TOWARDS BETTER COST-BENEFIT ANALYSIS: AN ESSAY ON REGULATORY MANAGEMENT

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I
INTRODUCTION

Cost-benefit analysis of financial regulation (CBA–FR) has emerged as an important topic in both policy and legal debates.[1] The emergence of CBA–FR is due in part to the unprecedented number and importance of new regulations (more accurately, re-regulations) called for by the Dodd–Frank Act.[2] Interest groups seeking to delay and shape those regulations have joined a set of policy entrepreneurs and academics whose long-term project has been to spread the use of cost-benefit analysis generally. A related but partially distinct group of political entrepreneurs has the long-term and largely partisan project of embedding CBA–FR in judicial review of regulations under the Administrative Procedure Act (APA).[3] A growing number of white papers calling for CBA–FR have elicited academic symposia and multidisciplinary efforts to study and

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1. *See, e.g.*, Symposium, *Developing Regulatory Policy in the Context of Deep Uncertainty: Legal, Economic, and Natural Science Perspectives*, J. LEGAL STUD. (forthcoming 2015) (including several articles on the topic of cost-benefit analysis of financial regulation); Colloquium, *Critiquing Cost-Benefit Analysis of Financial Regulation*, Geo. Wash. L. (2014).

2. The full title of this statute is the Dodd–Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (codified as amended in scattered sections of 12 U.S.C.) (Dodd–Frank Act).

3. Pub. L. 79-404, 60 Stat. 237 (codified as amended in scattered sections of 5 U.S.C.).

improve CBA–FR, while an increasing number of bills have been introduced in Congress to require or empower the President to mandate CBA–FR. A few of these bills are receiving bipartisan support, even as some on the D.C. Circuit continue to use CBA as a tool for intervening in regulatory contests.[4]

Yet, as I detail elsewhere,[5] the movement to advance CBA–FR has several odd features. First, debates over CBA–FR are marked by a significant degree of basic terminological confusion. For example, some speak of CBA–FR purely as a mode of policy analysis, even as others view it as a set of laws and legal practices that affect regulatory processes. Some consider it a conceptual framework, but others assume that CBA–FR does or should not simply consist of the identification and analysis of costs and benefits but instead should also include the quantification (or, more accurately in practice, guesstimation) of costs and benefits. Still more confusion arises over the goals and likely effects of CBA generally, with some assuming it can only produce benefits, such as transparency and discipline, but others pointing to a darker mix of effects, including camouflage and rent-seeking. These distinctions should be kept in mind when evaluating claims about CBA–FR.[6]

Second, none of the advocates for CBA–FR law—particularly on the D.C. Circuit, but also those in think tanks, trade groups, and academic institutions—have engaged in quantified CBA–FR themselves, or have been able to accurately identify good examples of reliable, precisely quantified CBA–FR. Nor have they engaged in anything approaching a robust and scientific cost-benefit analysis of cost-benefit analysis law. That is, none of the critics has shown empirically that regulation has improved, or could be expected to improve, when CBA (particularly quantified CBA) is mandated. It is as if they are advocating a faith-based method for regulation—something like "if we mandate it, it will be done, and it will be good." Since the beginning of recorded history, thousands of financial regulations have been enacted across hundreds of polities. Many financial regulations have been subjected to long and searching academic scrutiny, much of it relevant to CBA–FR. It would be an understatement, however, to say that reliable, precisely quantified CBA of a significant financial regulation has emerged only rarely from that research—in fact, I am still searching for a single example.[7] In other research, I speculate that

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

5. *Id.*

6. *Id.*; *see also* Amy Sinden, *Formality and Informality in Cost-Benefit Analysis*, UTAH L. REV. (forthcoming 2015) (manuscript at 5–7) (distinguishing formal from informal CBA), *available at* http://ssrn.com/abstract=2442357.

7. Eric Posner & E. Glen Weyl, *Benefit-Cost Paradigms in Financial Regulation* (Coase-Sandor Inst. for Law and Econ., Working Paper No. 660, 2014) in Symposium, *supra* note 1, offer none, nor do Bar-Gill & Bubb, *infra* note 20. Claims that quantified CBA–FR is feasible would be stronger with one example. That financial regulatory agencies have not been legally required to produce such analyses is not an answer to this weakness, as nothing has prevented academics from producing CBA–FR, in the past or currently. That CBA has been challenged as difficult outside of the financial regulatory area, in such as areas as climate change, is also no answer, particularly since most close observers of the use of

the reasons CBA–FR is so hard include the following: (1) finance is central to the economy, (2) finance is social and political, and (3) finance is nonstationary.[8] Even if my suggested reasons are inadequate to explain why CBA–FR estimates remain imprecise and unreliable, and even if estimates in CBA–FR are no more unreliable and imprecise than estimates generated by CBA in other contexts, the estimates nevertheless remain imprecise and unreliable. Whatever the reason, CBA–FR is an order of magnitude more difficult than its advocates seem to believe.

To be clear, I am not a skeptic of CBA altogether. To the contrary, I believe that quantified CBA–FR is a worthy, if distant, goal, and conceptual CBA is currently a valuable, if limited, element of the regulatory toolkit. But until quantified CBA–FR can produce more reliable and precise estimates, it is not a true alternative to expert judgment.[9] This straightforward implication renders empty the standard critique of non-CBA decisionmaking offered by quantified CBA supporters—that is to say, "what's the alternative to quantified CBA?"—because it is CBA supporters themselves who need to show that CBA is anything different from judgment in disguise.

That brings me to the third oddity about current CBA–FR debates. Neither advocates nor skeptics have paid sustained attention to what sorts of institutional and legal changes might actually move society towards a set of CBA–FR practices that would have positive net benefits. Instead, CBA–FR advocates have been largely content to argue for the blind mimicry of laws and institutions that have been used—but never seriously evaluated[10]—outside the financial regulatory context.

This article is intended to begin the project of analyzing and developing recommendations on how regulatory agencies might be managed to produce better CBA–FR. Specifically, this article will (1) briefly summarize why CBA–FR might be a good social project, but one best advanced outside the courts; (2) briefly summarize what good CBA–FR would look like, drawing on analysis and case studies developed elsewhere; and (3) sketch a program of institutional and legal reform that would be more likely to produce good CBA–FR, at least over time and for a subset of financial rules. The reforms would include changes to the funding, governance, rule-design, and cultures of relevant agencies. The primary high-level point of the article is that the task of generating good CBA–FR is managerial, not methodological, much less legal—at least as "law" is routinely understood by CBA–FR advocates as simple legal mandates. Good CBA–FR is not susceptible of command any more than dispersed shareholders

CBA to assess climate change regulation are just as skeptical as Coates, *supra* note 4, about its use in financial regulation. *See, e.g.*, Robert S. Pindyck, *Climate Change Policy: What Do the Models Tell Us?*, 51 J. ECON. LIT. 860 (2013) (casting doubt on reliability or precision of quantified cost-benefit analysis of climate change regulation).

8. Coates, *supra* note 4, at 889–91.

9. *See* BENT FLYVBJERG, MAKING SOCIAL SCIENCE MATTER (2001) (providing an interesting exposition of judgment); *see also* Coates, *supra* note 4, at 1010–11.

10. Coates, *supra* note 4, at 896 n.29.

can command managers to use good business judgment in the private sector. Disciplines often derided as "soft," such as management science, organizational behavior, and psychology, are likely to be crucial to any serious effort to elicit good CBA–FR.

II
WHY CBA–FR MIGHT BE A GOOD IDEA

Elsewhere, I develop six detailed case studies of actual or potential CBA–FR for six major, representative types of financial regulations: (1) disclosure rules under Sarbanes–Oxley (SOX) Section 404,[11] (2) the mutual fund governance reforms adopted in 2004 by the Securities and Exchange Commission (SEC),[12] (3) Basel III's heightened capital requirements for banks,[13] (4) the Volcker Rule,[14] (5) the SEC's cross-border swap proposals,[15] and (6) the mortgage reforms adopted by the Financial Services Authority (FSA).[16] The main take-away from the case studies is that precise, reliable, quantified CBA remains unfeasible.[17] These case studies show that quantified CBA of such rules can be no more than "guesstimated," as it entails (1) causal inferences that are unreliable under standard regulatory conditions; (2) the use of problematic data; and (3) the same contestable, assumption-sensitive macroeconomic or political modeling used to make monetary policy, which even CBA advocates would exempt from CBA law. Expert judgment remains an inevitable part of even what advocates label "gold-standard" quantified CBA.

A naïve response to the case studies would be to jettison CBA–FR altogether. This response would be a mistake for four reasons. First, it is possible that some financial regulations are susceptible to quantified CBA–FR. This possibility seems strongest for certain types of consumer protections, particularly when the regulation in question is designed to intervene in a modest way to constrain the terms of simple financial products. Of the case studies of the six rules sketched above, the most developed and convincing

11. Management's Reports on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, Securities Act Release No. 8,238, Exchange Act Release No. 47,986, Investment Company Act Release No. 26,068, 17 C.F.R. §§ 210, 228, 229, 240, 249, 270 & 274 [hereinafter SEC rule]. This shorthand citation is for brevity, although in fact the release modified a number of separate SEC rules.

12. Investment Company Act Release No. 26,520, 69 Fed. Reg. 46,378 (Aug. 2, 2004).

13. *See* Basel Committee on Banking Supervision, *Bank for Int'l Settlements*, *available at* http://www.bis.org/publ/bcbs189.htm. Formally, standards set under the auspices of the Bank for International Settlements are not "law" but multilateral agreements among central banks of different countries that must then be transposed into law by participating countries. *Id.*

14. Dodd–Frank Wall Street Reform and Consumer Protection Act § 619, 12 U.S.C. § 1851 (2012).

15. Cross-Border Security-Based Swap Activities, 78 Fed. Reg. 30968 (proposed May 23, 2014) (to be codified at 17 C.F.R. §§ 240, 242, & 249).

16. The FSA was subsequently broken up into two different agencies, the Financial Conduct Authority and the Prudential Regulation Authority. *See* Financial Services Act, 2012, c. 21, §§ 138I, 138J (U.K.) (amending the Financial Services and Markets Act, 2000, c. 8, §138 (U.K.)).

17. Coates, *supra* note 4, at 1008–11.

CBA was that of the FSA's mortgage market reforms, although even that CBA–FR was, on close inspection, highly imprecise and sensitive to numerous assumptions, both conceptual and as applied to available data.[18]

Nevertheless, it is possible that with some of the methods of designing and studying regulations discussed in part III below, a precise, reliable, quantified CBA may be feasible for some limited aspects of consumer finance. This seems most likely to be true in settings in which the financial product is relatively simple. Simple settings may permit a rule's direct effects to be modeled with sufficient detail. This allows for causal inferences about the effect of regulation to be drawn from observational data, rather than requiring random or quasi-random treatment to do so. To use observational methods convincingly, data must be gathered about the full range of the product's direct effects. The external or indirect systemic effects of the use (or misuse) of the financial product must be limited. Limited external effects are likely not true of home mortgages, the subject of the FSA's reforms. The last financial crisis made clear how important the housing market is to the economy, and how important residential mortgages are to that market. Other consumer financial products, however, may be less systemically important: for example, a cap on fraud losses for credit cards, as has been mandatory in the United States since 1968,[19] or the recent reforms imposed by the Credit Card Accountability Responsibility and Disclosure Act of 2009.[20]

A second reason not to jettison CBA–FR altogether is that CBA–FR remains the best available overarching conceptual framework for organizing and communicating the pros and cons of a proposed regulation. It is hard to imagine a regulator not engaging in *conceptual* (as opposed to quantified or guesstimated) CBA for any regulation[21] if the merits of the regulation are not strongly determined by a statute or constitutional legal requirement. Even if relevant costs and benefits cannot be reliably quantified, it is useful for a regulator—and potentially the public and other actors—to identify and analyze, as a theoretical matter, why a rule could be good or bad, for whom, and how.

In financial regulation generally, a standard set of justifications for regulatory intervention, derived largely from welfare economics, can provide the basis for conceptual CBA of this kind. Asymmetric information, particularly caused by fraud or misrepresentation, can defeat welfare-enhancing

18. *See* Coates, *supra* note 4, at 400–15.

19. 15 U.S.C. § 1643 (2012). *See also* Duncan B. Douglass, *An Examination of the Fraud Liability Shift in Consumer Card-based Payment Systems*, 33 FED. RESERVE BANK OF CHI. ECON. PERSPECTIVES 43, 45 (2009), *available at* http://bit.ly/1esLN6F.

20. Pub. L. No. 111-24, 123 Stat. 1734 (codified in scattered sections of 5 U.S.C., 11 U.S.C., 15 U.S.C., 20 U.S.C. and 31 U.S.C.). *See also* Oren Bar-Gill & Ryan Bubb, *Credit Card Pricing: The CARD Act and Beyond*, 97 CORNELL L. REV. 967, 969 (2012).

21. By conceptual CBA, I have in mind the following basic components: identifying a potential problem to be addressed, setting forth reasonably feasible alternative regulatory means to address the problem, identifying a baseline for assessing costs and benefits (as in, the world without addressing the problem), and then identifying in qualitative terms the major categories of costs and benefits each plausible alternative would generate. *See, e.g.*, Coates, *supra* note 4.

transactions. Externalities can induce suboptimal results, particularly when choices by major financial services or institutions have systemic effects, as through the payment system, investments, loans, or other direct exposures to and from other financial institutions or the public more generally. Moral hazard—when the threat of external effects is likely to induce a taxpayer-funded bailout or subsidy—can erode market discipline and result in socially wasteful dislocations and rent-seeking. Inefficient levels of competition can exist in unregulated settings when natural monopolies exist—as arguably was or is true for certain functions, such as payment, clearing, credit ratings, and exchange—or when regulations, that may be justified on their own narrow terms, have the unintended consequence of imposing high barriers to entry.

A standard set of antiregulatory considerations is also familiar from research on financial regulation. As just noted, even well-intentioned and narrowly justifiable regulations can result in barriers to entry and reduce competition. These potential consequences may create the need for more regulation, in the form of antitrust regulation or subsidies designed to induce entry, which may also lead a neutral analyst to conclude that the regulation is not worth the costs it imposes. Regulations can impose unjustifiable direct and indirect costs by imposing standards that would not emerge in a fully competitive market with complete information—the socially optimal level of fraud is not zero. Regulations can deter innovation, particularly if they require government agents with low-powered incentives or inadequate resources to screen or approve new investments, financial products, or institutions.[22] Regulations can generate pure transfers among equally wealthy firms, without welfare-based justifications, and so induce socially wasteful rent-seeking.[23] In the presence of inevitably imperfect enforcement, regulations can impose excessive liability risk on legitimate activities, and so chill socially beneficial risk-taking.[24]

These standard lists of benefits and costs can readily be adapted, if imperfectly applied, to any particular financial regulation. Conceptual CBA at the most basic level is relatively low cost. Its development in particular regulatory settings is likely to generate benefits in the form of improving both regulators' self-understanding and the public's understanding of CBA's importance.

A third potential benefit of conceptual CBA–FR is that it can facilitate improvements in quantified CBA–FR. Quantified CBA–FR would be highly

22. *See, e.g.*, John C. Coates IV, *Reforming the Taxation and Regulation of Mutual Funds: A Comparative Legal and Economic Analysis*, 1 J. LEGAL ANALYSIS 591, 625–29 (2009) (arguing that resource-constrained officials within the SEC are unable to respond adequately to requests for regulatory exemptions to permit innovation under the Investment Company Act).

23. *See* Sam Peltzman, *Toward a More General Theory of Regulation*, 19 J.L. & ECON. 211 (1976) (presenting a model in which regulation is product of rent-seeking); George Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3 (1971) (engaging in the same analysis).

24. Steven Shavell, *Do Excessive Legal Standards Discourage Desirable Activity?*, 95 ECON. LETTERS 394, 394–95 (2007).

valuable if it could generate precise and reliable estimates of the social costs and benefits of a regulatory change. Having such estimates would considerably advance financial regulators' ability to increase welfare and the public's ability—and the ability of its politically appointed agents—to detect and push back against regulations that fail to do so. But without considerably more conceptual CBA–FR, quantified CBA–FR will never be achievable, even for a subset of financial regulations. This is in part because, as Jim Cox has noted to me in conversation, conceptual CBA helps identify ways that the regulation under consideration will affect the world—by shaping private behavior, by stimulating or constraining activities of various kinds, and by producing, or eliminating, events or transactions that have effects that are at least in principle quantifiable.

A final reason not to abandon CBA–FR altogether, even if it is not capable of generating precise, reliable estimates in the near future, is that it may serve a brainstorming function. Efforts to engage in conceptual CBA–FR, which may extend to attempts to engage in quantified CBA–FR,[25] may prompt analysts to be more creative in regulatory design and evaluation. This point is developed more in part III below.

III
WHAT GOOD CBA–FR WOULD (AND WOULD NOT) LOOK LIKE

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 of its rules "investor protection" and "investor confidence," but it would be useless to leave things at that. How, precisely, does a rule improve confidence? Through what 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 to actually communicate to researchers or to those who fund, evaluate or publicize research. Conceptual CBA–FR needs to be primarily a body of applied economic analysis, informed by law, psychology, sociology, and other scientific disciplines, and not primarily a body of legal briefs, political tracts, or media missives.

25. Ryan Bubb made this point to me in commenting on this paper, and Larry Tribe also made this point forty years ago when discussing CBA of environmental regulation. *See* 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.

A review of CBA conducted by the financial regulatory agencies demonstrates that fleshing out even the conceptual benefits of financial regulation is a largely incomplete conceptual task.[26] For example, the SEC has yet to identify reduction in the externalities or nonpecuniary costs of fraud as significant potential benefits of rules designed to reduce fraud, such as rules adopted under SOX Section 404.[27] Before quantified CBA–FR will be feasible, the more basic task of conceptualizing and modeling in a theoretically sound and complete way the important forces determining the objects of financial regulation—fraud and asymmetric information more generally, externalities, moral hazard, and competitive conditions—must be undertaken.

Other conceptual tasks confronting financial regulation aimed at asymmetric information and fraud include the following unresolved, yet surprisingly basic, questions. What institutions and rules affect the incidence of fraud? How can financial market participants be induced to obtain, understand, and rely on socially optimal levels of information about financial activity? What produces and destroys trust? How do retail investors draw inferences about the integrity of one investment based on fraud revelations affecting other investments? What explains the slow drift towards more intermediation of retail investment over the last seventy years, and how should that drift be reflected in antifraud regulation? How might the distribution of financial fragility across households that participate in the financial sector be modeled (an exercise that might permit more precise predictions of how one instance of fraud may propagate financial distress across other households)? Even more basically, but importantly, how important is household finance to the economy?

These topics remain significantly underdeveloped in academic research, much less in rulemaking analyses. There is deep uncertainty not only about the quantities in the relationships, but even about relevant first-order factors. For example, "finance" in its most basic form—that is, as understood and studied by financial economists, legal scholars, and regulators who focus on finance—is not part of the basic "Ferbus" model of the economy used by the U.S. Treasury and the Federal Reserve Board, except in the simple exogenous identity of the "equity premium." The only way that such macroeconomic models can reflect the effect of changes in fraud is via a crude and necessarily imprecise change in that equity premium. The model does not contain any representation of basic factors affecting household finance, such as liquidity, intermediation, or propensity to hoard. If a large-scale spike in corporate frauds (as with Enron and others) were to have effects on liquidity, propensity to hoard, or the use of investment intermediaries, rather than simply an effect on how much investors would charge to invest in equity securities, then such a model would misestimate the effects of frauds and of regulations designed to reduce fraud.

To make progress on these questions, regulators will need to be open to using tools other than those of conventional economics. Rational-actor models

26. One goal of Coates, *supra* note 4, is to advance that task on several fronts.

27. *Compare* SEC rule, *supra* note 11, *with* Coates, *supra* note 4, at 928–31.

of consumer (investor) choice and stylized life-cycle models of household savings will no doubt be part of the conceptual work. But it is also likely that studies of belief formation, cognitive biases, and social norms will be important.

On the conceptual tasks confronting financial regulation aimed at externalities and systemic risk, consider the following equally basic questions: What are the channels connecting important financial intermediaries? Stress tests and living wills can be thought of as early-stage qualitative efforts to model some systemic risks for the very large institutions subject to those requirements. But the results of those tests and wills need to be better studied and analyzed before they can be assessed for reliability or generality. What forces gave rise to shadow banking? How valuable to users are the repos, swaps, asset-backed commercial paper markets, prime funds, contingent notes, collateralized debt obligations, and securities lending pools that went largely unregulated and unsupervised prior to the last crisis? Put differently, what, if any, net benefit do such activities generate for society, and how might society model and then quantify that benefit?[28] Why did banks in Canada and Australia do so comparatively well in the crisis despite being active participants in the same overall financial markets as banks in the United States and the European Union?[29] If the answer to that question is simply "more capital," what political model explains the greater capital requirements in those polities, which at least, at a first approximation, are similar in kind to the United Kingdom? Did depositors and other consumers of financial services suffer any costs that offset the apparent benefits of not having to bail out banks in those countries?

Similarly, a framework attempting to identify and model the most important indirect or systemic costs of regulation remains undeveloped. CBA–FR proponents have a strong point when they mock past CBA–FR efforts as exercises in "paperclip counting."[30] Those who are unhappy with the financial

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28. It surely is too simplistic to assume—as some CBA–FR advocates want to do—that the net profits of firms active in those markets provide a reliable estimate of those benefits, since a significant portion of those profits were more than reversed once the popping of the bubble produced something more closely approximating full information relevant to the participants in the markets. That is, even if institutions on average are better able to protect themselves from fraud than ordinary retail investors, the difficulties of asymmetric information and fraud, reviewed above, also afflict modeling and quantification of purely institutional markets.

29. Jennifer G. Hill, *Why Did Australia Fare So Well in the Global Financial Crisis?*, *in* THE REGULATORY AFTERMATH OF THE GLOBAL FINANCIAL CRISIS 287–88 (Ellis Ferran, Niamh Moloney, Jennifer G. Hill, John C. Coffee, Jr. eds., 2012) (reporting no bailouts occurred in those countries and noting that "[b]etween 2003 and 2005, APRA 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, Angela Redish & Hugh Rockoff, *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), *available at* http://www.nber.org/papers/w17312 ("Canadian regulation under OSFI [Office of the Superintendent of Financial Institutions] proved tougher than in the United States, mandating higher capital requirements, lower leverage, less securitization, the curtailment of off balance sheet vehicles, and restricting the assets that banks could purchase."),

30. COMMITTEE ON CAPITAL MARKETS REGULATION, A BALANCED APPROACH TO COST-BENEFIT ANALYSIS REFORM 9 [hereinafter CCMR REPORT].

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. But it is only fair for such critics to acknowledge that academic researchers have yet to agree upon even a well-specified list of more important costs, much less on methods to generate reliable inferences about the size of the effects of regulations on such costs. Opponents of financial regulation have generally relied upon anecdote and politics to mobilize deregulatory efforts, as in the lead-up to the Jumpstart Our Business Startups (JOBS) Act when no serious effort was made to estimate the supposed costs of burdensome disclosure regulations on the capital-formation process by new companies.

Without significantly more progress in answering these and other questions relevant to conceptual CBA, quantified CBA–FR will remain over the horizon. Any guesstimates that emerge from superficial CBA–FR will only reflect crude assumptions based on the prior judgmental beliefs (as in theoretical guesses, informed by experience and ideology) of researchers about the value of regulation. In other words, without significantly more conceptual CBA–FR, guesstimated CBA–FR will decorate and illustrate, but not inform, much less discipline, regulatory decisions.

IV
HOW MIGHT LAW AND LEGAL INSTITUTIONS ENCOURAGE GOOD CBA–FR?

The question, then, is how to encourage financial regulators to engage in meaningful, detailed conceptual CBA so as to stimulate research on quantitative CBA. How can lawmakers or law affirmatively encourage the use of conceptual CBA to stimulate thought and innovation? This challenge is primarily managerial, not methodological—a challenge not susceptible to simple legal commands or conventional judicial review, as discussed more below. The challenge is not going to be met by specifying in metaregulations methods to be used to conduct CBA–FR, but instead by using law and the lawmaking process to encourage expert agencies to better manage their resources and rulemaking processes in the short run to improve conceptual CBA–FR, with the long-term goal of facilitating reliable, precise, quantified CBA–FR. The focus needs to be on funding, governance, disclosure, rule-design, and culture—as amorphous as "culture" may seem to those inclined to the hard edges and sharp corners of economic reasoning. This section presents a number of possible means to improve the management of agencies so as to improve their ability and propensity to conduct good CBA–FR.

A. Restrict "Hard Look" Review by Courts

Rather than rely on CBA–FR to discipline agencies across the board, skeptics of regulation—and of the supposed empire-building tendencies of federal bureaucrats—would do well to take a lead from the private sector in how large corporations are disciplined. There, investors focus their agency-cost control efforts on the selection and screening of agents, on governance, and on focused, rather than broadly sweeping, judicial second-guessing of particular decisions.[31] Administrative law doctrines should be modified—by statute if necessary—to require courts to give agencies deference in their CBA-related choices, similar to the deference accorded "business judgment" in corporate law. This review should be substantially more deferential than the "searching and careful inquiry" required by "hard look" review, as the "arbitrary and capricious" test under the APA is, as articulated in *Citizens to Preserve Overton Park v. Volpe*[32] and *Motor Vehicles Manufacturers Association v. State Farm*.[33] Rather, the deference should be more akin to what is due to statutory interpretations by regulatory agencies under *Chevron*,[34] closer in spirit to the approach in *Baltimore Gas & Electric v. Natural Resources Defense Council*.[35] This degree of deference has increasingly not been afforded by the primary court overseeing the agencies, the D.C. Circuit,[36] which has tended not to cite cases like *Baltimore Gas* in its recent aggressive reviews of the SEC's rules. Generalist courts should recognize that they are unlikely to do better than specialist agencies in conducting CBA of CBA, or in conducting CBA itself, and should defer to the agencies' choices in these matters. Even if regulators may sometimes be influenced by particular "interests" or "politics," which reviewing judges may find objectionable,[37] courts should create a safe harbor for agencies to conduct CBA when and how regulators believe best.

If courts are to play a more aggressive role, they should reserve that role to cases in which the review is most likely to generate greater benefits than costs. Rather than focusing on "major" or "economically significant" regulations, which need not imply any agency-level conflict of interest, heightened review

31. *See* ROBERT C. CLARK, CORPORATE LAW 93–140 (1986) (discussing shareholder voting rights as primary tool for governance, as well as business judgment rule, duty of care, and limited role of courts in reviewing merits of decisions by corporate boards).

32. Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402 (1971).

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

34. Chevron U.S.A. Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837 (1984); *see also* Matthew C. Stephenson & Adrian Vermeule, *Chevron Has Only One Step*, 95 VA. L. REV. 597 (2009) (discussing the relationship between *Chevron* and "hard look" review).

35. Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, Inc., 462 U.S. 87, 103 (1983) ("[W]hen examining . . . scientific determination . . . a reviewing court must generally be at its most deferential.") (citations omitted).

36. Coates, *supra* note 4; *see generally* 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, 1840 (2012); Jill E. Fisch, *The Long Road Back: Business Roundtable and the Future of SEC Rulemaking*, 36 SEATTLE U. L. REV. 695 (2013); Cass R. Sunstein & Adrian Vermeule, *Libertarian Administrative Law*, (Harvard Law Sch. Pub. Law and Legal Theory, Research Paper Series, Working Paper No. 14-29, 2014), *available at* http://ssrn.com/abstract=2460822.

37. For a similar approach to the relationship between courts and regulators in an earlier era, see Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc., 435 U.S. 519 (1978). The relevance of this case to contemporary efforts by courts to heighten and enforce CBA requirements on agencies is discussed in Sunstein & Vermeule, *supra* note 36.

should be reserved for those categories of rule changes that are most likely to generate or represent large agency costs. That is, courts should be deferential save only when a rule change enlarges an agency's jurisdiction in such a manner analogous to "self-dealing" review in corporate law.

An example of a jurisdiction-enlarging rule may be the SEC's rule to cover fixed-indexed annuities, which sought to bring within the SEC's regulatory domain a type of financial product that had been offered by insurance companies.[38] How to characterize the rule is not straightforward. Good faith arguments can be made about whether it was designed to expand SEC jurisdiction. On the one hand, the rule may fairly be seen as attempting to prevent the insurance industry from expanding an exemption to the SEC's rules by offering products that were closer in kind to mutual funds or variable annuities—which had long been governed by the SEC—than to conventional insurance products. The insurance industry, however, certainly perceived the rule as an effort by the SEC to expand its jurisdiction, as the direct result of the rule would have been to impose SEC requirements on products previously subjected only to state insurance regulation. Similarly, the SEC's proxy access rule may be another example. Although formally the rule only mandated disclosure of shareholder nominations in public-company proxy statements, the SEC was arguably intruding on substantive corporate governance, traditionally governed by state corporate law—albeit pursuant to explicit congressional authorization in the Dodd–Frank Act.

As these examples illustrate, the classification exercise—jurisdiction-expansion versus jurisdiction-preservation—will generate disputes and itself requires adjudication. It is in part for this reason that the U.S. Supreme Court in *City of Arlington*[39] recently rejected such an approach in deciding when *Chevron* deference should be afforded to agency decisions. Instead, the Court used a simpler approach, mandating sweeping deference by courts to agencies in the substance of their rules, even when agencies arguably expand their jurisdiction.

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38. *See* Indexed Annuities and Certain Other Insurance Contracts, Securities Act Release No. 8,996, Exchange Act Release No. 59,221, 17 C.F.R. §§ 230 & 240 (Jan. 8, 2009). This rule was struck down as "arbitrary and capricious" in Am. Equity Inv. Life Ins. Co. v. SEC, 613 F.3d 166 (D.C. Cir. 2010). The merits of the D.C. Circuit's analysis in *American Equity* are contestable. The court critiqued the SEC for claiming its rule would enhance efficiency and competition by clarifying the legal status of the annuities, implying that the baseline prior to the rule was an "unregulated market," but in fact the status of the annuities was unclear under the Securities Act of 1933 itself because the annuities might well have been found ex post to have been "securities" by a court. *Am. Equity*, 613 F.3d at 177–78. The court was also dismissive of the SEC's claim that more disclosure would enhance competition because the SEC did not evaluate the prerule state law regulatory regime. *Id.* But anyone even slightly familiar with that regime would know that the information produced by insurance company sellers of annuities is vastly less useful and clear than that produced under the federal securities laws.

39. City of Arlington, Tex. v. FCC, 133 S.Ct. 1863, 1868–70 (2013). Justice Scalia argued that there is no difference between jurisdiction-expanding and other regulatory decisions, using a canned example of a pair of statutes where regulatory implementation in fact would not differ. *Id.* But the application of the distinction will be real in some settings, at least in the financial context. For example, a decision to apply an existing fraud statute to a new financial product or firm, not previously regulated, would be jurisdiction-expanding, whereas a decision to alter an existing fraud statute to raise the penalty for violations would not. Blurry lines are still lines.

If the logic of *City of Arlington* is followed, courts should simply defer to CBA-related decisions altogether. If not—that is, if the courts do have a plausible role in reviewing CBA-related decisions in a cost-effective manner—it should be limited to those rules in which an agency's regulatory jurisdiction is being contested. In those settings, an agency may be more likely to use CBA to "camouflage" rather than to discipline its decisionmaking, using CBA as a technocratic cover for expanding its power and authority. In other settings in which the agency is simply modifying rules that are clearly within its jurisdiction, CBA-related or CBA-based decisions—even if they are essentially judgmental guesses—are less likely to reflect empire building or turf grabbing, and are more likely to reflect the public interest than judicial second-guesses. Although an agency still may be making a mistake in such settings—in whether or how to conduct CBA, or whether or how the CBA should affect the rule—such second-guessing by the courts is likely to only make matters worse by adding a lottery-like component to the end of what is already likely to be a lengthy and burdensome regulatory process under the APA.

B. Eliminate Legal Impediments to CBA–FR

Even more straightforwardly, agencies should identify, and Congress should eliminate, any existing legal impediments to the effective design of financial regulations that interfere with the agencies' ability to gather data relevant to quantified CBA–FR policy analysis, whether direct or indirect. Together, the APA and the Paperwork Reduction Act (PRA), for example, indirectly impose a burden on agencies because they must go through a lengthy process to obtain information that can be used to conduct CBA–FR.

One-time efforts to collect information, however, should be distinguished from ongoing regulatory burdens. An agency's one-time efforts to collect information directly relevant to its self-evaluation of potentially burdensome regulations is net beneficial. Concerns about privacy can be addressed as they have been in the medical arena through anonymization, as opposed to CBA–FR-inhibiting bans, exemptions, or special process requirements.[40] The costs associated with the generation of such data should be more than offset by the elimination of litigation expenses the current CBA–FR legal framework is generating.

C. Improve Funding of CBA–FR

Better CBA–FR and better alignment of agencies with public-regarding goals of financial regulation could be achieved by improving the agencies' funding. At least two ways exist to improve CBA–FR through the funding process. First, Congress should give all of the financial agencies—not just a subset—self-funding authority, at least for purposes of conducting CBA–FR.

40. *See, e.g.*, Community Financial Protection Act, S. 2242, 113th Cong. § 3 (2014) (discussing a bill introduced by Senator Dan Coats that would give "prudential regulators" a veto over information requests from Consumer Financial Protection Bureau).

Doing so would remove funding disputes over CBA–FR from the annual, increasingly polarized and partisan budget battles in Congress. Most federal financial regulatory agencies already enjoy self-funding or off-budget funding authority, including the Federal Reserve Board, the Consumer Financial Protection Bureau, the Federal Deposit Insurance Corporation (FDIC), and the Public Company Accounting Oversight Board (PCAOB).[41] No good reason exists for not extending authority to the SEC and the CFTC for purposes of CBA–FR—not even politics, since the amounts likely to be spent by the agencies will leave large portions of their budgets subject to congressional oversight.

Congress should take off budget any amounts of fees collected by financial agencies that the agencies believe can be cost-effectively spent on research and study designed to enhance CBA–FR. Even if Congress is not willing to let go of the purse strings altogether, it should give the agencies an incentive to use their revenues to further agency knowledge and expertise relevant to CBA–FR. Such funds could be spent on staff, data, systems, studies, pilots, research grants, and other methods to build CBA–FR capacity. By moving such funding off-budget, Congress will allow the agencies to invest in multiyear projects safely, without fear that investments made in one year will be wasted if funding is cut in the next year's budget fight.

Second, Congress can focus its control of agency budgets to ensure that CBA–FR is being promoted adequately within the agency, for example, by requiring a set percentage or dollar amount of agency funds be devoted to CBA–FR units. Although this will leave CBA–FR spending subject to political fights and is less desirable on its own than the prior suggested reform, it will be better than the status quo and could be combined with the prior suggestion. That is, Congress could specify a minimum amount to be spent on CBA–FR but allow the agencies to earmark higher amounts without needing to make further budget requests or defend the amount in the annual budget fights.

D. Better Align Governance of Agencies with CBA–FR

Congress could reinforce the above funding suggestions by altering governance of the financial agencies. For example, the standing and role of CBA–FR within the agencies could be enhanced if the President were to include a specific number of CBA–FR-qualified members in the multimember commissions that have been dominated by lawyers—the SEC and the CFTC. When regulatory staff consider how their proposals will be reviewed, they will never be as willing to work as hard on even statutorily mandated CBA–FR if they know that the ultimate decisionmakers have neither the background nor

41. U. S. GOV'T ACCOUNTABILITY OFFICE, (formerly GENERAL ACCOUNTING OFFICE), GAO-02-864, SEC OPERATIONS: IMPLICATIONS OF ALTERNATIVE FUNDING STRUCTURES (2002), *available at* http://www.gao.gov/new.items/d02864.pdf (Federal Reserve and FDIC are self-funding); Coates, *infra* note 43, at 99 (PCAOB is self-funding); 12 U.S.C. § 5497 (2012) (giving CFPB funding authority based on funding of Federal Reserve).

taste for CBA–FR. This is particularly important if, as I advocate above, courts have less of a role in reviewing CBA–FR. For other agencies, Congress could consider ways to increase the expert diversity of the agencies that have been governed by economically literate appointees to better challenge existing conventional wisdom on what CBA–FR is possible and how regulation should be changed. Specifically, Congress could consider adding more individuals to the Federal Reserve Board who have skillsets other than macroeconomics, such as those with knowledge of financial economics (such as my colleague Jeremy Stein), financial regulation (such as former Georgetown Law professor Dan Tarullo), financial markets, financial institutions, and financial decisionmaking, including relevant psychology. If the crisis of 2007 and 2008 taught the world anything, it is that the job of preserving financial stability is at least as important as balancing inflation against full employment.

Another governance reform would be to give *all* members of multimember commissions or boards of financial agencies direct lines of communication to their agencies' CBA–FR staff. Although this change would slightly dilute the standard "single line of command" model of governance that was transferred to regulatory agencies from the military, it would not represent a genuine break from good governance elsewhere. Corporations have long embraced "matrix" reporting to accommodate the need for multidimensional communications and information flows.[42] Corporate audit committees have direct access to internal and external audit staffs, which has been thought to improve and not compromise the effectiveness of the audit process.[43] A change in the internal reporting of financial agencies would help reduce two risks. One risk it would address is that of a hostile chair trying to ignore the output of CBA–FR staffs, even if they were given more resources. The other risk is that, without access to CBA–FR staff, minority commission members would be unable to assess the feasibility of alternatives, possibly resulting in ad hoc and baseless critiques in dissents and a resistance to regulatory changes that CBA–FR might suggest are compatible with the public interest.

A more controversial but potentially useful change would be to give CBA–FR staff autonomy to—or even mandate that they—release analyses without political appointee approval. This would make them more similar to the "inspectors general" within the agencies, who have similar authority. Particularly if combined with restrictions on judicial review of CBA–FR, such autonomy (or mandate) would open up CBA–FR discourse in two ways, relative to the status quo. First, CBA–FR analyses could be written in ways that

42. *See, e.g.*, J.R. Galbraith, *Matrix Organization Designs: How to Combine Functional and Project Forms*, BUS. HORIZONS, Feb. 1971, at 29, 35–36.

43. *See generally* John C. Coates IV, *The Goals and Promise of the Sarbanes-Oxley Act*, 21 J. ECON. PERSP. 91 (2007) (describing SOX mandates on audit committees); *see also* J.R. Cohen, C. Hayes, G. Krishnamoorthy, G. S. Monroe & A. Wright, *The Effectiveness of SOX Regulation: An Interview Study of Corporate Directors*, 25 BEHAV. RES. IN ACCOUNT. 61, 79 (2013) (directors surveyed believed direct lines of communication between audit committees and internal audit staff improved effectiveness of audit committees).

did not have to respond to political appointees' concerns about how the write-ups might affect the reception of the regulations the political appointees' approve. Second, the analyses could be more candid about the limitations and sensitivities of the analyses without fear that courts would turn such candor against the agencies.

E. Enhance Transparency and Communication About CBA–FR

To improve public understanding of CBA–FR and make it more likely that a program of CBA–FR will have positive effects on welfare, more should be done to explain the limits of current CBA–FR techniques and the unreliability of their outputs. To that end, Congress should require any quantified CBA–FR estimate to include not only conventional confidence intervals around point estimates but also clear statements designed to emphasize the current imprecision and unreliability of CBA–FR guesstimates. Agencies should be required to clearly explain the limits of any causal inferences implicit in the analysis, given the difficulties of causal inference about the effects of regulation. They should also be required to provide a summary of major sources and extent of the sensitivity of quantitative outputs of the CBA–FR, preferably presented in simple-to-understand charts or tables. A reader should be able to quickly identify both the conceptual assumptions implicit in the analysis, along with the alternative reasonably believable assumptions (ARBAs) that could have been made, and the effects that the assumptions actually made had on the results relative to the ARBAs. Any inclusion of quantified estimates of costs or benefits in the presence of nonestimable costs or benefits should be clearly identified as "partial gross estimates." If the Office of Information and Regulatory Affairs (OIRA) or any other secondary agency is given a role in reviewing CBA–FR, that agency should be required to evaluate the analyses for these debiasing disclaimers and clarifications as much as for the use of appropriate discount rates or specified baselines.

F. Reflect Uncertainty in Regulatory Design

Given the limits and sensitivities of currently available techniques for CBA–FR, a broader and more general set of recommendations concerns the nature of regulation itself. Any financial regulation remains uncertain, a work in the realm of judgment, not science. Regulations should reflect this fact. New regulations and deregulatory reforms—such as new exemptions—alike should be accompanied by sunsets[44] and should expire unless affirmatively re-enacted. This will allow for postadoption assessments that will still remain tentatively, given the general inability to adequately control for contemporaneous changes

44. Those who advocate regulatory sunsets on the ground of regulatory uncertainty rarely call for similar treatment of deregulatory reforms or new regulatory exemptions. *See, e.g.*, Larry Ribstein, *SarbOx: The Road to Nirvana*, 2004 MICH. ST. L. REV. 279 (2004) (advocating sunsets of new regulations, but not of deregulatory initiatives). Asymmetric treatment of regulation and deregulation can only be justified on ideological grounds.

in the financial environment, but that will nevertheless generate information about potential costs and benefits materially more reliable and precise than any information possible in advance of the regulatory change. The uncertainty of CBA–FR also suggests that disclosure should be preferred over conduct rules, although the effects of disclosure can often resemble those of direct mandates.[45]

G. Create a Culture of Regulatory Innovation and Creativity

The most important task for improving future CBA–FR is for the President, Congress, and agencies to work together to inculcate a culture of innovation and creativity in financial regulation. This task follows from the points just made—that uncertainty over costs and benefits of financial regulation is likely to endure, making it all the more important that agencies, as well as courts and political representatives, remain open-minded about the potential vices of inherited modes of regulation and the potential virtues of novel modes. This general point applies both to the content of the rules and the methods and approaches for conducting CBA–FR—for conceptualizing, modeling, gathering data for, and then estimating the magnitudes of the costs and benefits of different regulations.

1. The Permanent Role of Regulation in Finance

For some, the idea that regulators should be encouraged to be "creative" may seem odd. Particularly for those skeptical of regulation, such a suggestion may imply that more regulation will follow. But such a takeaway is too simple. Deregulation is just as difficult a task as regulation. In truth, given the nature of finance, financial markets, and financial institutions, no full-scale deregulation is ever likely to occur. Fluid financial markets present multiple opportunities for theft. Financial investments typically generate a common need for trust in and dependence on agents. The information-sensitivity of financial investments makes common metrics and comparable accounting systems too socially valuable to leave entirely to private ordering. Anarchy and finance are incompatible.

As a result, all regulatory reforms are best characterized as "re-regulation" rather than either new regulation or deregulation. Consider, for example, SOX. While it added the controversial disclosure requirements in Section 404, it also created the PCAOB and gave it authority to implement Section 404(b)'s requirements.[46] The PCAOB exercised that authority in 2007 to reduce the burden of its initial requirements. That reform is fairly understood as reducing regulation—a deregulatory change—rather than increasing it. Creativity in the design and CBA-based assessment of de- and re-regulation will be just as important, if not more important, to burden-reducing reforms as it will be to reforms designed to regulate new activities or products for the first time.

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45. This is one of the few clear lessons of the Sarbanes–Oxley Act. *See* John C. Coates IV & Suraj Srinivasan, *SOX After Ten Years: A Multidisciplinary Review*, 28 ACCT. HORIZONS 627 (2014).

46. Coates, *supra* note 43, at 97, 104 (summarizing SOX).

This general point can be made more concrete. The existing executive order on CBA by independent agencies emphasizes the need for retrospective analyses—consistent with this general point—but more could be done along these lines.[47] Agencies could be required to identify each economically significant regulation they have adopted in the past and prepare estimated budget and data needs for conducting a retrospective assessment of each such rule. If the agencies will not do this themselves, Congress could task the Government Accountability Office (GAO) with doing so.

2. Randomization and Quasi-Randomization

More ambitiously, statutes and regulations could be jointly designed and implemented in pilot programs that build in randomization. Doing so would create the possibility of generating genuinely reliable information about the effects of the rules, a substantial improvement over the current need to rely on expert judgment and intuition.[48] Random, controlled treatments allow for more certain causal inferences because they more efficiently control for differences in treated subjects than do observational studies, and by design they can forestall selection effects, at least in some settings.[49]

Random, controlled trials in regulation are not easy to implement. The variation they require will commonly clash with the deep rule-of-law value of equal treatment. By definition, an experiment requires some randomly selected private actors to be regulated while a control group remains uncontrolled. If the regulations provide benefits to regulated entities—for example, if they permit activity subject to set conditions that would otherwise be banned—those who are regulated will enjoy a competitive advantage over the control group in the product, labor, or capital markets. That control group would certainly complain that they are being disadvantaged by the regulation. Conversely, if regulations were to impose costs on the regulated to generate benefits for third parties like consumers, then the reverse would be true, and regulated persons would complain that they are being disadvantaged. As a result, only regulations that have no clear and strong implications for competition among firms are likely to be legally or politically viable for true random control treatments.

Nonetheless, there are types of regulations that could be treated in this fashion. CBA–FR advocates rightly point to the SEC's pilot program on short-sale rules, which randomly exempted a stratified sample from new rules for

47. *See* Exec. Order No. 13,579 § 2, 3 C.F.R. 256–57 (2012), *reprinted in* 5 U.S.C. § 601 app. at 103.

48. Financial regulation is not the only area in which random controlled experiments are challenging. *See, e.g.*, Gina Kolata, *Method of Study is Criticized in Group's Health Policy Tests*, N.Y. TIMES, Feb. 2, 2014 (describing a ten-billion-dollar fund for research in public health established by the Affordable Care Act and debates over when and how extensively such funds should be used for random controlled trials rather than observational studies and uncontrolled pilot studies).

49. The point goes back to R.A. FISHER, DESIGN OF EXPERIMENTS (1935), if not before. *See also* D.B. Rubin, *Estimating Causal Effects of Treatments in Randomized and Nonrandomized Studies*, 66 J. EDU. PSYCH. 688 (1974).

purposes of evaluating the rules' effects in a statistically reliable way.[50] Even more recently, the SEC announced a similar pilot program for tick sizes on the stock exchanges.[51] A range of consumer financial regulations could be randomized within each producer firm, so that no one firm was advantaged over others. In such settings, any benefit or harm to subject consumers would have small, if any, competitive effects in the labor market or in other settings where consumers are effectively competing with each other. Retail financial products and services are typically simpler and easier to model than institutional or wholesale products and services. Simpler models should make it more feasible to estimate and quantify the effects of regulation. One difficulty with consumer regulation, however, is precisely that it involves individuals. Individuals are more likely to place unobservable, varying utility on activities or products than for-profit firms, where the goal is to generate wealth, a goal that is commensurable and less likely to be affected by latent psychic valuations.

Another way that the fairness-in-application challenges of randomization can be addressed is not to exempt the control group, but merely to delay modestly the implementation of the regulation in question. Although not designed for this purpose, the staggered and phased-in application of rules under SOX Section 404 for different subsets of United States and foreign companies provides another template for how better causal inferences can be, at least in theory, drawn through the process of regulatory implementation.[52] One could imagine a law like SOX Section 404 applying at date *X* to all firms with a past (and as such nonmanipulable) market capitalization of between $75 million and $100 million, between $125 million and $150 million, and between $175 million and $200 million, and so on all the way through the full distribution of market capitalizations, but only start to apply at date *Y* for all firms between $100 million and $125 million, $150 million and $175 million, etc. This would only work, of course, if the effects of the regulation could be inferred from changes occurring between date *X* and date *Y*. Moreover, political resistance could still be expected from either the treatment group or control group or even both. It would also require enough political stability that the phase-in period would not be used by the temporarily exempt group to lobby for a permanent exemption. It would thus be useful not to phase in rules from large to small, as under SOX, since that will only reinforce political vulnerabilities of the experiment, but instead to use layered phase-ins, with some large firms covered and some exempt, some medium-size firms covered and some exempt, and so on. With these caveats, at least for modest regulations and reforms, such an approach may be feasible even in the nonconsumer financial context.

A third approach that may allow for better causal inferences is to allow

50. *See* CCMR REPORT, *supra* note 30, at 14.

51. *See Press Release: SEC Announces Order for Tick Size Pilot Plan*, SEC. AND EXCH. COMM'N (June 25, 2014), *available at* http://www.sec.gov/News/PressRelease/Detail/PressRelease/1370542172819.

52. For discussion of such studies of SOX, see Coates & Srinivasan, *supra* note 45.

regulatory opt-outs in return for agreements to collect information relevant to the evaluation of the effects of the opt-out.[53] Although the opt-out may generate selection effects, these can be overcome with statistical techniques in some regulatory settings, such as, for example, when the subject populations are large. Again, consumer or retail financial regulation may be easier to assess for this reason than wholesale, institutional, or structural regulations, for which the subjects of regulation are fewer in number.

Yet another source of potentially useful causal inferences can be derived from exogenous "natural experiments"—"shocks" to components of financial markets or institutions, or to behaviors meant to be the subject or target of regulation (such as fraud)[54]—and a team of researchers, call it the Office of Shock Identification, might be usefully tasked with periodically reviewing changes in the regulatory and financial environments to identify plausible candidates for such shocks. Of course, inferences from any of these regulatory designs will not be available ex ante, as they would in a CBA–FR in advance of the rule, and so are best combined with sunsets, as suggested above, with reauthorization contingent on the results of the ex-post study.

3. Statutory Flexibility as Prerequisite

Implicit in this sketch is the need for coordination not just at the regulatory agency level but also between Congress and the agencies. Legislators should consult with the CBA–FR staffs of the regulatory agencies before adopting legislation like the Dodd–Frank Act or the Sarbanes–Oxley Act, and ask whether it would be useful to include discontinuities in regulatory deadlines and phase-ins. Agencies should be expressly permitted to implement randomized regulations, which will be formally "unequal" in application, so as to improve causal inferences about the effects of regulations. Although causal inference is only one challenge facing CBA–FR, it is an important one, and such reforms would go a long way in allowing advances toward the long-term goal of serious quantified CBA–FR policy analysis.

4. Encouraging Creativity and Innovation at the Agency Level

Creativity and innovation can also be encouraged within agencies. Regulators already enjoy some degree of political shelter due to civil-service protections, but explicit "tenure" equivalent to that enjoyed by academics might be considered for those staff members whose tasks are meant to be primarily evaluative in order to encourage such staff members both to experiment in their research techniques and to give them greater ability to disclose the results of their research even when it does not fit current political or policy agendas. Agencies might host more frequent interagency conferences and research

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53. *See, e.g.*, JIM MANZI, UNCONTROLLED: THE SURPRISING PAYOFF OF TRIAL-AND-ERROR FOR BUSINESS, POLITICS, AND SOCIETY (2012).

54. *See generally* A. Dyck, A. Morse & L. Zingales, *How Pervasive Is Corporate Fraud?* (Rotman School of Management, Working Paper No. 2222608, 2013) (exploiting "shock" of the collapse of Arthur Andersen following Enron to estimate the prevalence of certain types of corporate fraud).

symposia, in combination with private researchers, particularly if funding for CBA–FR is increased as suggested above, or working sabbatical programs in which staff members swap jobs for a year across agencies. Agencies might develop awards for the best or most innovative techniques for conducting internal CBA–FR. Agencies could self-consciously create multidisciplinary teams to draw on the multiple disciplines that are going to be required to conduct reliable quantified CBA–FR—ranging from economics and law to accounting and finance to psychology and sociology.[55] Agencies should also face up squarely to the seemingly inevitable novelty aversion that all humans experience, particularly in bureaucratic settings, and try to develop managerial techniques for encouraging innovation, similar to techniques used in the private sector by large companies faced with similar tendencies towards bureaucratic sclerosis.

H. Rely More on Supervision Rather Than Regulation

A final suggestion builds on the above points about how best to respond to the likely enduring uncertainty about the costs and benefits of financial regulation, and that is to rely less on regulation per se and more on supervision. Supervision—conceived loosely as close monitoring of the conduct of relevant financial actors and directing those actors to take or refrain from taking specific actions—can be distinguished from regulation—the adoption of rules or standards intended to specify in advance constraints on or mandated actions by private actors. Supervision is often targeted and may not generalize to other private actors, even ones that are apparently similarly situated based on observable and verifiable criteria, whereas regulation does. Supervision is largely exempt from judicial review, whereas regulation must generally comply with the APA. "Safety and soundness" have been the traditional goals of supervision, a task that has required assessments of management, operations, capital, relevant markets, and, for lending organizations, credit risk. All financial sectors are subject to a combination of supervision and regulation in the United States, but the balance varies significantly: supervision is a more significant component of bank regulation in the United States, whereas for securities firms and investment companies regulation has been a more important component, even if those entities are also subject to some types of supervision.

Supervision has two advantages over regulation.[56] First, supervision can

55. For a description of the use of household "well-being" surveys in the FSA's CBA of its mortgage market reforms, see Coates, *supra* note 4. Similar surveys could be developed through interagency task forces to allow for better estimation of the benefits of financial regulation. But doing so will likely require researchers trained in psychometrics and longitudinal survey design, not simply in econometrics or finance.

56. In contrast to regulation, about which oceans of ink have been spilled, supervision in the U.S. financial regulatory context is relatively understudied by legal scholars, and it has remained the province of banking specialists. For examples of studies focusing on supervision, see Mark B. Greenlee, *Historical Review of "Umbrella Supervision" by the Board of Governors of the Federal Reserve System*,

adapt more readily—both to changed circumstances and to new information about existing circumstances. By falling outside the APA, supervision can be more tentative and experimental and can be modified more rapidly and, frequently, at lower cost, than regulation. Second, supervision can be more incremental and tailored, and as a result it can impose fewer unnecessary costs across different subject entities that face different regulatory cost functions. For example, supervision can take into account firm size or scale in a more continuous fashion than can regulation, which generally takes on clear values above or below a small number of size thresholds.

Supervision is no panacea. Concerns arise from two directions. First, supervision requires the regulatory agents to get "close" to the supervised entity in order to have the ability to get the information necessary to supervise effectively—raising concerns about regulatory capture. Second, from the other perspective, supervisors may fail to get "close enough" to their supervised entities and may effectively impose harmful regulations through the guise of supervision, all outside the purview of the public or the courts, making political reform more difficult. Despite these costs, however, supervision in combination with regulation more ably holds out the promise of allowing for better governance of financial institutions over time in the face of deep uncertainty about the costs and benefits of different legal constraints than pure regulation can. The risks of capture can be mitigated with strong rules about independence, strong supervisory cultures, elite status, high pay, long-term careers on-staff, and upward mobility within a (large) organization. The risks of opaque sclerosis can be mitigated by including in the supervisory culture a healthy appreciation for the importance of innovation and adaptability, by carefully regulating supervisory practices (for example, by directing agencies to rely on existing reports or disclosures where possible, rather than requiring duplicative reports), by continuously benchmarking supervisory practices against those in other countries, by holding up supervisory practices to periodic—not continuous!—examination and review,[57] and by ensuring periodic

27 REV. BANKING & FIN. L. 407, 452–53 (2008) (reviewing Federal Reserve's role as "umbrella supervisor" for financial holding companies, after the Gramm–Leach–Bliley Act's repeal of the Glass–Steagall Act, and the fact that the Federal Reserve had already acquired sufficient powers to supervise bank holding companies and their affiliates by 1983); James E. Kelley, *Transparency and Bank Supervision*, 73 ALB. L. REV. 421, 439 (2010) (noting tension between movement for more transparency stimulated by the financial crisis and bailouts and the traditional expectations of supervisory confidentiality reflected in, among other things, the bank examiners' privilege); Thomas H. Stanton, *Federal Supervision of Safety and Soundness of Government-Sponsored Enterprises*, 5 ADMIN. L.J. 395, 398–434 (1991) (describing supervisory needs of government-sponsored financial institutions).

57. Bank examination reports are for good reason exempt from the Freedom of Information Act. *See* 5 U.S.C. § 552 (2012) (exempting materials "contained in or related to examination, operating or condition reports prepared by, on behalf of, or for the use of an agency responsible for the regulation or supervision of financial institutions"). But that does not mean that such reports could not be reviewed in camera in periodic metareviews by a watchdog arm of the supervisory agency, or even by a third-party agency such as the GAO, with the results of such metareviews being made public. Efforts to "audit the Fed" range from the unworkably intrusive to the sensible and valuable—the question is not whether but how, as well as by whom, and how frequently, under what circumstances, and with what

political accountability at the top of the regulatory organization.

Some might argue that the last crisis demonstrates the failure of supervision. However, both regulation and supervision were in operation prior to and during the crisis, leaving it difficult to draw any clear lessons from the crisis about the optimal balance between the two. Although much can be criticized in how the banking agencies performed in the United States, particularly the now-defunct Office of Thrift Supervision, the worst excesses leading up to the crisis occurred at entities subject to the very weak supervision of the SEC, like Lehman Brothers and Bear Stearns, the fragmented and ineffective supervision of insurance and reinsurance companies such as American International Group (AIG), and in the "shadow banking" markets, which were exempted through a combination of Congressional and SEC action and so went unsupervised altogether. As between regulation and supervision, the persistent uncertainty in the costs and benefits of legal limits on financial markets and institutions makes it likely that some strong component of supervision will increasingly be seen as a mechanism to test and adjust those limits over time in response to new information and market needs.

V
CONCLUSION

Cost-benefit analysis of financial regulation is a topic du jour among political entrepreneurs and legal academics. Unfortunately, its time is not yet ripe. Much more work is required at both a technical level (the conduct of CBA–FR itself) and within institutional design (the settings in which CBA–FR is to be conducted) before CBA–FR will be capable only of edifying, rather than generating, regulatory judgments. In the long term, quantified CBA–FR has the potential to improve regulatory outcomes substantially. But until the work is done that is necessary to permit CBA–FR to produce reliable, precise estimates, CBA–FR can be expected instead to generate more smoke than light, obscuring what will remain essentially intuitive judgments under a cloak of pseudoscientific guesswork. Until that work is done, courts should have little or no role in reviewing CBA–FR-related decisions by agencies, and both the public and regulatory agencies should treat CBA–FR as helpful but limited exercises in structured reasoning, not as methods to produce optimal regulatory changes. This article has attempted to sketch ways to improve the institutional setting for and content of CBA–FR, including improvements in funding, governance, disclosure, regulatory implementation, and agency design and culture—tools of management, not law.

output.