals, or requiring installation of cameras). While a chemical can interact with the environment in ways that are challenging to model and predict, those interactions are generally simpler than interactions of groups of humans. Every human possesses agency and interacts with others in non-linear, unpredictable ways. As stated by one theoretical physicist, “Computational approaches [to modeling] have been very useful in physics because the knowledge of microscopic laws constrains theoretical modeling in extremely controlled ways. This is almost never possible for socioeconomic systems.”⁴²⁸

Chemicals can also be subjected easily to randomly controlled experiments, but experiments are more difficult for humans and are frequently not feasible for groups. Because finance affects the economy, modeling policy also becomes necessary to quantify effects of financial regulation; finance is more routinely and powerfully political than chemistry. Part of evaluating the costs of a crisis, as Part III showed, requires predicting how governments will respond. No similar efforts are required for most typical non-financial regulations.⁴²⁹

7% discount rate than when using a 3% discount rate, and the text of the rule does not refer to the numbers in the tables. It is also of note that rather than monetizing a cost of a child’s life differently from that of an adult, and then using the numbers so estimated in its analysis, it used a conventional value of an adult life, concluded that its quantified CBA produced a net cost, but then adopted the rule anyway based on what it determined was the non-quantifiable additional value of a child’s life. *Id.* at 76,238-39.

428. M. Marsili, *Toy Models and Stylized Realities*, 55 EUR. PHYSICAL J. 169, 173 (2007).

429. An exception is climate change, where the effects of U.S. regulations will depend upon how other governments cope with climate change. Quantitative CBA may for that and other rea-

3. *Finance Is Non-Stationary*

A third reason that may help explain why quantified CBA/FR is hard is that underlying regularities that enable quantification are commonly “non-stationary” in finance—more likely to change over time than in other domains. The proverbial “rocket science,” for example, uses relatively simple models of inert objects moving through space, with key inputs—such as the gravitational constant and gravitational acceleration⁴³⁰—that do not change.⁴³¹ By contrast, most relationships in finance change through time, often rapidly. Consider the striking decline from 1978 to 1999 in the dividend payout ratio or the steady fall since 1930 in the ratio of directly to institutionally invested stocks in U.S. retail portfolios, both changes with large implications for the costs and benefits of many financial regulations.⁴³²

One reason for the greater degree of non-stationarity in finance is that finance is non-physical, such that technology shocks have larger and more unpredictable effects on optimal financial choices. This point is reflected in the case studies in Part III: new technologies of derivatives and securitization were significant causes of the last crisis,⁴³³ which gave rise to several of the rules reviewed. While technological progress affects all regulatory domains, physics, chemistry, and biology are more central to non-financial regulation than to financial regulation, and regularities uncovered in those disciplines have proven more durable than those found in finance. As summarized by the same physicist quoted above:

Nature has been there since ever, but it has taken centuries to develop a reasonable understanding of little parts of it. Many of the things which are traded nowadays in financial markets did not exist few decades ago, not to speak of internet communities. In addition, we face a situation in which the density and range of interactions are steadily increasing, thus

sons be less useful for coping with climate change than for regulations responding to less world-threatening problems. See Pindyck, *supra* note 226.

430. PAUL A. TIPLER, *PHYSICS FOR SCIENTISTS AND ENGINEERS* 336-37 (4th ed. 1999) (relating gravitational constant to the force of gravity at various depths).

431. Other physical constants relevant to non-financial domains include the magnetic constant, the electric constant, the mass of a proton, the gas constant, the speed of light, Planck’s constant, etc.

432. Eugene F. Fama & Kenneth R. French, *Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay?*, 60 J. FIN. ECON. 3 (2001); Zingales, *supra* note 420, at 392. More companies are now paying dividends again, following the financial crisis, partly as a result of the extremely low interest rate environment created by quantitative easing by the Fed.

433. FIN. CRISIS INQUIRY COMM’N, *THE FINANCIAL CRISIS INQUIRY REPORT* 38-51 (2011).

making theoretical concepts based on effective non-interacting theories inadequate.⁴³⁴

No doubt there are other explanations for why quantitative CBA/FR is so unreliable; some have to do with historical unwillingness of the financial agencies to invest sufficiently in the task. No doubt, too, there are areas of non-financial regulation in which science is weak, and CBA there, too, cannot be reliably used as a strong guide for regulation. But the problems in financial regulation are real and likely to persist for the foreseeable future.

B. New CBA/FR Mandates Should Be Passed Only If CBA/FR Satisfies CBA

A second implication of the case studies in Part III is that new legal mandates for CBA/FR such as those reviewed in Part II are a bad idea, at least until CBA/FR can be shown to pass its own test—that is, to be likely to result in benefits that outweigh its costs. It is hard to understand how any CBA advocate could argue to the contrary. Instead, CBA/FR should be conducted only to the extent and in the manner the expert agencies choose, since they are in the best position to decide whether CBA/FR will be, in a given instance, likely to pass its own test. This conclusion is particularly true when it comes to quantified CBA, because of how unreliable quantified CBA/FR remains. CBA/FR law’s purpose—to discipline agencies and reduce agency costs—will not be furthered by forcing analyses that amount to no more than guesstimation and camouflage—again, “judgment in disguise.”

Conceptually, what would the benefits of CBA/FR be, given the conclusion of Part III? If CBA/FR were precise and reliable, it might generate the benefits of disciplining agencies, informing the public through increased transparency, and counteracting cognitive biases faced by the agencies. But CBA/FR’s benefits have been low, and are likely to remain low, for the reasons sketched in Part IV.A above: CBA/FR is by definition about finance—and finance is at the heart of the economy; is social and political; and is composed of non-stationary relationships that exhibit secular change. These features undermine the ability of science to precisely and reliably estimate the effects of financial regulations, even retrospectively. Whenever agencies face such sensitive and speculative forecasting abilities, quantified CBA is not capable of disciplining regulatory analysis, and it will generate low benefits.

The analysis is even worse for CBA/FR mandates when one focuses not only on the abstract benefits they might create but also on the *marginal* benefits they might create—over the baseline of the status quo. Other constraints—the

434. Marsili, *supra* note 428, at 173.

general goals of the agencies, the screening and socialization of the agency staff, and the political oversight of the agencies by Congress, through confirmations, budgets, hearings, and public criticism of the sort reviewed in Part II—will prevent new regulation or deregulation that is so extreme in generating costs without offsetting benefits that it could not be justified by the current art of guesstimated CBA. Within the range of plausible regulatory action set by those other constraints, the financial agencies retain too much discretion to select inputs and make assumptions in CBA/FR, meaning that numbers that emerge in any effort at quantification are unlikely to demonstrate whether a proposed change is net beneficial. Worse, the goal of disciplining agencies may be undermined if the result is to encourage agencies to use CBA/FR as camouflage—to hide discretionary judgments under impressive numbers.

As discussed more in Part IV.D below, CBA/FR remains a useful conceptual framework, quantified CBA/FR is a worthy long-term research goal, and *attempts* to quantify may advance the research needed to achieve reliable, precise estimates, making it a worthwhile project for agencies to pursue, in parallel with their other activities.⁴³⁵ But the current benefits of CBA/FR remain low, because its real effects remain far off in time; like any regulatory benefit, the benefits of these real effects should be discounted to present value. Moreover, CBA/FR will produce costs—resources consumed, regulatory delay, diffusion of regulatory focus, and potential decreases in regulatory transparency—particularly if regulatory agencies and any courts involved in reviewing agency action do not have good incentives to be honest about the limits and uncertainties of the results.

Empowering courts to review even *conceptual* CBA/FR policy analysis is likely to be a bad idea. Judicial review is not likely to generate any significant improvement in CBA/FR itself, as agencies will likely respond to the threat of such review by hiding, not exposing, the weaknesses in their analyses. Nothing produced by the back-and-forth between the SEC and the D.C. Circuit over the mutual fund rules reviewed in Parts II and III meaningfully advanced public understanding of the qualitative costs and benefits of requiring more independent fund boards; the compliance costs on which the *Chamber of Commerce* court focused were minor even by the lights of the Chamber of Commerce it-

435. Larry Tribe made the same point in this journal forty years ago when discussing CBA of environmental regulation. Laurence H. Tribe, *Ways Not To Think About Plastic Trees: New Foundations for Environmental Law*, 83 YALE L.J. 1315, 1322 (1974) (“[E]ven before anyone is very good at the task of attaching shadow prices to varying levels of constraints as elusive as ecological diversity, the *attempt* to attach them rather than simply incorporating such constraints in an all-or-nothing fashion should lead to better decision processes even if not better outcomes.”). I thank Duncan Kennedy for the reference.

self.⁴³⁶ The SEC's cross-border swap CBA, reviewed in Part III.E, provides a clear picture of how little the threat of such review will accomplish, relative to what conceptual CBA voluntarily presented by an agency might do.

Mandating an open interagency process for CBA—such as requiring a financial agency to publish not only its CBA but also the views of OIRA on its CBA—will also worsen outcomes.⁴³⁷ The result will be a bigger record that will continue to be largely ignored by the public but used by litigators to pick at particular agency judgments as arbitrary and capricious under the APA. The benefits such a mandate might achieve can already be achieved if the financial agency sees the process as valuable, as evidenced by the voluntary cooperation between the CFTC and OIRA during the Dodd-Frank Act rollout.⁴³⁸ The cases reviewed in Part II show how aggressive some D.C. Circuit panels have been in using such review to overturn agency actions, particularly when an agency's commissioners have been divided in making any regulatory change. Trebling the number of pages or components of CBA available for judicial second-guessing, and adding the possibility of interagency disagreement to the mix, will incite more interventions, with no clear benefit to anyone other than litigators.⁴³⁹

More extensive judicial review will have other pernicious consequences. Not only will agencies rationally use CBA/FR as camouflage, but they can also be expected to go to Congress to lobby for the establishment of rules through detailed congressional mandates, which will likely receive greater deference

436. See *Chamber of Commerce v. SEC*, 443 F.3d 890 (D.C. Cir. 2006); *Chamber of Commerce v. SEC*, 412 F.3d 133 (D.C. Cir. 2005); see also CCMC REPORT, *supra* note 6, at 30 (characterizing the costs as “minor”); *supra* notes 18, 89-102 and accompanying text.

437. This was the view of none other than Douglas Ginsburg (now on the D.C. Circuit, author of the *Business Roundtable* decision, see *supra* notes 103-126 and accompanying text), writing about his experience as the first head of OIRA from 1984 to 1985. See Christopher C. DeMuth & Douglas H. Ginsburg, *White House Review of Agency Rulemaking*, 99 HARV. L. REV. 1075, 1085-86 (1986) (“The private nature of the regulatory review process [i.e., OIRA’s review of executive agency rulemaking] has been a strength . . . because . . . it can flourish only if the agency head or his delegate, and OMB as the president’s delegate, are free to discuss frankly the merits of a regulatory proposal. . . . The administration’s deliberative process would be significantly compromised if the preliminary rounds in any [interagency] disagreement were routinely publicized.”). DeMuth and Ginsburg acknowledge that private interagency review suffers from a legitimacy problem—it makes it hard for OIRA to rebut allegations that it acts to smuggle politics or private interests into the review process, out of the public’s eye—but they go on to argue that the problem is more apparent than real and in any event justified by the benefits of the process. *Id.* at 1086-87.

438. See *supra* note 134 and accompanying text.

439. See Alan B. Morrison, *The Administrative Procedure Act: A Living and Responsive Law*, 72 VA. L. REV. 253, 256 (1986) (“[R]ulemakings are often more controversial than adjudications [under the APA], whose very processes are hidden from outsiders.”).

from courts than rules adopted pursuant to congressional delegations of discretion to achieve general goals.⁴⁴⁰ Both the litigation and the shift towards congressional mandates will produce a general slowdown, not just of regulation, but also of deregulation and regulatory reform, and will likely increase partisan polarization in and deterioration of public opinion of the very courts charged with that review.

The CBA of CBA just sketched is preliminary and incomplete. Completing a CBA of CBA would require evidence: quantitative studies of the degree to which CBA results in better regulations and more transparency in the regulatory process, as well as quantified estimates of the costs—delay, confusion, camouflage, partisanship—that CBA can introduce. Until evidence is developed to illuminate when CBA/FR passes its own test, we must rely on judgment, just as agencies must when they regulate. As currently informed by the poor results of judicially reviewed CBA/FR (discussed in Part II), it is hard to see how laws that give courts a greater role in second-guessing the choice of when to conduct CBA/FR, or the details of CBA/FR when it is used, could be judged a good idea.⁴⁴¹

C. Existing CBA/FR Laws Are Little Better in Practice

A final implication of Part III is that existing interpretations of the APA and the financial agencies' governing statutes should be restored to their state prior to *Chamber of Commerce*, to reduce the influence of concentrated interests through litigation and of politically partisan but unaccountable judges on regulatory outcomes. As shown in Part II, the D.C. Circuit's new interpretations of the APA have permitted (some) panels to overturn regulatory changes on the ground that a court would conduct its guesstimated CBA differently than an

440. *E.g.*, *Nat'l Ass'n of Mfrs. v. SEC*, 956 F. Supp. 2d 43, 46 (D.D.C. 2013) (upholding an SEC rule promulgated under section 1502 of the Dodd-Frank Act, which directed the agency "to develop and promulgate a rule requiring greater transparency and disclosure regarding the use of 'conflict minerals' coming out of the DRC and its neighboring countries"), *aff'd in part*, 748 F.3d 359 (D.C. Cir. 2014). This consequence appears to be a novel or at least recent dysfunction in the administrative state. *See* Jacob E. Gersen & Anne Joseph O'Connell, *Deadlines in Administrative Law*, 156 U. PA. L. REV. 923, 926 (2008) ("Because narrow delegations with extensive substantive restrictions would eliminate agency discretion and expertise in policymaking, it is rare that Congress specifies the actual content or substance of agency decisions."); *cf.* Michael Herz, *Judicial Textualism Meets Congressional Micromanagement: A Potential Collision in Clean Air Interpretation*, 16 HARV. ENVTL. L. REV. 175, 179 (1992) (arguing that in environmental regulation, judicial deference to regulatory discretion absent statutory specificity had created incentives for Congress to impose specific mandates as the best way to control agencies).

441. *Cf.* Vermeule, *supra* note 9 (critiquing judicial review of agency decisions under conditions of uncertainty).

agency's guesstimated CBA/FR. As shown in Part III, the state of CBA/FR is such that one can reasonably argue that all guesstimated CBA/FR of major financial regulations inevitably will contain multiple arbitrary assumptions and judgments simply in order to allow for rough guesstimates to be made. A legal system that simultaneously requires arbitrary judgments by agencies, and then allows them to be overturned by a court for being arbitrary, depending on which panel of the D.C. Circuit is randomly (that is, arbitrarily) chosen, is self-evidently indefensible.⁴⁴²

Even if one agrees with a given court that a given rule represents bad policy (as I do with respect to the fund governance rules reviewed in Part III.B), better means exist for those affected by such rules to protect their interests, such as through the legislative process or by developing regulatory proposals to await a new set of regulators— who, after all, are more frequently replaced by politically accountable Presidents than are the judges on the D.C. Circuit. In sum, the current, erratically applied law of CBA/FR raises agency costs as between citizens and their political agents, rather than lowering them as CBA/FR is supposed to accomplish.

Often, the current state of the law on CBA/FR of financial regulation is perceived in simple partisan terms— Republican judges will strike down regulations adopted by regulators appointed by a Democratic President— and this is viewed as good by Republicans (and financial institutions) and bad by Democrats (and individual investors and bank customers). But in a few years the same unfortunate dynamic may reverse, with Democratic judges striking down deregulatory changes adopted by regulators appointed by a Republican President. Regardless of the current state of partisan power sharing, or of one's political inclinations, it should require more theory and evidence than CBA/FR proponents have developed to leave financial regulation wrapped in the unlovely arms of litigators and the partisan lottery that is the D.C. Circuit.⁴⁴³

To remedy the situation, two recommendations made by Kraus and Raso for the SEC⁴⁴⁴ should be extended to all financial agencies. First, an exemption from the “sunshine” laws⁴⁴⁵ should be added to permit closed-door, pre-decisional discussions of CBA/FR among financial agency commissioners, be-

442. See *id.* at 2-3 for a different but complementary argument that courts should be more deferential to agencies in contexts requiring arbitrary decisions.

443. For evidence that judicial review of agency action outside the financial regulatory context is motivated by politics and judicial ideology, despite nominal legal standards requiring deference and permitting court intervention only if the agency acts “arbitrarily” or “capriciously,” see *supra* note 127 and accompanying text.

444. Kraus & Raso, *supra* note 12, at 338-42; see also Fisch, *supra* note 116, at 718-21 (discussing the application of the Government in the Sunshine Act, 5 U.S.C. § 522(b) (2012), to the SEC).

445. Freedom of Information Act, 5 U.S.C. § 552 (2012).

tween commissioners and the economic staffs of the agencies, among the agencies, and between the staffs of the agencies and the staffs of OIRA and the OFR. Until CBA/FR is considerably more developed, such deliberations are best conducted in a setting that encourages candor and creativity, rather than defensive camouflage and obfuscation in anticipation of litigation or requests under the Freedom of Information Act.⁴⁴⁶ Such a reform would likely increase the willingness of agencies to comply with existing requirements under the CBA Executive Orders⁴⁴⁷ that they submit CBA of their annual regulatory agendas to OIRA, requirements that have long been given short shrift by the financial agencies.⁴⁴⁸

Second, a “safe harbor” for CBA/FR should be added to the APA and the financial agencies’ governing statutes. The safe harbor can be modeled on the CRA,⁴⁴⁹ which courts have interpreted as barring judicial review of agency compliance with the statute, including agency determinations of whether a rule is “major.” As Kraus and Raso put it, “private litigants must not be allowed to throw [CBA/FR] back at the agency as ‘party admissions against interest,’ undermining the validity of the very rules that the analysis informed.”⁴⁵⁰ Anyone genuinely interested in fostering CBA/FR should recognize that, with the current, politicized D.C. Circuit only likely to become more polarized after the elimination of the filibuster, the absence of such a safe harbor may well lead agencies to be overly cautious, long-winded, and opaque in their CBA/FR—lawyerly virtues, not economic ones.

D. CBA/FR Remains a Potentially Valuable Component of Policy Analysis

A naïve response to the case studies in Part III would be to jettison CBA/FR altogether. If CBA cannot generate reliable, precise estimates of costs and benefits, one might conclude that it has no value, even as a discretionary component for policymaking. If CBA/FR cannot produce reliable quantification, then it has only costs and *no* benefits. This response would be a mistake for four reasons. First, it is possible that some financial regulations are susceptible of quantified CBA/FR. There may be some relatively simple financial regulations in which the costs and benefits will be more straightforward to estimate reliably, particularly if the regulations are implemented in a careful way and com-

⁴⁴⁶ *Id.*

⁴⁴⁷ See sources cited *supra* note 81.

⁴⁴⁸ See sources cited *supra* note 82.

⁴⁴⁹ See *supra* text accompanying notes 86-87.

⁴⁵⁰ Kraus & Raso, *supra* note 12, at 341.

bined with a retrospective CBA/FR. The case studies in Part III are only a sampling of rules.

Second, conceptual CBA/FR remains the best available overarching framework for organizing and communicating the pros and cons of a proposed regulation. Conceptual CBA/FR is a commonsense way to begin the analysis necessary to evaluate a proposed rule by comparing it to the status quo and plausible alternatives. Indeed, it is hard to imagine conducting any sort of policy analysis without at least engaging in tacit conceptual CBA/FR. Organizing analysis in a conceptual CBA framework will provide some benefit for public understanding, even if the benefit is modest, and even if the negative effects of guesstimated camouflage can easily overwhelm that benefit.

Third, CBA may have effects other than the conventional set outlined in Part I.C (discipline, transparency, and camouflage). CBA guidelines, such as those in the OMB Guidance,⁴⁵¹ also serve a brainstorming function, as a checklist to prompt analysts to be more creative in regulatory design and evaluation. Precisely because conceptual CBA is not an entrenched and exclusive piece of any one agency's historical lore, evaluating regulatory proposals within a CBA framework can open up new channels of thought and nudge regulators beyond a baseless enthusiasm for tried but perhaps less helpful models of regulation. Conceptual CBA involves a common language and mode of thought that could facilitate interagency dialogue by floating above any one statutory mandate or set of agency-specific regulatory goals. Such dialogue can improve thinking about CBA-related problems (for example, how to phase in or randomize regulation so as to generate useful information while meeting legitimate expectations about equal treatment under the law).⁴⁵² Thinking through conceptual CBA for a rule can lead to novel insights about how the rule is (or is not) similar to rules issued by other agencies, or how it might generate unintended consequences.

Fourth and most broadly, and with the greatest potential value, conceptual CBA/FR can facilitate improvements in quantified CBA/FR. Quantified CBA/FR, after all, would be highly valuable if it could generate precise and reliable estimates of the social costs and benefits of a regulatory change. Anything that promotes the long-term research agenda needed for reliable, precise quantitative CBA/FR has high potential value. To pursue that agenda, it would

451. See OMB Guidance, *supra* note 20, at 4-15.

452. CBA/FR advocates, *see, e.g.*, CCMR REPORT, *supra* note 4, at 14, rightly point to the SEC's pilot program on short sale rules, which randomly exempted a stratified sample from new rules for purposes of evaluating the rules' effects in a statistically reliable way. See Office of Econ. Analysis, *Economic Analysis of the Short Sale Price Restrictions Under the Regulation SHO Pilot*, SEC. & EXCH. COMM'N (2007), <http://www.sec.gov/news/studies/2007/regshopilot020607.pdf> [<http://perma.cc/EE3U-VAUD>].

be useful for financial agencies to frame the questions that they face in evaluating regulations in terms of conceptual CBA, so as to stimulate and guide research. Research in economics, sociology, psychology, and other relevant fields proceeds along paths that are not random, but shaped by incentives, social cues, and psychological rewards. If agencies ask pointed research questions in their rulemaking proposals, they will encourage private researchers to answer those questions. Private actors with an interest in the answers may fund such research; tenure can be granted in part on the ground that an academic has answered a socially valuable question; and grant proposals are more likely to be funded if they relate to research topics that have direct potential value to regulatory agencies.

For conceptual CBA to be useful in this way, however, careful attention must be paid to institutional details, where the devil always lurks. Conceptual CBA/FR will not be useful in stimulating thought or guiding research if it consists of a simple, abstract list of the benefits and costs of a category of regulations. For example, it is correct in most instances for the SEC to include in the category of qualitative benefits “investor protection” and “investor confidence,” but it would be useless to leave things at that. How, precisely, does a rule improve confidence—through which channels? How does improved confidence constitute a social benefit—how does it affect the cost of capital? Nor will conceptual CBA/FR be useful if it consists of lengthy and opaque boilerplate circumlocutions designed to deflect or confuse judicial review rather than actually communicate to researchers or those who fund, evaluate, or publicize research.

A review of CBA conducted by the financial regulatory agencies demonstrates that fleshing out the benefits of financial regulation is a largely incomplete conceptual task, one that I hope the case studies in Part III will help advance. Similarly, indirect or systemic costs of regulation remain undeveloped. CBA/FR proponents have a strong point when they mock past CBA/FR efforts as exercises in “paperclip counting.”⁴⁵³ Those who are unhappy with the financial agencies are striving to promote quantified CBA through law in part because they rightly worry that regulatory practices that focus only on easily quantified subsets of costs in isolation will achieve little good.

The question, then, is how to encourage financial regulators to engage in meaningful, detailed conceptual CBA for its own sake—which should enhance public understanding and may also assist regulators themselves—but also because more and better conceptual CBA should stimulate research on quantitative CBA by making more apparent the key quantities to be estimated, and so by stimulating academics to think harder about research designs that would permit that quantification. How can lawmakers or law affirmatively encourage

453. CCMR REPORT, *supra* note 4, at 9.

the use of conceptual CBA to stimulate thought and innovation? While a detailed set of proposals is beyond the scope of this Article,⁴⁵⁴ suffice it to say here that the challenge is primarily managerial, not methodological, a challenge not susceptible to simple legal commands or conventional judicial review. The challenge is not going to be met by specifying in meta-regulations methods to be used to conduct CBA/FR, but by using law and the lawmaking process to encourage expert agencies to better manage their resources and rulemaking processes in the short run—with the long-run goal of facilitating reliable, precise, quantified CBA/FR.

CONCLUSION

This Article has attempted to fill a significant gap in writing about CBA. It has shown how CBA/FR analysis would be conducted if—as advocated by some members of Congress, the D.C. Circuit, and legal academia—the law extended the current requirements that executive agencies engage in CBA to financial agencies, and required those agencies to produce as part of their rulemaking quantified CBA that could be subject to review under the requirements of the agencies’ authorizing statutes and the APA. Detailed case studies of six rules reveal that precise, reliable, quantified CBA remains unfeasible. Quantified CBA of such rules can be no more than “guesstimated,” and is not a true alternative to expert judgment—it is simply judgment in (numerical) disguise. As a result, for the near future, at least, judicial review of quantified CBA of financial regulation is not likely to generate benefits that exceed its costs. Until CBA/FR passes CBA’s own test, no new legal mandates should be adopted to require such review and more serious attention should be given to how to improve the capacities of the agencies to improve the reliability and precision of CBA in practice.

454. I take up the task of making such proposals in a related paper. See Coates, *supra* note 10.