The Analysis of Benefits in

Consumer Protection Regulations

By

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Abstract

Over the past five years, cost-benefit analysis in the field of financial regulation ("financial CBA") has emerged a topic of intense public interest. In reviewing rulemakings under the Administrative Procedure Act, courts have demanded greater rigor in the financial CBA that regulators provide in support of new regulations. Industry experts have repeatedly questioned the adequacy of agency assessments of costs, especially for new regulations promulgated as a result of the Dodd-Frank Act of 2010. Members of Congress have responded to these developments by proposing legislation to establish new statutory standards governing financial CBA. And legal academics have engaged in a robust dialogue over the merits of financial CBA and the value of alternative institutional structures for overseeing financial CBA.

This article adds to the expanding literature on financial CBA by offering a detailed study of how regulatory agencies are currently undertaking benefit analysis in promulgating new regulations involving matters of consumer finance and other analogous areas of consumer protection. After a brief literature review, the paper proposes a taxonomy for categorizing benefit analysis in the area of consumer financial regulation. This taxonomy reflects traditional market failures, cognitive limitations of consumers, as well as several other beneficial outcomes commonly associated with regulations designed to protect consumers. Taking the taxonomy as a framework, the paper then reports on a detailed survey of 72 consumer protection regulations adopted in recent years, and presents an overview of the range and quality of benefit analysis that government officials actually undertook in the surveyed regulations. The paper next provides a more detailed discussion of twenty "exemplars" of benefit analysis drawn from regulations in the sample and focusing on the strengths and weaknesses of what might be considered state-of-the-art benefit analysis in consumer protection regulation circa 2015. The paper concludes with a discussion of potential lines of academic research that might assist financial regulators in conducting more complete benefit analysis for consumer protection regulation in the future.

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Introduction

In this Article, we present a survey of the benefit analysis in seventy-two recent consumer protection regulations. We proceed on the assumption that there is value in organizing the study of benefit analysis around the specific types of benefits that consumer finance regulations and analogous forms of regulation are intended to provide. In particular, we assume that it is useful to sort benefit analysis into separate categories of market failures, limitations in consumer decision-making, and other justifications for regulatory action and then to compare how different agencies undertake benefit analysis in each of these separate categories.

In designing our study, we adapt a taxonomy introduced in a pair of articles on consumer financial protection in 2011.[1] These articles identified seven theoretical justifications for the regulation of consumer finance, including considerations that track traditional neoclassical economics (information failures, market power, public goods, negative externalities), limitations in consumer behavior associated with behavioral economics (cognitive biases and limited financial capabilities), as well as a more open-ended category of fairness, which embraces distributional concerns. In the course of our review of actual rulemakings, we expanded these

[1] See John Campbell, Howell E. Jackson, Brigitte Madrian & Peter Tufano, *Consumer Financial Protection*, 25 J. ECON. PERSPECTIVES 91-114 (2011); Howell E. Jackson, Brigitte Madrian & Peter Tufano, *Making Financial Markets Work for Consumers: An Open Letter to America's First Consumer Financial Protection Czar*, HARV. BUS. REV., July-August, 2011, at 47-54.

seven original justifications to include six additional justifications for regulatory action that our investigations reveal routinely appear in benefit analysis. These additional justifications relate to principal-agent issues, international cooperation, clarification of legal standards to reduce litigation/enforcement costs, and improved compliance or self-regulation, as well as two more amorphous categories of benefits (consumer welfare and market efficiency). Taken together, these thirteen categories of benefit analysis provide the foundation of our analysis.

Over the course of the 2013-14 academic year, we engaged a team of more than a dozen research assistants at Harvard Law School to review in detail a sample of seventy-two recent rulemakings involving consumer finance or in contexts that present analogous challenges to consumer decision-making or welfare. Nineteen of the rulemakings are from the CFPB; fifteen are from independent agencies (including the CFTC, SEC, and CPSC) and fifty-six are from agencies subject to OMB review under Executive Orders 12866 and 13563 (including DOL, HHS, and FDA). In creating the sample—especially the large number of regulations subject to OMB review—we attempted to select regulations that addressed regulatory problems that were roughly analogous to the kinds of regulatory problems that the CFPB and other agencies with a consumer protection mandate face in their rulemakings. (A complete list of the seventy-two regulations included in our survey is attached as Appendix One.)

This article consists of five Parts. Part One locates the paper within the existing academic literatures on cost-benefit analysis in financial regulation and regulatory impact analysis more generally. Part Two describes our survey design: explaining how our sample of regulations was constructed, the procedures we followed in developing our taxonomy for categorizing benefits, the guidelines under which our research assistants were instructed to evaluate and code each regulation, and the procedures we followed for resolving differences of opinion in coding across different research assistants. Part Three reports on the aggregate results of our survey, including various statistics about the incidence and intensity of benefit analysis across our entire sample and selected subsamples. Here we highlight some suggestive differences in benefit analysis across different types of agencies and different legal contexts. We also explore the extent to which certain kinds of benefit analysis are correlated with other kinds of benefit analysis. Part Four offers a more qualitative assessment of the benefit analysis in our sample, focusing on lessons learned from twenty "exemplars" of benefit analysis across ten different benefit types. The exemplars discussed in this section were selected from surveyed rulemakings that our research assistants identified as scoring high on either qualitative or quantitative measures of benefit analysis. Together these exemplars could be said to represent the state-of-the-art of benefit analysis for consumer finance and other analogous areas of regulation in the United States. (A more detailed discussion of these exemplars appears in Appendix Three.) Part Five concludes with some preliminary thoughts on fruitful lines for further academic research to improve the quality of benefit analysis for consumer financial protection regulations in the future.

Part I: Review of Literatures

We begin with an attempt to locate this Article within the very large and ever expanding literature on regulatory impact analysis. We first review recent scholarship on cost-benefit analysis in the specific context of financial regulation ("financial CBA") and then consider relevant elements of the broader and more established literature on regulatory impact analysis.

A. Recent Scholarship on Cost-Benefit Analysis in Financial Regulation

At least within the United States, public officials and scholars of policy analysis paid relatively little attention to financial CBA before 2010.[2] One reason for this inattention was the fact the many financial regulators enjoyed independent agency status[3] and their regulations were

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[2] *See, e.g.*, 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, 4 (2006) ("Administrative law scholars engaged in the study of CBA are rarely experts on financial regulation, and vice versa, and there has been little cross-pollination between the two disciplines. Moreover . . . financial regulators who shun the use of CBA provide scholars with little to study.").

[3] Although OIRA has never formally required independent agencies to conduct cost-benefit analysis in their rulemakings, the office has over the years nonetheless encouraged independent agencies to provide some discussion of the costs and benefits of new rules and to review the costs and benefits of existing rules. *Compare* Exec. Order No. 12291, 46 Fed. Reg. 13193, §§ 1(d) and 2(b)-(e) (Feb. 17, 1981) (requiring executive agencies to consider costs and benefits in their rulemakings but specifically exempting independent agencies); *with* Exec. Order No. 12866, 58 Fed. Reg. 51735, § 4(c)(1)(B) (Sept. 30, 1993) (requiring that independent agencies submit regulatory plans with a "summary of each planned significant regulatory action including, to the extent possible, alternatives to be considered and preliminary estimates of the anticipated costs and benefits"); Exec. Order No. 13563, 76 Fed. Reg. 3821, § 1 (Jan. 18, 2011) (reiterating principles of Executive Order 12866 for executive agencies and adding several new requirements); *and* Exec. Order No. 13579, 76 Fed. Reg. 41587, § 2(b) (July 11, 2011) ("Executive Order 13563 set out general requirements directed to executive agencies concerning public participation, integration, and innovation, flexible approaches, and science. *To the extent permitted by law, independent regulatory agencies should comply with these provisions as well.*") (emphasis added); *see also* Memorandum for the Heads of Exec. Departments and Agencies, and of Independent Reg. Agencies (Mar. 16, 2012), *available at* https://www.whitehouse.gov/sites/default/files/omb/memoranda/2011/m11-10.pdf ("Executive Order 13563 does not apply to independent agencies, but such agencies are encouraged to give consideration to all of its provisions, consistent with their legal authority. In particular, such agencies are encouraged to consider undertaking, on a voluntary basis, retrospective analysis of existing rules."); Sherwin, *supra* note 2, at 8-12 (discussing the history of presidential administrations' efforts to encourage independent agencies to adopt cost-benefit analysis requirements, including a letter sent by the Reagan administration asking independent agencies to comply with the cost-benefit requirements in Executive Order 12,291). Note that the definition of "independent agency" encompasses many of the nation's financial regulators, which may help explain the relatively slow progress of financial cost-benefit analysis. *See* Paperwork Reduction Act, 44 U.S.C. §3502(5) (2000) ("'independent regulatory agency' means the Board of Governors of the Federal Reserve System, the Commodity Futures Trading Commission, the Consumer Product Safety Commission, the Federal Communications Commission, the Federal Deposit Insurance Corporation, the Federal Energy Regulatory Commission, the Federal Housing Finance Board, the Federal Maritime Commission, the Federal Trade Commission, the Interstate Commerce Commission, the Mine Enforcement Safety and Health

therefore not subject to review by the Office of Information and Regulatory Affairs ("OIRA") housed within the Office of Management and Budget ("OMB"). But even with respect to executive agencies with responsibility for consumer financial matters—such as the Department of Labor with respect to retirement savings or the Department of Housing and Urban Development with respect to mortgage originations—OIRA did not subject those agencies' proposed regulations to the same degree of scrutiny that it applied to health, safety, and environmental regulations.[4] As a result, until roughly five years ago, financial regulators in the United States allocated relatively few resources to developing robust financial CBA.[5]

Review Commission, the National Labor Relations Board, the Nuclear Regulatory Commission, the Occupational Safety and Health Review Commission, the Postal Rate Commission, the Securities and Exchange Commission, and any other similar agency designated by statute as a Federal independent regulatory agency or commission."); *see also* Sherwin, *supra* note 2, at 11 ("Among the agencies excluded from OMB oversight were many of the nation's financial regulators: the Board of Governors of the Federal Reserve Board, the CFTC, the FDIC, the FTC, and the SEC."). The Dodd-Frank Act revised the Paperwork Reduction Act to include the OCC, CFPB, and the Office of Financial Research as independent regulatory agencies. *See* Dodd-Frank Act, §§ 315 & 1100D(a) (codified at 44 U.S.C. §3502(5) (2000))

[4] *See* Sherwin, *supra* note 2, at 2 ("CBA has not been utilized consistently across the different sectors of government regulation. In particular, the nation's financial regulators have largely failed to perform the rigorous analysis required of most other government agencies, especially those in the fields of health, safety, and environmental regulation."); Nicholas Bagley & Richard L. Revesz, *Centralized Oversight of the Regulatory State*, 106 COLUMB. L. REV. 1260, 1268 (2006) ("Although OIRA oversees a wide array of different agencies, our environmental emphasis reflects the fact that OIRA has focused its attention primarily on the review of EPA regulations, presumably as a result of the economic significance of these regulations. Predictably, then, much of the controversy surrounding OIRA review has arisen in the environmental context."); Steven P. Croley, *White House Review of Agency Rulemaking: An Empirical Investigation*, 70 U. CHI. L. REV. 821, 865-66, 872-73 (2003) (finding that EPA oversight makes up very large fraction of OIRA's work and attracts considerable controversy); Sunstein, *infra* note 24, at 269 ("OIRA's staff is relatively small (around fifty people), and it does not now have a great deal of expertise on financial regulation in particular. It would be challenging for OIRA to review financial regulations without adding more personnel, and it is not clear that it has the authority to do that.") (footnotes omitted). *But see* Cass R. Sunstein, *The Office of Information and Regulatory Affairs: Myth and Realities*, 126 HARV. L. REV. 1838, 1845 (2013) ("OIRA consists of about forty-five people, almost all of them career staff. They work in a number of branches, covering different agencies and areas. Each of the branches has a number of desk officers, all with substantive expertise in one or more areas, and spending most of their time on one or a small number of agencies.") (internal quotation marks omitted).

[5] In some jurisdictions outside of the United States, financial CBA received more attention. Notably, the now defunct United Kingdom's Financial Services Authority, which operated under explicit cost-benefit requirements, generated a significant amount of scholarly literature addressing financial CBA as early as 1999. *See* Ellis Ferran, *The Break-up of the Financial Services Authority*, 31 *Oxford J. Legal Stud.* 455-56 n.12 (2011) ("Due to the cost-benefit requirements imposed on the United Kingdom's Financial Services Authority, that country's chief financial regulator, British scholars have begun to address the role of CBA in financial regulation.") *See, e.g.*, Isaac Alfon & Peter Andrews, COST-BENEFIT ANALYSIS IN FINANCIAL REGULATION: HOW TO DO IT AND HOW IT ADDS VALUE (Financial Services Authority, Occasional Paper Series No. 3, 1999), at 25 (expressing optimism about the FSA's ability to overcome the "central problem" of identifying "extremely complex" economic interactions); FINANCIAL

Starting in 2010, however, the legal landscape in the United States changed. First, with the passage of the Dodd-Frank Act that year, financial regulators were charged with the task of promulgating large numbers of new regulations, which focused industry attention on the potential costs of new compliance requirements.[6] Second, and even more importantly within the legal academy, the D.C. Circuit in 2011 placed financial CBA at the forefront of regulatory and scholarly agendas through its controversial and now much debated *Business Roundtable* decision.[7] While building on prior rulings,[8] *Business Roundtable* signaled that the federal courts, in applying the Administrative Procedure Act,[9] might demand fairly detailed financial CBA for

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SERVICES AUTHORITY, CENTRAL POLICY, PRACTICAL COST-BENEFIT ANALYSIS FOR FINANCIAL REGULATORS: VERSION 1.1 (June 2000), at 5 *available at* http://www.fsa.gov.uk/pubs/foi/cba.pdf (providing a methodology for financial CBA); DAVID SIMPSON ET AL., SOME COST-BENEFIT ISSUES IN FINANCIAL REGULATION (Financial Services Authority, Occasional Paper Series No. 12, 2000), at 5-(discussing various problems with financial CBA). This scholarly trend in the United Kingdom has continued to mature, yielding technically sophisticated cost-benefit analyses. *See, e.g.*, 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 (Financial Services Authority, Occasional Paper Series No. 42, 2012), at 3 (modeling the "trade-offs between stability and the provision of finance to the real economy"); JONATHAN BROGAARD ET AL., HIGH-FREQUENCY TRADING AND THE EXECUTION COSTS OF INSTITUTIONAL INVESTORS (Financial Services Authority, Occasional Paper Series No. 43, 2013), at 4-6 (modeling the execution costs of institutional investors due to high-frequency trading).

[6] Paul Rose & Christopher J. Walker, THE IMPORTANCE OF COST-BENEFIT ANALYSIS IN FINANCIAL REGULATION (Center for Capital Markets Competitiveness, 2013), at 9 ("Dodd-Frank [passed in 2010] has brought cost-benefit analysis in financial regulation to the fore by requiring financial regulators to promulgate hundreds of new rules.").

[7] Business Roundtable v. Sec. & Exch. Comm'n, 647 F.3d 1144, 1148 (D.C. Cir. 2011) (holding that the SEC had acted arbitrarily and capriciously in adopting a rule governing shareholder proxy access rights because it failed to adequately assess the economic effects of the rule).

[8] *See* 613 F.3d 166 (holding that the agency had acted arbitrarily and capriciously in failing adequately to consider the effects of its rule on efficiency, competition, and capital formation); Chamber of Commerce v. SEC, 412 F.3d 133, 144 (D.C. Cir. 2005) (holding that the SEC had failed adequately to consider the costs of its investment company reforms); Public Citizen v. Fed. Motor Carrier Safety Admin., 374 F.3d 1209, 1216, (D.C. Cir. 2004) (holding that the Department of Transportation's rule was arbitrary and capricious because "the agency neglected to consider a statutorily mandated factor - the impact of the rule on the health of drivers"); *see also* Chamber of Commerce of the United States v. SEC, 443 F.3d 890, 894 (D.C. Cir. 2006) (holding that the SEC failed to comply with section 553(c) of the APA in amending its investment company reforms by failing to provide an opportunity for public comment); 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, 1812-15 (2012) (describing how the D.C. Circuit in *Business Roundtable* "followed a now familiar path of invalidating SEC rulemaking efforts" on the ground that the SEC failed to consider the rule's effects on efficiency, competition, and capital formation); Sherwin, *supra* note 2, at 3 (describing the D.C. Circuit's invalidation of the SEC's rulemaking on cost-benefit grounds in *Chamber of Commerce*).

[9] 5 U.S.C. §§ 551-59, 701-06 (2012).

all new regulations of the Securities and Exchange Commission ("SEC") and perhaps also other financial agencies.[10]

Reactions to *Business Roundtable* have been plentiful and can be sorted into four groups. First, academic commentators produced a spate of early articles largely critical of the decision,[11] arguing that the D.C. Circuit had imposed too stringent a standard on the SEC, misconstruing the statutory mandate under which the Commission operates.[12] Second, the SEC and other agencies responded to the *Business Roundtable* case by instituting internal reforms to improve their cost-benefit procedures, in some instances[13] embracing the standards that the OMB had developed for

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[10] *See, e.g.*, Robert H. Ahdieh, *Reanalyzing Cost-Benefit Analysis: Toward a Framework of Function(s) and Form(s)*, 88 N.Y.U. L. REV. 1983, 1989, 1991 (2013) ("Perhaps most surprising . . . was *Business Roundtable's* dramatic departure from the deference the courts had previously shown agency evaluations of costs and benefits. . . . *Business Roundtable* is no less important for students of administrative law generally than it is for experts in financial regulation.") (footnote omitted); Grant M. Hayden & Matthew T. Bodie, *The Bizarre Law and Economics of* Business Roundtable v. SEC, 38 J. CORP. L. 101, 102 (2012) ("Other commentators have noted that the D.C. Circuit's opinion rests on an extremely muscular version of judicial review—one that contravenes the traditional deference to administrative authority.") (footnote omitted); Bruce Kraus & Connor Raso, *Rational Boundaries for SEC Cost-Benefit Analysis*, 30 YALE J. ON REG. 289, 290-91 (2013) ("Other financial regulators are alarmed, and with good reason, since their economic analyses of their own rules are generally less sophisticated than the SEC's.") (footnotes omitted).

[11] *But see, e.g.*, Rose & Walker, *supra* note 6, at 33 ("[T]he D.C. Circuit's more-searching inquiry in *Business Roundtable* must be placed within its proper context—one in which the SEC had failed for years to take seriously its statutory obligation to consider the costs and benefits of its proposed regulatory actions."); Caroline Cecot & W. Kip Viscusi, *Judicial Review of Agency Benefit-Cost Analysis*, GEO. MASON L. REV. (forthcoming) (manuscript at 2, 23), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2519139 (evaluating judicial review of agency CBA based on a sample of 38 judicial decisions and finding that courts are both willing and competent to evaluate CBA, including its methodology and assumptions).

[12] *See, e.g.*, J. Robert Brown, Jr., *Shareholder Access and Uneconomic Economic Analysis: Business Roundtable v. SEC*, 88 DENVER U.L. REV. ONLINE (2011), *available at* http://www.denverlawreview.org/online-articles/2011/9/30/shareholder-access-and-uneconomic-economic-analysis-business.html ("The D.C. Circuit imposed a 'nigh impossible' standard with respect to the applicable economic analysis.") (footnote omitted); Cox & Baucom, *supra* note 8, at 1813 ("[T]he level of review invoked by the D.C. Circuit in *Business Roundtable* and its earlier decisions is dramatically inconsistent with the standard enacted by Congress); Jill E. Fisch, *The Long Road Back:* Business Roundtable *and the Future of SEC Rulemaking*, 36 Seattle U. L. Rev. 695, 697-98 (2013) ("In evaluating the SEC's decision to adopt a proxy access rule, the D.C. Circuit completely disregarded the congressional policy judgments reflected in Dodd-Frank."); Anthony W. Mongone, *Business Roundtable: A New Level of Judicial Scrutiny and its Implications in a Post-Dodd-Frank World*, 2012 COLUM. BUS. L. REV. 746, 749 (2012) ("[T]he correct level of judicial scrutiny that the [D.C. Circuit] should have applied is far more deferential than the nearly insurmountable de novo-like review it employed throughout [*Business Roundtable*]").

[13] *See, e.g.*, Memorandum from the SEC Div. of Risk, Strategy, and Fin. Innovation and the Office of the Gen. Counsel to the Staff of the Rulewriting Divs. and Offices (Mar. 16, 2012), *available at* https://www.sec.gov/divisions/riskfin/rsfi_guidance_econ_analy_secrulemaking.pdf (providing extensive guidance on economic analysis in SEC rulemakings); OFFICE OF INFORMATION AND REGULATORY AFFAIRS AND COMMODITY FUTURES TRADING COMMISSION, MEMORANDUM OF UNDERSTANDING (May 9, 2012), *available at*

executive agencies.[14] Third, governmental bodies and independent organizations commissioned a series of studies of CBA at independent agencies in general[15] and financial agencies in

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http://www.whitehouse.gov/sites/default/files/omb/inforeg/regpol/oira_cftc_mou_2012.pdf ("The CFTC staff guidance for the consideration of costs and benefits in rulemakings is informed by ORIA's guidance for the conduct of cost-benefit analyses . . ."); BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, RESPONSE TO A CONGRESSIONAL REQUEST REGARDING THE ECONOMIC ANALYSIS ASSOCIATED WITH SPECIFIED RULEMAKINGS 9, 20 (June 2011), *available at* http://oig.federalreserve.gov/reports/Congressional_Response_economic_analysis_2011web.pdf (arguing that the Federal Reserve "conducts its rulemaking activities in a manner that is generally consistent with the philosophy and principles outlined in the Executive orders" and suggesting that the Federal Reserve acts consistently with at least some aspects of the guidance in Circular A-4); GAO REPORT GAO-12-151, DODD-FRANK ACT REGULATIONS: IMPLEMENTATION COULD BENEFIT FROM ADDITIONAL ANALYSES AND COORDINATION 12 (Nov. 2011), *available at* http://www.gao.gov/new.items/d12151.pdf (Although federal financial regulatory agencies are not required to follow E.O. 12866 or OMB Circular A-4, CFTC, Federal Reserve Board, FDIC, NCUA, OCC, and SEC officials have said that their agencies follow OMB's guidance in spirit or principle. CFPB officials also said that the Bureau expects to follow the spirit of OMB's guidance, "in a manner consistent with the Dodd-Frank Act, which speaks directly to the consideration of benefits, costs and impacts."); *The SEC's Aversion to Cost-Benefit Analysis: Hearing Before House Oversight and Government Reform Subcommittee on TARP, Financial Services, and Bailouts of Public and Private Programs*, 112th Cong. (2012) (statement of Mary Schapiro) ("Our new guidance . . . reflects many of the current best practices in economic analysis, which the agency will continue to refine in the future as necessary."); *see also* Jerry Ellig & Hester Peirce, *SEC Regulatory Analysis: A Long Way to Go and a Short Time to Get There*, 8 BROOK. J. CORP. FIN. & COM. L. 361 (2014) (arguing that the SEC's internal reforms are "based on the executive orders and the accompanying OIRA guidance governing economic analysis at executive agencies") (footnote omitted); Rose & Walker, *supra* note 6, at 34 ("[T]he SEC's Guidance Memorandum embraces the cost-benefit analysis fundamentals set forth in the D.C. Circuit's trilogy [of cases]."); Craig M. Lewis, Chief Economist and Director, Sec. & Exch. Comm'n, Speech at the SIFMA Compliance & Legal Society Luncheon: The Expanded Role of Economists in SEC Rulemaking (Oct. 16, 2012), *available* at http://www.sec.gov/News/Speech/Detail/Speech/1365171491420#.VPtoO_nF-So (defending the SEC's use of economic analysis in rulemakings and urging commenters to "engage in the same thoughtful and difficult analyses that we are performing at the Commission").

[14] Exec. Order No. 12866, 58 Fed. Reg. 51735, § 4(c)(1)(B) (Sept. 30, 1993) (requiring that independent agencies submit regulatory plans with a "summary of each planned significant regulatory action including, to the extent possible, alternatives to be considered and preliminary estimates of the anticipated costs and benefits"); Exec. Order No. 13579, 76 Fed. Reg. 41587, § 2(b) (July 11, 2011) (stating that "each independent regulatory agency should develop and release to the public a plan . . . under which the agency will periodically review its existing significant regulations to determine whether any such regulations should be modified, streamlined, expanded, or repealed so as to make the agency's regulatory program more effective or less burdensome in achieving the regulatory objectives"); *See* OFFICE OF INFORMATION AND REGULATORY AFFAIRS, OFFICE OF MANAGEMENT AND BUDGET, REGULATORY IMPACT ANALYSIS: A PRIMER 1 (Aug. 15, 2011), *available* at http://www.whitehouse.gov/sites/default/files/omb/inforeg/regpol/circular-a-4_regulatory-impact-analysis-a-primer.pdf (providing executive agencies with guidance on how to develop regulatory impact analyses); OFFICE OF MGMT. AND BUDGET, CIRCULAR A-4, REGULATORY ANALYSIS 1 (Sept. 17, 2003), *available at* http://www.whitehouse.gov/sites/default/files/omb/assets/regulatory_matters_pdf/a-4.pdf (providing guidance to executive agencies on how to conduct economic analysis); *see also* Sherwin, *supra* note 2, at 11-12 (describing how Executive Order 12866 "serve[s] to keep OMB apprised of [independent] agencies' activities).

[15] *See, e.g.*, GAO REPORT GAO-14-714, FEDERAL RULEMAKING: AGENCIES INCLUDED KEY ELEMENTS OF COST-BENEFIT ANALYSIS, BUT EXPLANATIONS OF REGULATIONS' SIGNIFICANCE COULD BE MORE TRANSPARENT 16 (Sept. 2014), *available at* http://www.gao.gov/assets/670/665745.pdf (criticizing financial regulators as well as OIRA for "not always [being] transparent about how rules are designated"); GAO REPORT GAO-13-101, DODD-FRANK ACT REGULATIONS: AGENCIES' EFFORTS TO ANALYZE AND COORDINATE THEIR RULES 10 (Dec. 2012), *available at* http://www.gao.gov/assets/660/650947.pdf (criticizing financial regulators for not "consistently follow[ing] key elements of [OMB] guidance in their regulatory analysis"); GAO REPORT GAO-12-151, *supra* note 13, at 14

particular.[16] Finally, members of Congress and lobbying groups have responded with various legislative proposals -- none of which have yet to be passed into law – that would, in some sense, codify the *Business Roundtable* holding and impose some sort of statutory CBA requirement on independent agencies, including independent financial regulators.[17] While the more dire predictions regarding the implications of the *Business Roundtable* decision for financial

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(criticizing financial regulators' policies and procedures for not "fully reflect[ing] OMB guidance on regulatory analysis"); *see also* Rose & Walker, *supra* note 6, at 2 (observing that the GAO "faulted financial regulators for failing to monetize or quantify costs and benefits") (footnote omitted); Committee on Capital Markets Regulation, *A Balanced Approach to Cost-Benefit Analysis Reform* 4-10, 17-18 (2013), *available at* http://capmktsreg.org/app/uploads/2013/10/A-Balanced-Approach-to-Cost-Benefit-Analysis-Reform.pdf (analyzing the CBA performance of financial regulators and proposing that "Congress should subject all independent financial regulatory agencies . . . to consistent cost-benefit standards aligned with the principles set forth by the Clinton Order and the First Obama Order"); Curtis W. Copeland, *Economic Analysis and Independent Regulatory Agencies* 4 (Administrative Conference of the United States, April 30, 2013), *available at* https://www.acus.gov/sites/default/files/documents/Copeland%20Final%20BCA%20Report%204-30-13.pdf (recommending "a series of 'best practices' that independent regulatory agencies could use to improve their economic analyses," such as adopting the guidelines in OMB's Circular A-4); Administrative Conference of the United States, *Administrative Conference Recommendation 2013-2: Benefit-Cost Analysis at Independent Regulatory Agencies* 5-8 (June 13, 2013), *available at* https://www.acus.gov/sites/default/files/documents/Recommendation%202013-2%20%28Benefit-Cost%20Analysis%29.pdf (same).

[16] *See, e.g.*, OFFICE OF THE INSPECTOR GEN. OF THE SEC, FOLLOW-UP REVIEW OF COST-BENEFIT ANALYSES IN SELECTED SEC DODD-FRANK RULEMAKINGS iii-iv (Jan. 27, 2012), *available at* http://www.sec.gov/about/offices/oig/reports/audits/2012/rpt499_followupreviewofd-f_costbenefitanalyses_508.pdf (criticizing the SEC for "a lack of macro-level analysis and a lack of quantitative analysis on the impact of the [agency's] rules"); OFFICE OF THE INSPECTOR GEN. OF THE CFTC, A REVIEW OF COST-BENEFIT ANALYSES PERFORMED BY THE COMMODITY FUTURES TRADING COMMISSION IN CONNECTION WITH RULEMAKINGS UNDERTAKEN PURSUANT TO THE DODD-FRANK ACT ii (June 13, 2011), *available at* http://www.cftc.gov/ucm/groups/public/@aboutcftc/documents/file/oig_investigation_061311.pdf (criticizing the CFTC for the "greater say" of the Office of General Counsel in the cost-benefit analysis process); OFFICE OF THE INSPECTOR GEN., DEPARTMENT OF THE TREASURY, DODD-FRANK ACT: CONGRESSIONAL REQUEST FOR INFORMATION REGARDING ECONOMIC ANALYSIS BY OCC 2 (OIG-CA-11-006 June 13, 2011), *available* at http://www.treasury.gov/about/organizational-structure/ig/Documents/OIG-CA-11-006.pdf (praising OCC for having the "processes in place to ensure that required economic analyses are performed consistently and with rigor" and recommending that OCC develop procedures for intra-office and inter-agency coordination); *see also* Rose & Walker, *supra* note 6, at 2 (observing that the Inspectors General of the SEC and the CFTC "have found serious deficiencies in the financial regulators' use of cost-benefit analysis after Dodd-Frank") (footnote omitted).

[17] *See, e.g.*, Regulatory Accountability Act of 2015, H.R. 185, 114th Cong. §3(b) (2015) (requiring all federal agencies to conduct cost-benefit analysis in rulemakings, including an assessment of the costs and benefits of regulatory alternatives); Independent Agency Regulatory Analysis Act of 2013, S. 1173, 113th Cong. (2013) (affirming the "authority of the President to require independent regulatory agencies to comply with regulatory analysis requirements applicable to executive agencies"); SEC Regulatory Accountability Act, H.R. 1062, 113th Cong. § 2 (2013) (requiring the SEC to conduct cost-benefit analysis in its rulemakings); *see also The SEC's Aversion to Cost-Benefit Analysis: Hearing Before the Subcomm. On TARP, Fin. Serv. & Bailouts of Pub. & Private Programs of the H. Comm. on Oversight & Gov. Reform*, 112th Cong. 3 (2012) (examining the role of cost-benefit analysis in SEC rulemaking); *Legislative Proposals Regarding Derivatives and SEC Economic Analysis: Hearing Before the Subcomm. on Capital. Mkt. & Gov. Sponsored Enter. of the H. Comm. on Fin. Serv.*, 113th Cong. 1 (2013) ("Today's hearing will examine seven specific legislative proposals to . . . codify a good government regulatory approval process for the SEC.").

regulators have yet to be borne out,[18] the decision is nonetheless of lasting importance for the attention it has brought to financial CBA.

The past few years have also seen a flood of articles on financial CBA that move well beyond the early critiques of the *Business Roundtable* decision. Crudely put, academics can be divided into two camps, with the CBA enthusiasts, led by Eric Posner and Glenn Weyl, on one side, and the CBA skeptics, including John Coates and Jeff Gordon, on the other. The enthusiasts argue that financial regulation is no different than other kinds of regulation and the same rules governing CBA in other areas should be applied to financial CBA.[19] The skeptics, in contrast, emphasize the complexity of financial markets and the challenges of estimating both the

[18] *Compare* R.J. Reynolds Tobacco Co. v. FDA, 696 F.3d 1205, 1222 (D.C. Cir. 2012) (holding that the FDA did not meet the APA's substantial evidence standard because the agency failed to show that "enacting their proposed graphic warnings [on cigarette packages] will accomplish [its] stated objective of reducing smoking rates"); *and* Nat'l Ass'n of Mfrs. v. Sec. & Exch. Comm'n, 748 F.3d 359, 369-71, 373 (D.C. Cir. 2014) (holding that the SEC's analysis of costs and benefits was adequate but that the SEC's rule violated the First Amendment); *with* Inv. Co. Inst. v. Commodity Futures Trading Comm'n, 720 F.3d 370, 380 (D.C. Cir. 2013) (holding that the CFTC's consideration of costs and benefits was not arbitrary or capricious); *and* Am. Meat Inst. v. U.S. Dep't of Agric., 760 F.3d 18, 22-23 (D.C. Cir. 2014) (overruling the First Amendment holdings of *R.J. Reynolds Tobacco Co. v. FDA* and *Nat'l Ass'n of Mfrs. v. SEC*); *see also* Jeff Gordon, *The Empty Call for Benefit-Cost Analysis in Financial Regulation*, 43 *J. Legal Stud.* S351, S373 (2014) ("*Investment Company Institute v. CFTC* therefore provides a basis for optimism that the D.C. Circuit will not interfere with rule making that implements the Dodd-Frank Act by the financial regulatory agencies, even the SEC."); Cass R. Sunstein & Adrian Vermeule, *Libertarian Administrative Law* 41-42 (Harvard Public Law Working Paper No. 14-29, June 29, 2014) ("*Investment Company Institute* displays a tolerance of regulation under conditions of uncertainty that is entirely foreign to its predecessor [*Business Roundtable*]."). *But see* Bianca Nunes, *The Future of Government-Mandated Health Warnings After* R.J. Reynolds *and* American Meat Institute, Case Note, 163 U. Penn. L. Rev. 177, 180, 212 ("Although *American Meat Institute* lessened the blow *R.J. Reynolds* dealt to regulators, both decisions left open important questions about the First Amendment treatment of government-mandated warnings that are neither 'purely factual and uncontroversial' disclosures nor overt government-sanctioned opinions, and about whether graphic cigarette warnings belong in this middle ground.") ("Despite this victory for regulators [in *American Meat Institute*], FDA still faces a formidable challenge in selecting revised graphic cigarette warnings.") (footnotes omitted).

[19] *See, e.g.*, Eric A. Posner & E. Glenn Weyl, *Benefit-Cost Paradigms in Financial Regulation*, 43 J. LEGAL STUD. S1, S2 (2014) ("[T]here is no reason to believe that BCA would be appropriate for environmental or workplace regulation and not for financial regulation. Indeed, BCA would seem more appropriate for financial regulation where data are better and more reliable and where regulators do not confront ideologically charged valuation problems like those concerning mortality risk and environmental harm. The benefits and costs of financial regulation are commensurable monetary gains and losses and so can be easily compared."); Rose & Walker, *supra* note 6, at 20-24 (providing justifications for cost-benefit analysis in financial regulation). *Cf.* John H. Cochrane, *Challenges for Cost-Benefit Analysis of Financial Regulation*, 43 J. LEGAL STUD. S63, S63 (2014) (arguing for a cost-benefit process that lies between "pure conceptual [CBA] and the rigid legal structure currently envisioned").

positive and negative effects of financial regulatory intervention.[20] The skeptics also highlight the distortions that CBA may create in the regulatory process, arguing that regulatory personnel would face incentives to doctor the administrative record underlying financial CBA in order to withstand judicial review.[21] While the skeptics do not oppose careful consideration of the pros and cons of regulatory intervention—admitting the usefulness of "conceptual" CBA—they do oppose mandated quantification or monetization of financial regulation as counterproductive and wasteful, at least given the present state of CBA techniques.[22] The enthusiasts, including Cass Sunstein,[23] have responded by criticizing the skeptics' proposed alternatives and reiterating the feasibility of financial CBA.[24] Professor Coates, who has emerged as the most prolific member

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[20] *See, e.g.*, John C. Coates IV, *Cost-Benefit Analysis of Financial Regulation: Case Studies and Implications*, 124 YALE L.J. 882, 999-1003 (2015) (arguing that quantified financial CBA is likely to be unreliable because financial regulation generates "large (and uncertain) effects on economic growth," the "main units of variation and change in finance are not things, or even individuals, but *groups* of people," and financial regularities are "more likely to change over time than in other domains"). *C.f.* Gordon, *supra* note 18, at S360, S366 (arguing that financial CBA will not be helpful because "the financial system is not a natural system" and "continuous second-order effects make the benefits and costs of rule adoption impossible to quantify in a meaningful way").

[21] Coates, *supra* note 20, at 1004 ("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."); Gordon, *supra* note 18, at S353 ("[Financial CBA] as it has come to be used in the modern administrative state is virtually useless in the setting of optimal financial regulation and simply gets in the way of the genuinely hard work to be done. If applied through the machinery of the legal system—especially hard look judicial review that invites de novo relitigation of empirically contestable conjectures—financial CBA is likely to stymie regulation aimed at the reduction of systemic risk in favor of privileging a status quo that we know is unstable.").

[22] *See, e.g.*, John C. Coates IV, *Towards Better Cost-Benefit Analysis: An Essay on Regulatory Management*, LAW & CONTEMP. PROBS. (forthcoming), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2471682 ("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."); Gordon, *supra* note 18, at S354 ("[P]ragmatic judgment in the financial regulatory arena ought to include efforts to understand the consequences of particular proposals, including through the use of social science methods that may forecast economic consequences. But the desire to ground decisions on that which can be quantified is a self-deceptive conceit in the financial regulatory area that obscures more than it illuminates.").

[23] Sunstein has written extensively on CBA. *See, e.g.*, Cass R. Sunstein, *The Real World of Cost-Benefit Analysis: Thirty-Six Questions (And Almost as Many Answers)*, 114 COLUM. L. REV. 167, 202 (2014) (exploring "highly stylized problems" in CBA); Cass R. Sunstein, *Empirically Informed* Regulation, 78 U. CHI. L. REV. 1349, 1350 (2011) (exploring the implications of social science research for regulation); Cass R. Sunstein, *The Limits of Quantification*, 102 CAL. L. REV. (forthcoming), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2424878 (advocating for the use of breakeven analysis when dealing with nonquantifiable values). While much of Sunstein's work addresses CBA more generally, he has begun to address financial CBA specifically. *See* Sunstein, *infra* note 24, at 263, 267-68 (arguing for the use of breakeven analysis in financial CBA and addressing judicial review concerns).

[24] *See, e.g.*, Eric A. Posner & E. Glen Weyl, *Cost-Benefit Analysis of Financial Regulations: A Response to Criticisms*, 124 YALE L.J. F. 246, 247 (2015), http://www.yalelawjournal.org/forum/cost-benefit-analysis-of-

of the skeptical camp, maintains his reservations with respect to the current state of financial CBA but also emphasizes what he sees as a gradual convergence between the two sides of the debate as even financial CBA enthusiasts acknowledge limitations in current practices.[25]

In addition to this ongoing debate, the legal literature on financial CBA also includes a number of articles exploring related issues, such as optimal institutional arrangements for producing financial CBA,[26] literature reviews designed to ascertain whether previous regulatory actions produced net benefits,[27] explorations of the soundness of previous agency attempts at

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financial-regulations (arguing that Coates and Gordon's alternatives provide "empty if not circular standard[s] for evaluating regulations" and that the valuations of financial CBA are easier to conduct than the ones for other areas of regulation); Cass R. Sunstein, *Financial Regulation and Cost-Benefit* Analysis, 124 YALE L.J. F. 263, 263, 267-68 (2015), http://www.yalelawjournal.org/forum/financial-regulation-and-cost-benefit-analysis ("There is no reason to think that it is always or usually impossible for financial regulators to conduct cost-benefit analysis. And when agencies face serious gaps in knowledge, they should enlist "breakeven analysis . . .") ("[I]t is unclear whether judicial review would be helpful or harmful. On the one hand, such review could decrease the likelihood of mistakes on the part of agencies, creating an ex post corrective and an ex ante deterrent for poor policymaking. . . . On the other hand, judges might themselves err.")

[25] *See* John C. Coates IV, *Cost-Benefit Analysis of Financial Regulation: A Reply*, 124 YALE L.J. F. 305, 305, 310 (2015), http://www.yalelawjournal.org /forum/cost-benefit-analysis-of-financial-regulation-a-reply ("Sunstein's focus on alternatives to standard CBA (such as breakeven analysis, in my view, implicitly concedes [that there are significant challenges in quantifying the costs and benefits of financial regulation].") ("While [Posner and Weyl] point out correctly that financial modeling can be usefully used to predict markets, they offer no examples where quantified CBA of major financial *regulations* is or could be reliable and precise.") (footnote omitted).

[26] *See, e.g.*, Robert P. Bartlett III, *The Institutional Framework for Cost-Benefit Analysis in Financial Regulation: A Tale of Four Paradigms*, 43 J. LEGAL STUD. S379, S403 (2014) (arguing that "the institutional framework under which agencies conduct CBA significantly affects [their] rigor . . . and the likelihood that CBA can undermine their regulatory agendas," and proposing a more uniform institutional framework for financial CBA, including "some degree of interagency coordination"); Ryan Bubb, *The OIRA Model for Institutionalizing CBA of Financial Regulation*, LAW & CONTEMP. PROBS. (forthcoming), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2484008 (proposing that OIRA review serve as an integral part of a regulatory review regime for financial CBA); Coates, *supra* note 22 (proposing a host of institutional reforms to improve financial CBA, including the restriction of "hard look" judicial review, elimination of legal impediments on agency data gathering, and improvement of funding for financial CBA); Matthew Spitzer & Eric Talley, *On Experimentation and Real Options in Financial Regulation*, 43 J. LEGAL STUD. S121, S121 (2014) (arguing that there is a tension between the judiciary and agencies regarding the use of field experimentation in CBA).

[27] *See, e.g.*, Sumit Agarwal et al., *Regulating Consumer Financial Products: Evidence from Credit Cards*, Q. J. ECON. (2014), *available at* http://qje.oxfordjournals.org/content/early/2015/02/17/qje.qju037 (analyzing the effectiveness of credit card regulation and finding that the CARD Act created a net reduction in borrowing costs); John C. Coates IV & Suraj Srinivasan, *Sarbanes-Oxley Act after Ten Years: A Multidisciplinary Review*, 28 ACCT. HORIZONS (2014) (finding that research on the net impact of the Sarbanes-Oxley Act is inconclusive); Martin Eling & David Pankoke, *Costs and Benefits of Financial Regulation – An Empirical Assessment for Insurance Companies* (Institute of Insurance Economics Working Papers on Finance No. 2014/20, Oct. 2014) (analyzing the costs and benefits of insurance regulation).

financial CBA in specific cases,[28] and discussions of how financial CBA might be conducted and improved in the future within specific areas of regulation.[29]

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[28] *See, e.g.*, Frank J. Chaloupka et al., *An Evaluation of the FDA's Analysis of the Costs and Benefits of the Graphic Warning Label Regulation*, 24 Tobacco Control 112, 112 (2014), *available at* http://tobaccocontrol.bmj.com/content/24/2/112.full.pdf+html (arguing that the FDA's analysis of "the impact of [graphic warning labels on cigarette packages] substantially underestimated the benefits and overestimated the costs"; *but see* Lawrence Jin et al., *Retrospective and Prospective Benefit-Cost Analysis of US Anti-Smoking Policies* 32-34 (National Bureau of Economic Research Working Paper 20998, Mar. 2015), arguing that the FDA's "health benefits" methodology is sound and, "Our illustrative calculations are consistent with the higher end of the range of consumer surplus offset ratios discussed in recent [including FDA] RIAs [Regulatory Impact Analyses] that use the health benefits approach to conduct BCAs of health-related regulations"); Coates, *supra* note 20, at 926-977 (four case studies of agencies' financial CBAs); Bruce R. Kraus, *Economists in the Room at the SEC*, 124 Yale L.J. F. 280, 283 (2015), http://www.yalelawjournal.org/forum/economists-in-the-room-at-the-sec (arguing that the "work of the SEC's economists is neither a meaningless exercise nor a partisan weapon, but honest, interesting work that should be informative to policymakers"); Omri Ben-Shahar & Carl E. Schneider, *The Futility of Cost Benefit Analysis in Financial Disclosure Regulation* 11-13 (University of Chicago Coase-Sandor Institute for Law & Economics Working Paper No. 680, Mar. 2014), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2412688 (analyzing the Consumer Financial Protection Bureau's CBA of its mortgage disclosure regulation).

[29] *See, e.g.*, Sumit Agarwal et al., *A Simple Framework for Estimating Consumer Benefits from Regulating Hidden Fees*, 43 J. LEGAL. STUD. S239, S240 (2014) (providing a framework for "estimating the overall consumer cost savings from regulating hidden fees"); Daniel Carpenter, *Accounting for Financial Innovation and Borrower Confidence in Financial Rule Making: Analogies from Health Policy*, 43 J. LEGAL. STUD. S331, S347 (2014) (proposing that "the rate of new-product innovation and the distribution governing the market's beliefs in those future products" be taken into account by regulators in "in an industrial context where new products may appear regularly over time"); Coates & Srinivasan, *supra* note 27 (proposing various improvements to modeling the costs and benefits of the Sarbanes-Oxley Act); Prasad Krishnamurthy, *Rules, Standards, and Complexity in Financial Regulation*, 43 J. LEGAL STUD. S273, S294 (2014) (arguing that "rules for minimum capital [requirements] are superior to standards in the presence of aggregate risks, regulatory uncertainty, and agency costs"); Thomas Philippon, *Efficiency and Benefit-Cost Analysis of the Financial System*, 43 J. LEGAL STUD. S107, S112-18 (2014) (describing techniques for modeling the efficiency of financial intermediation); Eric A. Posner & E. Glenn Weyl, *Benefit-Cost Analysis for Financial Regulation*, 103 AM. ECON. REV. (PAPERS & PROC.) 393, 394-96 (2013) (describing how to quantify systemic crises, informational externalities, and financial gambling); Eric A. Posner & E. Glenn Weyl, *An FDA for Financial Innovation: Applying the Insurable Interest Doctrine to Twenty-First-Century Financial Markets*, 107 N.W. U. L. REV. 1307, 1307 (2013) (proposing that the FDA approve financial products based on the likelihood that they will be used for insurance as opposed to gambling). *See also* Robert W. Hahn & Cass R. Sunstein, *A New Executive Order for Improving Federal Regulation? Deeper and Wider Cost Benefit Analysis*, 150 U. PA. L. REV. 1489, 1489 (2002) ("[T]he regulatory state continues to suffer from significant problems, including poor priority-setting, unintended adverse side-effects, and, on occasion, high costs for low benefits. In many cases, agencies do not offer an adequate account of either costs or benefits, and hence the commitment to cost-benefit balancing is not implemented in practice. A major current task is to ensure a deeper and wider commitment to cost-benefit analysis, properly understood. We explain how this task might be accomplished and offer a proposed executive order that would move regulation in better directions."); Eric A. Posner, *Controlling Agencies with Cost-Benefit Analysis: A Positive Political Theory Perspective*, 68 U. CHI. L. REV. 1137, 1140 (2001) ("This Article analyzes cost-benefit analysis as a method by which the President, Congress, or the judiciary controls agency behavior. It uses a model from the literature on positive political theory to show why the President and Congress will often want agencies to perform cost-benefit analyses. It uses the model to explore the impact of cost-benefit analysis on courts and interest groups. The model generates testable predictions, including the prediction that introduction of cost-benefit analysis will increase the amount of regulation.")

This Article joins the literature described above, but with a more positive agenda and limited to consumer financial regulation as opposed to financial regulation more broadly. We are also largely focused on the benefits side of financial CBA,[30] emphasizing how regulatory agencies have conducted benefit analysis for consumer protection regulations and giving considerably less attention to the cost side of financial CBA.

B. Broader Scholarship on Regulatory Impact Analysis

Distinct from recent work on financial CBA is a much broader literature on regulatory impact analysis in general and cost-benefit work in other fields of regulation.[31] While most of this literature is not directly relevant to the current inquiry,[32] Robert Hahn and Patrick Dudley offer a convenient typology for organizing work in this area designed to measure the quality of

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[30] This focus on benefits is similar in spirit to the case studies in Coates's recent Yale Law Journal piece, where he reviews the benefit analysis of, e.g., the SEC's regulations under the Sarbanes-Oxley Act section 404. However, we draw from a much larger sample of regulations and from a wider range of agencies. *See* Coates, *supra* note 20, at 928-947 ("Depending on assumptions, guestimated 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 2*x* and 13*x* as one moves from low to high values for each of five major inputs . . .").

[31] For a good overview of policy analysis in general, including an in-depth discussion of cost-benefit analysis, *see* DAVID L. WEIMER & ADRIAN R. VINING, POLICY ANALYSIS: CONCEPTS AND PRACTICE 383-423 (5th ed. 2011).

[32] For example, we do not address the normative implications of reliance on cost-benefit analysis. *See, e.g.*, James K. Hammitt, *Positive v. Normative Justifications for Benefit-Cost Analysis*, 7 REV. ENVTL. ECON. & POL'Y 192, 214 (2013) (arguing that the appropriate interpretations, implications, and methods of benefit-cost analysis depend on whether the rationale for benefit-cost analysis is positive or normative); Christopher Robert & Richard Zeckhauser, *The Methodology of Normative Policy Analysis*, 30 J. POL'Y ANALYSIS & MGMT. 613, 614 (2011) (providing a taxonomy of "positive and normative sources of disagreement" in policy analysis). We also do not address a long-standing debate in environmental regulation on the usefulness and acceptability of discounting lives in particular, and of cost-benefit analysis in general. *See, e.g.*, Lisa Heinzerling, *Regulatory Costs of Mythic Proportions*, 107 YALE L.J. 1981, 2070 (1998) (arguing that the discounting lives method makes it difficult to engage with important issues, such as "the relative worth of lives saved today and lives saved tomorrow, the proper response to scientific uncertainty, and the purposes of environmental law"); Richard L. Revesz, *Environmental Regulation, Cost-Benefit Analysis, and the Discounting of Human Lives*, 99 COLUM. L. REV. 941, 1016 (1999) (arguing that the discounting lives method is appropriate for contexts dealing with "latent harms" but possibly unethical in contexts dealing with "harms to future generations"); *see also* Richard L. Revescz, *The Green Community Should Mend, Not Work in Vain to End, Cost-benefit Analysis*, GRIST (Mar. 7, 2015, 6:30 AM), http://grist.org/article/cost-benefit-environmentalism (arguing that environmental regulators should "mend" cost-benefit analysis by showing where it has been "twisted" by deregulatory proponents); Lisa Heinzerling, *Lisa Heinzerling Responds to Richard Revesz on Cost-benefit Analysis*, GRIST (Mar. 7, 2015, 6:30 AM), http://grist.org/article/cost-benefit-environmentalism-an-oxymoron (responding to Revesz by arguing that "cost-benefit analysis is at odds with fundamental premises of environmentalism and "not particularly good at either reason or compassion"); Richard L. Revesz, *Richard Revesz Responds to Lisa Heinzerling, Defending Cost-benefit Analysis*, GRIST (Mar. 7, 2015, 6:30 AM), http://grist.org/article/a-tool-in-the-toolbox (responding to Heinzerling by arguing that "rejecting cost-benefit analysis instead of seeking to reform it would be a major strategic error for the environmental movement").

regulatory analysis[33] (the sub-literature in which our work is most comfortably located). The first Hahn/Dudley category consists of case studies "examin[ing] the details of a particular benefit-cost analysis or group of analyses."[34] Their second category includes retrospective studies undertaken after a policy initiative is implemented with the goal of estimating the impact of the initiative after the fact based on some sort of parameter like net benefits or cost effectiveness.[35] Hahn and Dudley's final category—to which the current study belongs—consists of efforts "to score a large number of benefit-cost analyses according to whether the meet a number of basic, objective criteria, such as whether some costs and benefits were

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[33] *See* Robert W. Hahn & Patrick M. Dudley, *How Well Does the U.S. Government Do Benefit-Cost Analysis*, 1 REV. ENVTL. ECON. & POL'Y 192, 195-96 (2007) (discussing three approaches to measuring the quality of regulatory analyses).

[34] Hahn & Dudley, *supra* note 33, at 195. A good deal of Professor Coates's recent *Yale Law Journal* article would fall within this category to the extent that it includes detailed reviews of a handful of specific examples of cost-benefit analysis in financial regulation. *See* Coates, *supra* note 20, at 927-97 (presenting four case studies of imperfect cost-benefit analysis in financial regulation and analyzing two "gold standard" examples of cost-benefit analysis by the SEC and the FSA). For more examples of this case study approach, *see, e.g.*, Chaloupka et al., *supra* note 28, at 112 (arguing that the FDA's analysis of "the impact of [graphic warning labels on cigarette packages] substantially underestimated the benefits and overestimated the costs"); Kraus, *supra* note 28, at 283 (arguing that the "work of the SEC's economists is neither a meaningless exercise nor a partisan weapon, but honest, interesting work that should be informative to policymakers"); Ben-Shahar & Schneider, *supra* note 28, at 11-13 (analyzing the CFPB's CBA of its mortgage disclosure regulation); *see also* Weimer, *supra* note 31, at 411-23 (illustrating cost-benefit analysis techniques through a case study involving an alcohol tax).

[35] Hahn & Dudley, *supra* note 33, at 196. For examples of this retrospective analysis approach, *see, e.g.*, Agarwal et al., *supra* note 27 (analyzing the effectiveness of credit card regulation and finding that the CARD Act created a net reduction in borrowing costs); Coates & Srinivasan, *supra* note 27, at 1 (finding that research on the net benefits of the Sarbanes-Oxley Act is inconclusive); Winston Harrington et al., *On the Accuracy of Regulatory Cost Estimates*, 19 J. POL'Y ANALYSIS & MGMT. 297, 305-13 (2000) (comparing ex ante and ex post cost estimates of various environmental regulations); Howell E. Jackson & Jeffery Y. Zhang, *Private and Public Enforcement of Securities Regulation*, in OXFORD HANDBOOK OF CORPORATE LAW AND GOVERNANCE (forthcoming) (exploring the impact of staffing and budget levels on the quality of financial markets); RESOURCES FOR THE FUTURE, REFORMING REGULATORY IMPACT ANALYSIS (Winston Harrington et al. eds., 2009) (describing and critiquing three regulatory impact analyses of the EPA); *see also* Joseph E. Aldy, *Lessons from Experience: An Assessment of the Retrospective Reviews of Agency Rules and the Evidence for Improving the Design and Implementation of Regulatory Policy* 6-7 (National Bureau of Economic Research, Nov. 17, 2014), *available at* https://www.acus.gov/sites/default/files/documents/Aldy%2520Retro%2520Review%2520Draft%252011-17-2014.pdf (demonstrating that less than 10 percent of recent economically significant rules are the result of retrospective review and recommending various improvements in how agencies conduct retrospective reviews); Jennifer Baxter & Lisa A. Robinson, Retrospective Benefit-Cost Analysis (November 2014) (unpublished manuscript) (on file with author) (providing a framework for conducting retrospective analysis).

mentioned, whether costs and benefits were discounted, and whether alternatives were considered."[36]

Within the third category, researchers have developed numerous approaches to scoring. For example, the degree of quantification and monetization can be scored by assessing whether costs and benefits have been at least been "expressed in some countable unit" (quantification), and perhaps even in dollar values (monetization).[37] Within the quantification and monetization inquiry, whether the agency gave point estimates (or a specific value) as opposed to a range of estimates can also be scored.[38] Alternatively, an agency's comparison of costs and benefits can be scored by assessing whether the agency calculated net benefits, which "requires monetized costs and monetized benefits," or cost-effectiveness, which "requires only monetized costs and

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[36] Hahn & Dudley, *supra* note 33, at 196. For examples of this "scorecard" approach, *see, e.g.*, Hahn & Dudley, supra note 33, at 196-210 (assessing the quality of 74 of the EPA's regulatory impact analyses and finding that "fundamental economic information," such as relevant policy alternatives and net benefits, was not reported most of the time); Hahn et al., *Assessing Regulatory Impact Analyses: The Failure of Agencies to Comply with Executive Order 12866*, 23 HARV. J.L. & PUB. POL'Y 859, 862-77 (2000) (assessing the quality 48 regulatory impact analyses from environmental, health, and safety regulations and finding that information on relevant alternatives and net benefits was not typically provided); GAO REPORT GAO-RCED-98-142, AGENCIES COULD IMPROVE DEVELOPMENT, DOCUMENTATION, AND CLARITY OF REGULATORY ECONOMIC ANALYSES 4 (May 1998), *available at* http://gao.gov/assets/160/156173.pdf (reviewing 20 regulatory impact analyses and finding that several failed to "incorporate the best practices set forth in OMB's guidance," such as discussing alternatives and assigning dollar values to benefits); GAO REPORT GAO-RCED-97-38, INFORMATION CONTAINED IN EPA'S REGULATORY IMPACT ANALYSES CAN BE MADE CLEARER 2 (Apr. 1997), *available at* http://gao.gov/assets/230/223868.pdf (reviewing 23 regulatory impact analyses and finding that several failed to identify "key economic assumptions," such as the discount rate and the value of human life).

[37] Hahn & Dudley, *supra* note 33, at 199. For examples of this scoring approach, *see, e.g.*, Curtis W. Copeland, *Economic Analysis and Independent Regulatory Agencies* 87-90 (Administrative Conference of the United States Draft Report Apr. 30, 2013) *available at* https://www.acus.gov/sites/default/files/documents/Copeland%20Final%20BCA%20Report%204-30-13.pdf (analyzing the degree of quantification and monetization in 22 independent agency rules and finding that 19 out of the 22 rules failed to quantify benefits); Jerry Ellig et al., *Continuity, Change, and Priorities: The Quality and Use of Regulatory Analysis Across U.S. Administrations*, 7 REG. & GOV. 153, 158 (2012) (assessing 111 regulatory impact analyses along multiple evaluation criteria, including "how well the agency assess[ed] costs and benefits"); Hahn & Dudley, *supra* note 33, at 199-200 (finding that more than 90 percent of regulatory impact analyses monetized at least some costs, while only 50 percent monetized at least some benefits); Hahn et al., *supra* note 36, 866-70 (same); *see also* OFFICE OF MANAGEMENT AND BUDGET, DRAFT 2014 REPORT TO CONGRESS ON THE BENEFITS AND COSTS OF FEDERAL REGULATIONS AND UNFUNDED MANDATES ON STATE, LOCAL, AND TRIBAL ENTITIES 8-19, *available at* http://www.whitehouse.gov/sites/default/files/omb/inforeg/2014_cb/draft_2014_cost_benefit_report-updated.pdf (discussing monetized estimates of costs and benefits of federal regulations from 2003 to 2013).

[38] Hahn & Dudley, *supra* note 33, at 199. For examples of this scoring approach, *see, e.g.*, Hahn & Dudley, *supra* note 33, at 199-200 (finding that "few RIAs provided both a point estimate and a range" for both costs and benefits); Hahn et al., *supra* note 36, at 867-68 (same); *see also* OFFICE OF MANAGEMENT AND BUDGET, *supra* note 37, at 8-12 (providing monetized point and range estimates of costs and benefits of federal regulations from 2003 to 2013).

quantified benefits" or a "break-even analysis" that establishes a minimum lower bound of benefits necessary to outweigh projected costs.[39] Yet another approach is to score regulations for compliance with OMB and other statutory requirements, for example, assessing whether agencies have provided a regulatory flexibility analysis or complied with the requirements of OMB Circular A-4.[40] (Box One summarizes the key elements of cost-benefit analysis under OIRA standards.) Lastly, regulatory analysis can be evaluated based on whether risks were evaluated against a normative standard, such as the precautionary principle.[41]

Box One: OIRA Standards for Cost-Benefit Analysis

This Box offers a brief overview of the requirements and related guidance that executive agencies must follow when conducting cost-benefit analysis in their rulemakings.

Executive Order 12866 sets out the following cost-benefit principles for executive agencies:

(5) "When an agency determines that a regulation is the best available method of achieving the regulatory objective, it shall design its regulations in the most cost-effective manner to achieve the regulatory objective. In doing so, each agency shall consider incentives for innovation, consistency, predictability, the costs of enforcement and compliance (to the government, regulated entities, and the public), flexibility, distributive impacts, and equity.

(6) Each agency shall assess both the costs and the benefits of the intended regulation and, recognizing that some costs and benefits are difficult to quantify, propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs.

(7) Each agency shall base its decisions on the best reasonably obtainable scientific, technical,

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[39] Hahn & Dudley, *supra* note 33, at 201. For examples of this scoring approach, *see, e.g.*, Jerry Ellig et al., *supra* note 37, at 158 (assessing 111 regulatory impact analyses along multiple evaluation criteria, including net benefits); Hahn & Dudley, *supra* note 33, at 201 (finding that most regulatory impact analyses calculated either net benefits or cost-effectiveness, but that few calculated both measures); Hahn et al., *supra* note 36, at 874 ("[A]pproximately half (48 percent) of the forty-eight rules examined in this Article provided no direct measures of net benefits or indirect measures based on cost-effectiveness."); *see also* Weimer, *supra* note 31, at 420-22 (demonstrating how to calculate net benefits and cost-effectiveness using a case study involving an alcohol tax). Sunstein, *The Limits of Quantification*, *supra* note 23 (advocating for the use of breakeven analysis when dealing with nonquantifiable values); Sunstein, *supra* note 24, at 263 (arguing for the use of breakeven analysis in financial CBA).

[40] *See* Copeland, *supra* note 37, at 31-38, 87-90 (identifying analytical requirements for independent agencies and evaluating 22 independent agency rules for compliance with those requirements, including regulatory flexibility and paperwork reduction). For more examples of this scoring approach, *see, e.g.*, Ellig et al., *supra* note 37, at 157-70 (assessing 111 regulatory impact analyses using 12 criteria based on requirements set out in Executive Order 12866 and OMB Circular A-4); Hahn & Dudley, *supra* note 33, at 205 ("[L]ow scores on our scorecard strongly suggest noncompliance with executive orders and OMB guidelines.").

[41] *See, e.g.*, James K. Hammitt et al., *Precautionary Regulation in Europe and the United States: A Quantitative Comparison*, 25 RISK ANALYSIS 1215, 1215 (2005) (evaluating regulations for the "relative stringency" with which they addressed a random sample of 100 risks); *see also* Andreas Klinke, *Precautionary Risk Regulation in European Governance*, 9 J. RISK RESEARCH 373, 373 (2006) (presenting a model for precautionary risk regulation and discussing various challenges).

economic, and other information concerning the need for, and consequences of, the intended regulation.

(8) Each agency shall identify and assess alternative forms of regulation and shall, to the extent feasible, specify performance objectives, rather than specifying the behavior or manner of compliance that regulated entities must adopt."[42]

Moreover, for agency actions deemed to be "significant regulatory action[s]" by the OIRA Administrator, Executive Order 12866 also requires that agencies provide the following information to OIRA:

(i) "An assessment, including the underlying analysis, of benefits anticipated from the regulatory action (such as, but not limited to, the promotion of the efficient functioning of the economy and private markets, the enhancement of health and safety, the protection of the natural environment, and the elimination or reduction of discrimination and bias) together with, to the extent feasible, a quantification of those benefits;

(ii) An assessment, including the underlying analysis, of costs anticipated from the regulatory action (such as, but not limited to, the direct cost both to the government in administering the regulation and to businesses and others in complying with the regulation, and any adverse effects on the efficient functioning of the economy, private markets (including productivity, employment, and competitiveness), health, safety, and the natural environment), together with, to the extent feasible, a quantification of those costs; and

(iii) An assessment, including the underlying analysis, of costs and benefits of potentially effective and reasonably feasible alternatives to the planned regulation, identified by the agencies or the public (including improving the current regulation and reasonably viable nonregulatory actions), and an explanation why the planned regulatory action is preferable to the identified potential alternatives."[43]

Interpreting the above requirements, OMB's Circular A-4 serves as a guidance document to executive agencies "on the development of regulatory analysis as required under Section 6()(3)(c) of Executive Order 12866." Circular A-4 sets out the following elements for a "good regulatory analysis":

(1) "A statement of the need for the proposed action,
(2) An examination of alternative approaches, and
(3) An evaluation of the benefits and costs—quantitative and qualitative—of the proposed action and the main alternatives identified by the analysis."[44]

Circular A-4 elaborates on the third element, explaining that in order to "evaluate properly the benefits of regulations and their alternatives," agencies will have to:

- "Explain how the actions required by rule are linked to the expected benefits. For example, indicate how additional safety equipment will reduce safety risks. A similar analysis should be done for each of the alternatives.
- Identify a baseline. Benefits and costs are defined in comparison with a clearly stated alternative. This normally will be a 'no action' baseline: what the world will be like if the proposed rule is not adopted. Comparisons to a 'next best' alternative are also especially useful.
- Identify the expected undesirable side-effects and ancillary benefits of the proposed regulatory action and the alternatives. These should be added to the direct benefits and costs as appropriate."[45]

[42] Exec. Order No. 12866, 58 Fed. Reg. 51735, § 1(b) (Sept. 30, 1993).
[43] *Id.* at § 6(3)(C).
[44] OFFICE OF MGMT. AND BUDGET, CIRCULAR A-4, REGULATORY ANALYSIS 2 (Sept. 17, 2003), *available at* http://www.whitehouse.gov/sites/default/files/omb/assets/regulatory_matters_pdf/a-4.pdf
[45] *Id.* at 2-3.

Circular A-4 then presents agencies with the choice between two analytical approaches: benefit-cost analysis and cost-effectiveness analysis. Although both approaches should be use in "a major rulemaking . . . wherever possible," Circular A-4 does specify that cost-effectiveness analysis should be used in "all major rulemakings for which the primary benefits are improved public health and safety to the extent that a valid effectiveness measure can be developed to represent expected health and safety outcomes," while benefit-cost analysis should be used "to the extent that valid monetary values can be assigned to" those outcomes.[46]

For all other major rulemakings that do not concern improved health and safety, Circular A-4 directs agencies to use benefit-cost analysis, unless: (a) some of the "primary benefit categories cannot be expressed in monetary units, "in which case cost-effectiveness analysis should also be used"; or (b) neither benefits nor costs can be quantified, in which case the agency should provide "a qualitative discussion."[47]

Circular A-4 goes on to provide specific protocols for presenting the results of a cost-benefit analysis:

- "Include separate schedules of the monetized benefits and costs that show the type and timing of benefits and costs, and express the estimates in this table in constant, undiscounted dollars . . .
- List the benefits and costs you can quantify, but cannot monetize, including their timing;
- Describe benefits and costs you cannot quantify; and
- Identify or cross-reference the data or studies on which you base the benefit and cost estimates."[48]

Lastly, Circular A-4 also directs agencies to include in their analyses "other benefit and cost considerations" when "they are significant":

- "Private-sector compliance costs and savings;
- Government administration costs and savings;
- Gains or losses in consumers' or producers' surpluses;
- Discomfort or inconvenience costs and benefits; and
- Gains or losses in time in work, leisure, and/or commuting/travel settings."[49]

There is also a fair amount of variation in the methods used to establish categories for making comparisons as to the quality of regulatory analysis. For example, comparisons can be made by agency within a jurisdiction or by groups of agencies, such as independent agencies versus those overseen by OMB.[50] Alternatively, the nationality of regulatory bodies, such as

[46] *Id.* at 9.
[47] *Id.* at 9-10.
[48] *Id.* at 18.
[49] *Id.* at 37.
[50] *See, e.g.*, Copeland, *supra* note 37, at 8 ("The primary objective of this report is to assess the extent to which independent regulatory agencies currently prepare cost-benefit and other types of economic analyses in connection with the issuance of their 'economically significant' or 'major' rules.") (footnotes omitted); Hahn & Dudley, *supra* note 33, at 197 ("The sample used in this study consists of a total of seventy-four RIAs . . . the EPA was elected

United States agencies versus European agencies, can also provide a basis for comparison.[51] Another approach is to make comparisons can be made based on the type of risk assessed, such as specific kinds of environmental or health risks.[52] Finally, comparisons can be made based on the sector of the economy in which the regulation is applied, such as the environment or health generally.[53]

The current paper presents a scoring framework that draws heavily on these prior efforts but also adds a unique dimension of analysis. To begin with what is unique: our approach to benefit analysis is based on a taxonomy organized around market failures and other perceived shortcomings in consumer outcomes, including unfairness, [54] that regulatory interventions purport to address. We supplement this scoring of purported market shortcomings with additional information on the degree of quantification and monetization of benefit analysis in a manner similar to Hahn and Dudley,[55] but we also score regulations based on other kinds of information -- such as intensity of analysis, reliance on expert sources and word counts -- that have typically not been tracked in other studies. In terms of categories used for comparison, we follow the conventional approach of collecting and comparing regulatory scores by agencies

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because it accounts for a majority of all available regulatory analyses and more than half of the total costs of regulation.") (citations omitted); Hahn et al., *supra* note 36, at 861 (describing how the study was based on an evaluation of 48 RIAs from executive agencies in the "environmental, health, and safety" fields).

[51] *See, e.g.*, Caroline Cecot et al., *An Evaluation of the Quality of Impact Assessment in the European Union with Lessons for the US and the EU*, 2 REG. & GOV., 405, 405 (2008) (using United States impact assessments as a benchmark for evaluating European impact assessments); Hammitt et al., *supra* note 41, at 1216 ("The objective of our research was to accurately characterize the observed pattern of relative precaution in U.S. and European risk regulation."); Ragnar E. Lofstedt & David Vogel, *The Changing Character of Regulation: A Comparison of Europe and the United States*, 21 RISK ANALYSIS 399, 399 (2001) (arguing that European consumer and environmental regulatory regimes have become stricter since the 1980s while their United States counterparts have not).

[52] *See, e.g.*, Hammitt et al., *supra* note 41, at 1216-17 (describing the study's development of a matrix of almost 11,000 unique risks for assessing regulations).

[53] *See, e.g.*, Hammitt et al., *supra* note 41, at 1218 ("We . . . categorized the risks according to whether they affect ecological, health, or safety endpoints."). This approach is sometimes called "endpoint" analysis.

[54] Our scoring of distributional considerations within the category of fairness is in tension with the preferences of some policy analysts working in this area. *See, e.g.*, Aanud Hylland & Richard Zeckhauser, *Distributional Objectives Should Affect Taxes but Not Program Choice or Design*, 81 SCANDINAVIAN J. ECON. 264, 264 (1979) (arguing that "those projects that yield the greatest total of unweighted benefits across the population should be selected" and that redistribution should be "carried out solely through the tax system").

[55] *See supra* note 37 and accompanying text.

(with a special emphasis on CFPB regulations) while also offering comparisons across groups of agencies (typically independent versus OIRA agencies) and across types of regulations (typically consumer financial protection versus other kinds of consumer protection) and across differences in governing laws (such as whether a are or are not required to conduct additional analysis under the Regulatory Flexibility Act or the Congressional Review Act).

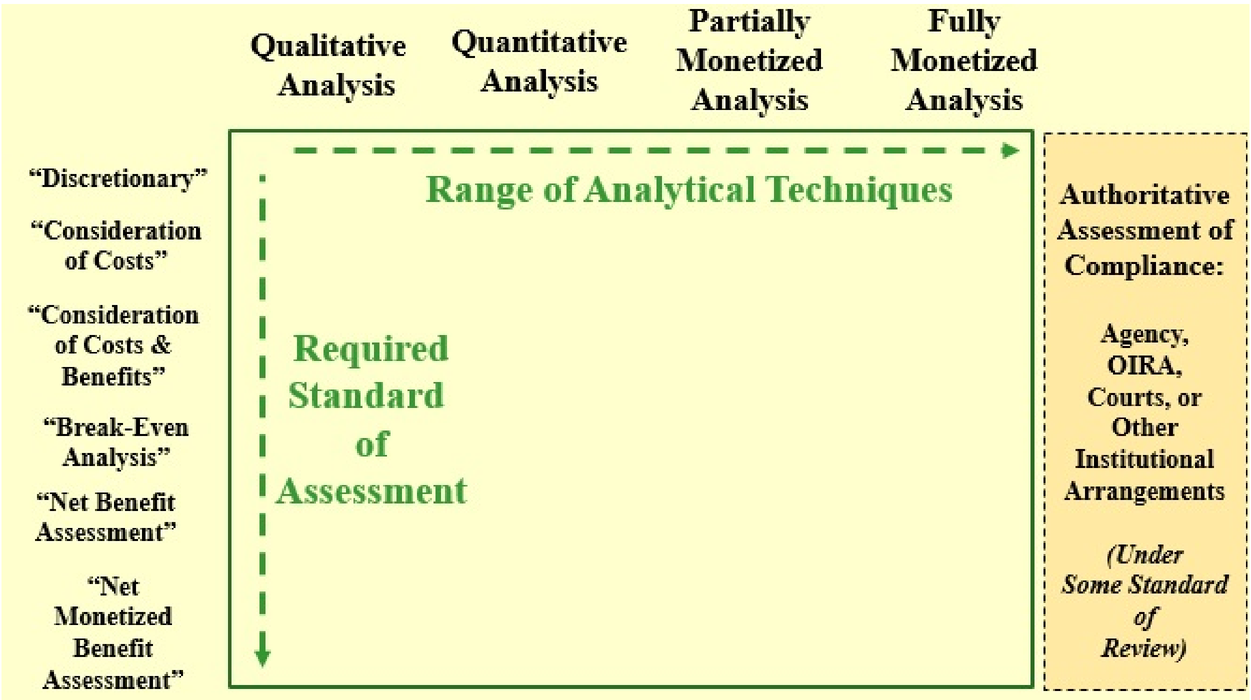
C. A Preliminary Synthesis

In organizing what is becoming an increasingly unwieldy literature on cost-benefit analysis, we find it helpful to distinguish two dimensions. The first, located on the horizontal axis of Figure One, concerns the range of analytical techniques being employed, conventionally running from qualitative analysis to quantitative analysis to monetized analysis. The second dimension, located on the vertical axis of Figure One, relates to the standard of assessment required of the government body evaluating a new rule or some other course of action. Cost-benefit analysis can be entirely discretionary on the part of the agency—the most lax kind of requirement. Or there can be a requirement that an agency consider costs or both costs and benefits. In more stringent regimes, break-even analysis could be required, or some sort of net benefit assessment or even a fully monetized benefit assessment.[56] On this simple, two dimensional mapping, one can locate various approaches. In Germany, for example, administrative agencies are required to consider costs (but not benefits) in adopting new regulations and have fair amount of latitude in the range of analytical techniques they use.[57] In the United States, executive agencies subject to OIRA oversight are generally required to make a "net benefit assessment" for new regulations and are encourage to quantify and monetize costs

[56] One could easily imagine providing additional levels of graduation to Figure X, for example specifying with greater detail the standards for monetizing both costs and benefits, perhaps eliminating transfers or imposing some other restrictions on analysis.
[57] [Citation to come.]

and benefits to the extent feasible. (*See* Box One.) The CFPB, in contrast, operates under a general statutory mandate requiring only the consideration of costs and benefits in the adoption of new regulations, and follows a practice of engaging in quantitative and monetized analysis where feasible. (*See* Box Two.)

Figure One - Mapping Cost-Benefit Analysis



An additional dimension of differentiation—represented by the column to the extreme right hand side of Figure One—relates to an issue of institutional design: what body has authority to decide whether an agency has complied with its obligations to engage in cost-benefit analysis. That could be left to the discretion of the agency itself, as seems to be the case in Germany. Or it could fall to another governmental body, such as OIRA for executive agencies. Or the responsibility could lie with the courts, as suggested by *Business Roundtable* and related cases. Or one could imagine other institutional arrangements, as some recent academic commentators have suggested, like a new oversight body for financial CBA or perhaps even a panel of outside academic experts.

The financial CBA skeptics, discussed above in Part I.A, can be understood to be arguing that because the analytical techniques located on the right-hand side of the horizontal access of Figure One are not yet available, it does not make any sense to impose a rigorous standard of assessment (that is, move down the vertical axis of Figure One) or to enlist courts for authoritative review. The defenders of financial CBA are more sanguine about the availability of more rigorous analytical techniques, but also (generally) take the position that only by imposing more stringent standards of assessment (moving down the vertical axis of Figure One) and empowering external bodies (like the courts or OIRA) will agencies be motivated to invest in analytical techniques required for more sophisticated quantification and monetization of costs and benefits.[58]

The goal of the current study is to investigate how regulatory authorities currently conduct benefit analysis in consumer financial protection regulation and analogous regulatory fields. We explore which kinds of benefits these consumer protection regulations purport to provide and—within the framework of Figure One—how far along the horizontal axis their benefit analyses are located. This study bears on the debate between financial CBA enthusiasts and skeptics in that it offers a more comprehensive study of the quality of benefit analysis in this area of financial regulation than has heretofore been attempted. To the extent that the courts are moving towards a standard of judicial review that requires financial regulators to justify new

[58] Interestingly, one of the leading skeptics of financial CBA has expressed enthusiasm for independent external assessment of financial CBA on the grounds that it would allow for useful cross-agency comparisons and encourage the development of new and better analytical techniques. *See* Coates, *supra* note 20, at 1009 ("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. . . . 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. . . . [C]onceptual CBA/FR can facilitate improvements in quantified CBA/FR.").

regulations based on what might be called "best practices" in the field of cost-benefit analysis,[59] our study offers a plausible summary of the state of the art in this area at the present time. Finally, and perhaps most importantly, the analysis that follows suggests where additional academic work would be most useful for improving financial cost-benefit analysis in the future. Developing a research agenda for the analysis of benefits in consumer financial protection regulation is implicit in much of the discussion that follows, and is taken up directly in Part V below.

[59] The state of this law in this area is unclear and may well vary from agency to agency depending on the statutory standard under which the agency is acting. But at least some recent cases could be read to suggest that a statutory requirement for financial CBA establishes something like a best practices standard. For example, in Business Roundtable v. SEC, the D.C. Circuit wrote the SEC also has a "statutory obligation to determine *as best it can* the economic implications of the rule." 647 F.3d at 1148 (emphasis added) (citing Chamber of Commerce v. SEC, 412 F.3d 133, 143, 366 U.S. App. D.C. 351 (D.C. Cir. 2005); Chamber of Commerce v. SEC, 412 F.3d 133, 145, 366 U.S. App. D.C. 351 (D.C. Cir. 2005) ("The Commission may ultimately decide the disclosure alternative will not sufficiently serve the interests of shareholders, but the Commission – not its counsel and not this court – is charged by the Congress with *bringing its expertise and its best judgment* to bear upon that issue.") (citations omitted) (emphasis added); *see also* R.J. Reynolds Tobacco Co. v. FDA, 696 F.3d 1205, 1222 (D.C. Cir. 2012) (suggesting regulatory action not warranted because the agency failed to show that "enacting their proposed graphic warnings [on cigarette packages] will accomplish [its] stated objective of reducing smoking rates*")*.

Part II: Overview of Survey Design Structure

A. Sample Selection

Our survey sample consists of three distinct subsamples. The first subsample is made up of nineteen regulations promulgated by the Consumer Financial Protection Bureau (CFPB) from its establishment in July 2011 through December 2013. This subsample represents all the major rulemakings that the CFPB adopted during this period, excluding only those regulations that dealt with procedural matters unrelated to consumer finance or purely technical matters.

In certain respects, the regulations that the CFPB adopted during this period have distinctive features. Quite a number of these regulations involve mortgage lending and other areas of credit markets, and in many instances the CFPB was operating under statutory mandates to complete rulemaking procedures within a specified period of time. A number of the CFPB regulations articulate jurisdictional boundaries, such as the so-called "Larger Participant" rulemakings, in which the CFPB specified the scope of its supervisory oversight. Other regulations include regulatory safe-harbors that provide exemptions from the application of regulatory requirements. The Remittance Safe Harbor Regulation, which the CFPB promulgated in August 2012, would be an illustration of a regulation of this sort. (Box Two summarizes the key elements of cost-benefit analysis under the CFPB's enabling legislation.)

Box Two: Overview of CFPB Statutory Requirements Related to Cost-Benefit Analysis

This Box offers a brief overview of the statutory mandates under which the CFPB is required to take into account benefits and costs in its rulemaking activities, as well as certain other provisions that arguably relate to cost-benefit analysis.

1. General Rulemaking Under Section 1022(b)(2)

Under Section 1022(b)(2) of the Dodd-Frank Act (codified at 12 U.S.C. § 5512(b)(2)), the CFPB is required to consider benefits and costs in adopting new regulations. The relevant statutory language reads as follows:

In prescribing a rule under the Federal consumer financial laws—
(A) the Bureau shall ***consider****—*
(i) the ***potential benefits and costs to consumers and covered persons****,*[60] *including the potential reduction of access by consumers to consumer financial products or services resulting from such rule; and*
(ii) the impact of proposed rules on covered persons, as described in section 1026,[61] *and the impact on consumers in rural areas*

As a result of this provision, CFPB rulemakings routinely include a section titled "Section 1022(b)(2) Analysis," which summaries the benefits and costs associated with the rulemaking in question.

2. Additional Requirements in Specific Regulatory Contexts
At least two other provisions in the Bureau's enabling legislation contain explicit references to benefit-cost analysis. In contrast to the general rulemaking requirements of Section 1022(b)(2) mandating the mere consideration of benefits and costs, these additional reference suggest that, in certain contexts, the Bureau is required to compare the identified benefits of a proposed regulation to identified costs.[62] For example, Section 1031(c)(1) of Dodd-Frank Act (codified at 12 U.S.C. § 5531(c)(1) (2012)) concerns the Bureau's authority to declare certain practices unfair, deceptive or abusive. The subsection provides:

The Bureau shall have no authority under this section to declare an act or practice in connection with a transaction with a consumer for a consumer financial product or service, or the offering of a consumer financial product or service, to be unlawful on the grounds that such act or practice is unfair, unless the Bureau has a reasonable basis to conclude that—

(A) the act or practice causes or is likely to cause substantial injury to consumers which is not reasonably avoidable by consumers; and
(B) such ***substantial injury is not outweighed by countervailing benefits to consumers or to competition****.*

Somewhat similar in structure is Section 1041(c) of the Dodd-Frank Act (codified at 12 U.S.C. § 5551(c) (2012), which establishes standards under which the Bureau is required to adopt federal consumer protection regulations in an area when a majority of States have adopted state regulations stricter than those previously imposed by the Bureau. In subsection (c)(2), the provision specifies:

Before prescribing a final regulation . . . , the Bureau shall take into account whether--
(A) the proposed regulation would afford greater protection to consumers than any existing regulation;
(B) ***the intended benefits of the proposed regulation for consumers would outweigh any increased costs or inconveniences for consumers****, and would not discriminate unfairly against any category or class of consumers; and*
(C) a Federal banking agency has advised that the proposed regulation is likely to present an unacceptable safety and soundness risk to insured depository institutions.

[60] A "covered person" is defined as "(A) any person that engages in offering or providing a consumer financial product or service; and (B) any affiliate of a person described in subparagraph (A) if such affiliate acts as a service provider to such person." See Section 1002(6) of the Dodd-Frank Act (codified at 12 U.S.C 5481(6) (2012)).
[61] A covered person "as described in section 1026" is defined as "(1) an insured depository institution with total assets of $10,000,000,000 or less; or (2) an insured credit union with total assets of $10,000,000,000 or less." See Section 1026(a) of the Dodd-Frank Act (codified at 12 U.S.C. 5516(a) (2012)).
[62] The comparisons specified in these provisions are narrower than a full net benefit requirement of the sort contemplated in other contexts. See, e.g., 2 OMB Circular A-4 (Sept. 17, 2003); Executive Order 12866 (Sept. 30, 1993), 58 Fed. Reg. 51,735 (Oct. 4, 1993).

3. Regulatory Flexibility Analysis

Like most other government agencies, the CFPB is required under the Regulatory Flexibility Act (RFA)[63] to consider whether proposed and final rules would have a significant economic impact on a substantial number of small entities. For proposed rules, agencies must generally provide either an Initial Regulatory Flexibility Analysis (IRFA) or a certification that the proposed rule will not have a significant economic impact on a substantial number of small entities along with the factual basis for this certification. Similarly, for final rules, agencies must generally provide either a Final Regulatory Flexibility Analysis (FRFA) or the certification and factual basis for certification just described.

Both the IRFA and FRFA require agencies to consider significant alternatives. In addition, a FRFA must provide, "a description of the steps the agency has taken to minimize the significant economic impact on small entities…including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected." However, the RFA explicitly permits qualitative or quantitative analysis in the IRFA and FRFA[64] and it does not define "significant" or "substantial" for purposes of certification.

In addition to these general requirements, the Dodd-Frank Act imposes an obligation for the Bureau to consider "any projected increase in the cost of credit for small entities" in both the IRFA and FRFA. Further, the Dodd-Frank Act imposes an obligation that, prior to publishing an IRFA, the Bureau must engage in a consultation process with the Office of Information and Regulatory Affairs, the Small Business Administration, and small entity representatives regarding certain elements of the IRFA.[65] Besides the Bureau, only the Environmental Protection Agency and Occupational Safety and Health Administration are subject to this requirement.[66]

4. Retrospective Review of Significant Rules and Orders

The CPFB is also under a statutory mandate to engage in retrospective reviews of certain rulemakings. Under section 1022(d) of the Dodd-Frank Act (codified at 12 U.S.C. § 5512(d)) the Bureau must conduct an ex-post review of "significant rule[s] or order[s]"[67] within five years of the effective date of the rule.

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[63] 5 U.S.C. §§ 601-612.

[64] "In complying with sections 603 and 604 of this title, an agency may provide either a quantifiable or numerical description of the effects of a proposed rule or alternatives to the proposed rule, or more general descriptive statements if quantification is not practicable or reliable." 5 U.S.C. § 607.

[65] See Section 1100G(a) ("Panel Requirement" amending 5 U.S.C. § 609), Section 1100G(b) ("Initial Regulatory Flexibility Analysis" amending 5 U.S.C. § 603), and Section 1100G(c) ("Final Regulatory Flexibility Analysis" amending 5 U.S.C. § 604) of the Dodd-Frank Act.

[66] 5 U.S.C. § 609.

[67] There is no statutory definition for "significant rule or order" in Dodd-Frank. Therefore, the determination of what is "significant" has been left to the Bureau itself. The Bureau has not yet stated how it will approach the definition. The Bureau may be informed by the Congressional Review Act, which defines a "major rule" as any rule that the OIRA Administrator "finds has resulted in or is likely to result in: (A) an annual effect on the economy of $100,000,000 or more; (B) a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or (C) significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic and export markets." 5 U.S.C. § 804. Alternatively, the Bureau may be informed by Executive Order 12866, Section 3(f), which defines "significant regulatory action" as any action likely to result in a rule that may: "(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) Materially alter the budgetary impact of entitlements, grants, user

(1) In general
The Bureau shall conduct an assessment of each significant rule or order adopted by the Bureau under Federal consumer financial law. ***The assessment shall address****, among other relevant factors,* ***the effectiveness of the rule or order in meeting the purposes and objectives of this subchapter and the specific goals stated by the Bureau****.*
The assessment shall reflect available evidence and any data that the Bureau reasonably may collect.
(2) Reports
The Bureau shall publish a report of its assessment under this subsection not later than 5 years after the effective date of the subject rule or order.
(3) Public comment required
Before publishing a report of its assessment, the Bureau shall invite public comment on recommendations for modifying, expanding, or eliminating the newly adopted significant rule or order.

While Section 1022(d) requirement speaks in terms of "effectiveness," it is not clear the extent to which this ex-post review requirement contemplates that the Bureau is required to make a comparative analysis of the actual costs and benefits of significant rules. However, given both the directive to include relevant data in the assessment and the Bureau's broad powers to collect such information,[68] it is possible that a benefit-cost analysis of some sort could be conducted during these reviews, in addition to the ex-ante consideration of costs and benefit required under Section 1002(b)(2).[69]

5. Paperwork Reduction Act and Congressional Review Act
As with most agencies, Bureau rulemaking is subject to requirements of the Paperwork Reduction Act and the Congressional Review Act.

The second subsample of regulation in the survey consists of fifteen regulations adopted by independent agencies, that is, federal agencies that are not subject to OMB review under Executive Order 12866.[70] This subsample was developed on an ad hoc basis and consists

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fees, or loan programs or the rights and obligations of recipients thereof; or (4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive order."

[68] The Bureau has broad powers to collect data, which may then be included in the ex-post review. Dodd-Frank Act § 1022(c)(4)(B) requires, as a part of the Bureau's monitoring responsibilities, that it gather information from a variety of sources, "including examination reports concerning covered persons or service providers, consumer complaints, voluntary surveys and voluntary interviews of consumers, surveys and interviews with covered persons and service providers, and review of available databases." The provision also allows the Bureau the flexibility to design forms and require answers in order to fulfill its broader "monitoring, assessment, and reporting responsibilities imposed by Congress." Additionally, the statute gives the Bureau the right to access reports of examination created by other Federal agencies, including the prudential regulators. Dodd-Frank Act § 1022(c)(6)(B). Like other agencies, however, the Bureau is subject to the Paperwork Reduction Act and generally cannot survey 10 or more "persons" (including business entities) without approval from the Office of Management and Budget. 44 U.S.C. §§ 3501-3520; *see* in particular 44 U.S.C. § 3502 (defining "collection of information" to include posing identical questions to ten or more persons) and 44 U.S.C. § 3507 (prohibiting collection of information absent certain conditions, including approval from the Director of the Office of Management and Budget).

[69] Like most other agencies, the Bureau is required under the Regulatory Flexibility Act to review within ten years of publication final rules that have or will have a significant economic impact on a substantial number of small entities. 5 U.S.C. § 610.

[70] 58 Fed. Reg. 51735 (Sept. 30, 1993).

Table One – Overview of Sample of 72 Regulations

Consumer Financial Protection Bureau (19)

Independent Agencies (15)

– CFTC (6 financial)
– CPSC (2)
– FRB (2 financial)
– FTC (2;1 financial)
– SEC (3 financial)

Executive Agencies (subject to OIRA review) (38)

– DOE (3)	-- HHS (7)
– DOJ (4)	-- HUD (2 financial)
– DOL (7; 4 financial)	-- OCC (2 financial)
– DOT (7)	-- USDA (4)
– FSOC (2 financial)	

Note: SEC includes 1 joint With CFTC; DOL incudes 2 Joint with Treasury & HHS; DOT includes one joint with EPA]

largely of regulations adopted by agencies with financial oversight responsibilities, including the Federal Reserve Board (FRB), the Securities and Exchange Commission (SEC), and the Commodities Futures Trading Commission (CFTC), although some independent agencies dealing with analogous regulatory matters, such as the Consumer Products Safety Commission and the Federal Trade Commission, were also included. These rulemakings were all promulgated between the years 2010 and 2012. While most of the rulemakings included in this subsample represent financial regulatory contexts analogous to those of the CFPB, a few—particularly those of the CFTC—address issues of financial stability or prudential regulation.

The final subsample includes thirty-eight rulemakings of executive agencies subject to OMB oversight under Executive Order 12866, during the period 2008 to 2013, a range that begins a few years earlier that the time periods used for the other subsamples. This subsample, which we sometimes denominate the OIRA subsample based on the fact that the benefit-cost analyses of these agencies are reviewed by OIRA, were compiled through a structured procedure designed to ensure that the subject matters of these regulations would be roughly analogous to the regulations in the CFPB subsample.

The first step in developing this OIRA subsample was to identify all final rules and interim final rules issued by the nine executive agencies listed above that were deemed significant under Executive Order 12866 and were published in the Federal Register from July 1, 2008 through June 30, 2013.[71] The search engine at www.federalregister.gov readily produces a spreadsheet with all rules that meet these criteria together with associated corrections, technical amendments and notices (e.g., approvals of information requests). This gives a database with 911 items. After some inspection and sorting by various criteria (including page count) we were able to roughly separate significant rulemakings from the ancillary material.

The next step was to systematically select the rules for the study. As discussed above, we attempted to select a set of regulations that addressed regulatory problems that were roughly analogous to the kinds of regulatory problems that the CFPB and other agencies with a consumer protection mandate address in their rulemakings. By controlling for subject matter, the expectation was that the regulatory impact analyses for these rules would navigate analogous challenges and might therefore be informative in regards to the potential characteristics of the impact analyses for consumer protection regulations and especially consumer financial

[71] Prior to the formal development of the OIRA subsample, fifteen rules focusing on consumer products, choice and protection (broadly defined) from eight executive agencies were reviewed for possible inclusion in this study. All fifteen of these preliminary rules were significant and published within the time frame of the analysis and fourteen were ultimately included in the OIRA subsample. As noted above, the Dodd-Frank Act removed the Office of the Comptroller of the Currency from OMB Oversight, so for this agency the range for inclusion ended on July 31, 2010.

protection regulations. These characteristics include, among other things, the extent to which the benefits can be quantified and monetized.

To develop the selection criteria, we took as fundamental that the class of regulations we wanted to study addressed "consumer alternatives" (i.e., alternatives for personal consumption, investment, or employment); the providers of these alternatives; or the consumer-facing or "nearly" consumer-facing activities of these providers.[72] These criteria are broad enough to capture the most common requirements or factors in traditional consumer protection regulations. These requirements include mandatory disclosure to consumers; restrictions on product features; requirements on the providers themselves (e.g., registration, certification, supervision); requirements on the providers of after-market services (e.g., on debt collectors and loan servicers); requirements to limit conflicts-of-interest or their effects (e.g., restrictions on the timing, sources, and types of compensation), and requirements for fair access to products or services. We also looked for rules that affected large numbers of people, were important on other intuitive criteria, and helped balance the sample in regards to the types of requirements imposed.

As summarized above in Table One, our full sample consists of seventy-two regulations from fifteen different agencies, several of which were engaged in joint rulemakings as indicated in the table. Aside from the CFPB with fifteen regulations, Health and Human Services (HHS), the Department of Transportation (DOT), and the Department of Labor (DOL) had the most regulations in the sample with seven each. The CFTC had the next largest number of regulations with six. In the analysis that follows in Part Two, we typically report results either in terms of

[72] The criteria echo to some extent the defining characteristics of a consumer financial product or service in the Dodd-Frank Act. Roughly speaking, a consumer financial product or service is a financial product or service that is offered or provided for use primarily for personal, family or household purposes; or is a particular type of financial product or service that is delivered, offered or provided in connection with such personal, family or household financial products or services. *See* § 1002(5) of the Dodd-Frank Act (codified at 12 U.S.C 5481(5) (2012)).

Table Two – Scoping Criteria for OIRA Subsample

	Imposes, eliminates or modifies requirements on the design or performance of consumer alternatives; the consumer-facing activities of providers of consumer alternatives; or the consumer-facing activities of providers of products or services offered in connection with consumer alternatives.				Imposes, eliminates or modifies other requirements on the providers of consumer alternatives or on the providers of products or services offered in connection with consumer alternatives.			
	Disclosure	Fair Access	Scope Adjustment	Other signficiant	Application-Registration-Certification-Supervision of provider	Reporting to Government or Recordkeeping	Conflicts of Interest	Other significant
CFPB Regulations (19)	**11**	**0**	**5**	**12**	**12**	**4**	**1**	**2**
(percentage)	58%	0%	26%	63%	63%	21%	5%	11%
Independent Agencies (15)	**4**	0	3	2	2	8	4	4
(percentage)	27%	0%	20%	13%	13%	53%	27%	27%
OIRA Agencies (38)	**20**	**7**	**0**	**22**	**22**	**19**	**4**	**25**
(percentage)	53%	18%	0%	58%	58%	50%	11%	66%
Total (72)	**35**	**7**	**8**	**36**	**36**	**31**	**9**	**31**
(percentage)	49%	10%	11%	50%	50%	43%	13%	43%

the full sample of seventy-two regulations or in terms of our three principal subsamples: the CFPB subsample (19), the Independent Agency subsample (15), and the OIRA Agency subsample (38). In a limited number of cases, we break out the rulemakings other than CFPB rulemakings that involve financial regulations in a separate subsample we denominate Other Financial Rulemakings. This subsample includes all the rulemakings of the CFTC, the FRB, the SEC, the Financial Stability Oversight Council (FSOC), the Department of Housing and Urban Development (HUD) and the Office of the Comptroller of the Currency (OCC), as well as five rulemakings of the Federal Trade Commission (FTC) and the DOL that address matters of financial regulation. The Other Financial Rulemaking subsample includes twenty-two regulations, including regulations from both the Independent Agency subsample and the OIRA subsample.

B. Development of the Taxonomy of Benefits

Our premise in undertaking this study was that seven justifications for consumer financial regulation identified in Campbell et al.[73] would provide a workable framework for cataloging the

[73] *See* John Campbell, Howell Jackson, Brigitte Madrian, and Peter Tufano (2011), "Consumer Financial Protection," 25 J. ECON PERSPECTIVES 91-114.

kinds of benefits that regulatory authorities would assert as flowing from rulemakings in consumer finance or in contexts that present analogous challenges to consumer decision-making or welfare. Those justifications, which are summarized in Box One, include both neo-classical justifications for regulatory interventions as well as justifications grounded in behavioral economics and principles of fairness. To validate this premise, we assigned a pair of research assistants in the Spring of 2013 to undertake a preliminary review of a selection of several dozen regulations, most but not all of which were eventually included in our final survey sample. Among other things, we asked these two research assistants to identify all the benefits that agencies identified in the preamble material for final rules and to ascertain whether all of these identified benefits could be comfortably mapped onto the justifications identified by Campbell et al.

Our research assistants reported back that there were six categories of benefits that routinely appeared in these regulations but did not easily map onto the Campbell et al. justifications. Two of the omitted benefits – correction of principal-agent issues and improved international coordination – might be understood to be specific instances of neo-classical market failures such as information failures and externalities. However, as rulemaking releases

Box Three – Justifications for Consumer Financial Regulation[74]

[74] Adapted from John Campbell, Howell Jackson, Brigitte Madrian, and Peter Tufano, "Making Financial Markets Work for Consumers: An Open Letter to America's First Consumer Financial Protection Czar," HARV. BUS. REV., July-August 2011 at 47-54.

Potential Problems	Explanation	Example
Externalities	When the actions of one party impact another party who had no say in the outcome	Foreclosures are costly for entire neighborhoods, not just the borrowers and lenders who are directly involved
Information Failures	When one party has more information relevant to the transaction than the other	Consumers may have better information than the bank about their likelihood of defaulting on a loan
Market Power	The ability of firms to set prices higher than their costs of production	The costs of comparing the prices and features of different cell phone plans reduces the likelihood that consumers will switch providers and allows firms to charge higher prices
Public Goods	When it is difficult for firms to prevent consumers from using a product even if they haven't paid	Unbiased information about products, firms and markets tends to be underprovided because it is costly to supply and consumers can often access information without paying for it
Cognitive Biases	Systematic errors in judgment that result from the way our brains process information	Individuals tend to place more weight on the immediate consequences of a decision than on the future consequences which may lead them to save too little or borrow too much
Limited Financial Capabilities	How much people know about financial markets and how to make financial decisions	Dementia, which increases steadily with age, is one reason that the elderly are often the primary targets of financial scams
Unfair Outcomes	Markets may make some people better off and other people worse off	The costs to banks of providing "free checking" are paid for by those consumers who incur overdraft charges

discussed these benefits in a distinctive manner, we added them to our taxonomy. We also added two additional benefits that reflect efforts to adjust to existing legal standards. The first encompasses regulatory amendments that clarify legal standards by reducing litigation costs.

The second involves reforms that enhance compliance efforts and improve self-regulation on the part of regulated entities. Finally, we added two residual categories for improvements in consumer welfare and enhanced market efficacy, which were often cited as benefits without additional explanation of why markets were previously inefficient or consumer welfare not optimized.[75]

Table Three summarizes the full taxonomy of benefit categories that we employed in our survey. While the taxonomy we developed incorporates both broadly economic and narrower pragmatic goals in rulemaking, one cannot deny that there are other taxonomies that might be employed for this project. Among other things, there are different ways of characterizing the

Table Three – The Campbell Justifications (expanded)

Neoclassical Perspectives
- Information Failures
  - **Principal-Agent Problems**
- Market Power
- Public Goods
- Externalities
  - **International Coordination**

Behavioral Economics
- Cognitive Biases
- Limited Financial Capabilities

Unfairness

Adjustments of Existing Legal Standards
- **Clarity/Reducing Litigation**
- **Increased Compliance/Self Regulation**

Residual Benefits
- **Consumer Welfare**
- **Market Efficiency**

benefits of consumer protection – such as lowering prices or deterring wrongdoing or even simply protecting consumers – that do not track our taxonomy. Or one could substitute a

[75] As explained below, our instructions for research assistants specified that consumer welfare and market efficiency should be coded as an asserted benefit only if the discussion was not tied to another of the benefits in our taxonomy. According, these two benefits served as residual categories in our analysis.

transaction cost perspective for some of our categories. One could even combine the benefits we have identified in different ways, such as folding principal-agent issues into the more general category of information failures. Our framework does, however, as a practical matter do a fairly good job of capturing the kinds of benefits that regulatory authorities currently cite as the positive effects of consumer protection regulations. As is explained in more detail below, the framework is also one that allowed classification of benefits in a manner that could be replicated with reasonable consistency across a number of different individual research assistants.

C. Survey Structure

Over the course of the 2013-2014 academic year, a dozen research assistants from Harvard Law School utilized our benefits taxonomy to conduce a systematic review of the seventy-two rulemakings in our sample. Two research assistants analyzed each regulation with our lead research assistant reviewing all seventy-two regulations and independently coding certain key information. Our research assistants were given detailed instructions on how to code each regulation and followed a number of protocols designed to maintain consistency of analysis across the sample. In summary, the research assistants were instructed to ascertain the extent to which the agency in question evaluated the benefits and costs of proposed regulations, and then to characterize the manner in which benefits related to our taxonomy were analyzed. Their review covered both qualitative and quantitative analysis of benefits, as described in more detail below. The survey process also included a number of queries regarding the manner in which benefit analysis was conducted and the sources upon which the agencies relied in their analysis. Research assistants were also asked to extract the text of key components of the benefit analysis and to annotate PDF versions of Federal Register releases associated with each regulation, identifying the sections of each release dealing with the benefits identified. Attached as

Appendix Two is a sample of the form the research assistants utilized to evaluate these regulations and the first few pages of the instructions given to the research assistants for this assignment.

As the numerical scores that our research assistants were instructed to report in the Templates factor prominently into the analysis that follows, some additional detail on the scoring procedures is in order. For each regulation, our research assistants were asked to ascertain which, if any, of our thirteen benefit categories were discussed in the Federal Register release associated with the rulemaking and then for each benefit to give "Qualitative Scores" on a six-tier scale: 0 = Not mentioned or implied; 1 = Implied, but not mentioned; 2 = Mentioned as a benefit; 3 = Discussed in detail; 4 = Key benefit cited; 5 = Only benefit cited. The Qualitative Score for a benefit category reflects the emphasis that the benefit analysis places on the benefit category as a reason for regulating. Note that "emphasis" reflects both the relevance of a benefit (e.g., externalities are not relevant if the rule addresses transactions with no external effects) and, conditional on relevance, the amount of detail and focus in the analysis of the benefit. We discuss this further below. The scores provide an ordinal ranking of benefits according to stated emphasis. Further, for certain analyses, the average Qualitative Score (e.g., across rules with a common relevant benefit) provides a useful summary of the data.

Our research assistants were also asked to score the effort with which the agencies attempted to quantify both benefits and costs identified in each rulemaking. This generated a series of "Quantification Scores" for the surveyed regulations. Again scoring was on a six-tier scale: 0 = Qualitative, No explanation for why not quantified; 1 = Qualitative, Explanation for why not quantified; 2 = Quantitative Data, Impact not Quantified; 3 = Impact Quantified, not Monetized; 4 = Some Monetization; and 5 = Fully Monetized. Where practical, we also asked the research assistants to indicate for which benefit category the Quantification Score related. The scores provide an ordinal ranking of benefit and cost analyses according to quantification effort, and we find that for certain analyses that the average Quantification Score provides a useful summary of the data.

All research assistants were given detailed instructions on how to undertake these scoring procedures and other elements of template creation, and underwent an initial training session before beginning work. Two different research assistants were assigned to code each regulation in our sample. Each research assistant initially made independent evaluations of each assigned regulation, and then was asked to meet with the other research assistant coding the same rule and review their results. Each pair was encouraged to reach consensus on the appropriate coding of their regulation, but were also instructed to maintain separate scores if they could not agree on a single score. Research assistants were also encouraged to communicate with our lead research assistant regarding interpretative issues and questions. At several points during the coding process, the research assistants met collectively to discuss difficult coding decisions and open questions. Our lead research assistant reviewed all coding decisions and did an independent third coding of the Qualitative Scores for each of the thirteen benefit categories for each of the seventy-two regulations in our survey.

D. The Resolution of Inter-Coder Disagreements and Assessments of Inter-Coder Reliability

As with any survey design, one potential concern is the possibility of inconsistencies across coding personnel. The procedures described above were designed to address that concern, and we also undertook several retrospective reviews of our data to ascertain the extent to which inter-coder reliability presented a problem. Table Four offers one relatively crude evaluation of this issue. The table reports differences in our Qualitative Scores for 936 benefit scores.[76] On average, our research assistants differed in their Qualitative Scores only twelve percent of the time, so they were in agreement in benefit scores in eighty-eight percent of their observations. Differences of opinion were significant – meaning Qualitative Scores differed across research assistants by more than one tier on the six-tier scale – in only four percent of the cases. As reported in Table Four, Qualitative Scoring was slightly less consistent in certain benefit categories, including the residual categories of Consumer Welfare and Market Efficiencies. Research Assistants were instructed to use these categories only when other benefits were not expressly stated or implied, and that instruction may have contributed to the higher degree of variation in these scores.[77]

Table Four – Variation in RA Quantification of Benefits
(936 Benefit Observations; Each with 3 Separate RA Evaluations)

[76] This table reflects scoring of 72 regulations. For each regulation, thirteen benefit categories received Qualitative Scores, for a total of 936 benefit scores for each of three research assistants.
[77] As a further check on inter-coder reliability, we employed the krippalpha module in Stata to estimate Krippendorff alpha intercoder reliability coefficients for the full range of data collected by our research assistant. (In terms of interpretation, a Krippendorff alpha coefficient of 1 indicates perfect reliability, 0 indicates an absence of reliability, and < 0 indicates that disagreements are systematic.) The average Krippendorff alpha across all numerical variables equals 0.9058, which implies a high degree of inter-coder reliability.

	Negative Externalities Variation	Information Failures Variation	Market Power Variation	Public Goods Variation	Cognitive Biases Variation	Limited Financial Capabilities Variation	Unfair Outcomes Variation
Any Variation	18%	14%	7%	14%	3%	6%	14%
Variation > 1	4%	3%	1%	7%	0%	4%	3%
	Principal/ Agent Issues Variation	Clarity; Reducing Litigation Variation	Increased Compliance/ Self-Regulation Variation	International Coordination Variation	Consumer Welfare Variation	Market Efficiency Variation	All Benefits Average Variation
Any Variation	8%	13%	17%	1%	15%	22%	**12%**
Variation > 1	1%	6%	11%	1%	8%	8%	**4%**

In terms of resolving the remaining inter-coder disagreements, we employed the following procedures. As a first step, we adopted a modal coding convention if two or more coders agreed on the score. In cases where all coders had separate scores, we averaged the remaining scores as our primary dispute resolution technique. As an alternative resolution technique for the Qualitative Scores, where our lead research assistant scored all seventy-two regulations in the survey, we utilized the lead research assistant's score, rather than the average of three scores.[78]

E. Reservations and Limitations

While we are confident that our survey techniques generate reasonably consistent and informative data with respect to the surveyed regulations, there are several limitations in our research design. One limitation arises from the challenge of maintaining consistent coding conventions for our thirteen benefit categories across seventy-two regulations and a coding period that lasted six months. Particularly with respect to instances in which the Federal Register

[78] An advantage of this alternative approach is that it generated only integer scores, which are amenable to a broader range of statistical tests. We have not uncovered any instances in which the alternative approach produces different results than those reported in the text.

releases combined discussion of information failures with limited financial capabilities or principal-agent issues, there was subjectivity in determining whether one or two benefits had been asserted. As our research team became more cognizant of such difficulties, the standards of coding may have shifted subtly across the sample, producing somewhat lower benefit counts in the regulations coded later in the process (the OIRA subsample).

Another complexity arises out of different drafting conventions across agencies surveyed. In regulations that have very extensive cost-benefit sections (especially the independent agencies with statutory mandates), our research assistants spent relatively little time reviewing sections of the Federal Register release beyond cost-benefit section. With many of the regulation in the OIRA subsample, however, Federal Register releases had brief and summary cost-benefit sections, which required our research assistants to review more extensively other sections of the Federal Register release to ensure they cataloged the full set of asserted benefits. There is a possibility that – had our research assistants done comparable reviews of other releases – other agencies might have received somewhat higher benefit counts. On balance, however, we do not think it is likely that more exhaustive reviews of other sections would have materially affected the results reported here.

A few of the Federal Register releases for regulations in the OIRA subsample provided very little in the way of benefit-cost analysis. While these releases all replicated in some fashion the benefit-cost analysis submitted for OIRA review, many of the Federal Register releases referred readers to a separate regulatory impact analysis document for a more thorough benefit-cost analysis. In these instances, we might not have identified all of the benefits the agency articulated as part of their OIRA review. However, in these few instances, our research assistants generally read all of the commentary sections of the rulemaking document to spot benefits. Again, in these cases, we do not believe there is a substantial likelihood that our research assistants missed out on any significant benefits altogether. *Note*: If we had taken the opposite approach and incorporated the regulatory impact analyses into our coding, there would have been a different inconsistency problem, in that we would have these documents only for regulations from the OIRA subsample.[79]

[79] In preparing our discussion of exemplars below in Part III, we did make extensive use of Regulatory Impact Analyses in order to cull out details of benefit quantification.

Part III: Quantitative Review of Survey Results

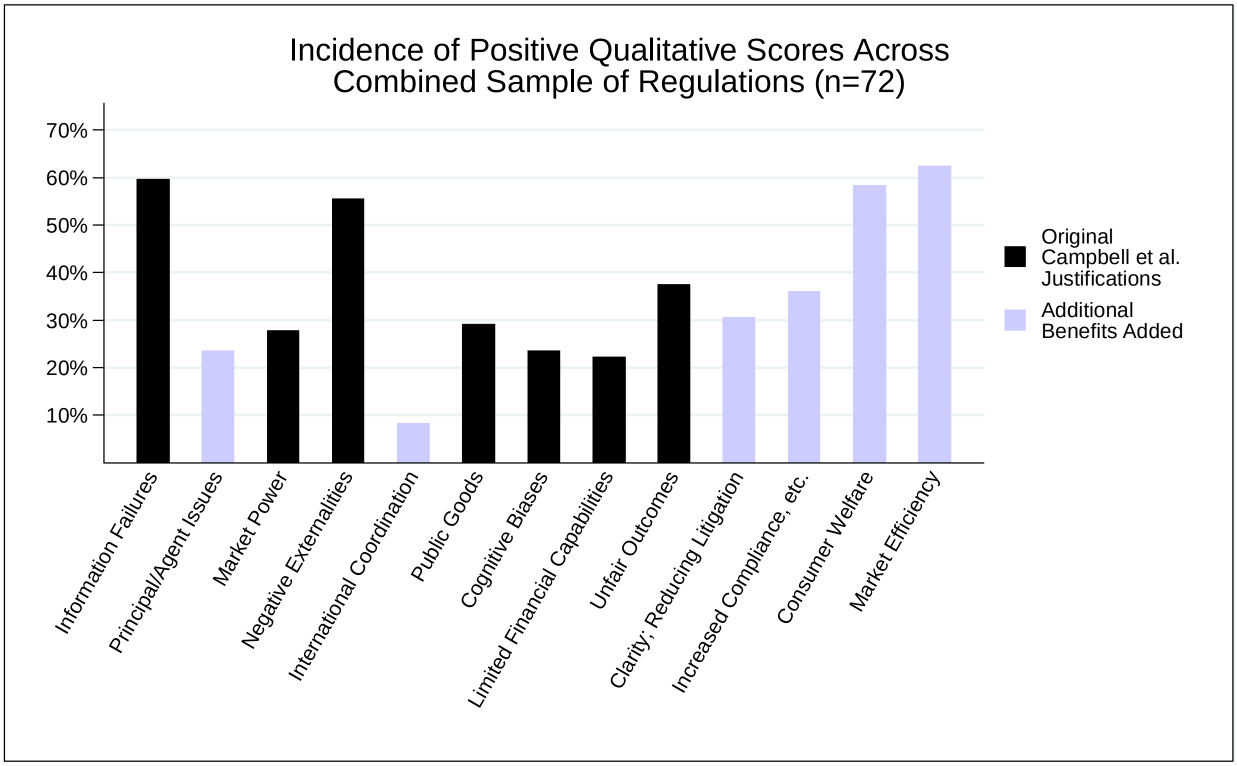
This Part presents a quantitative review of our survey results, focusing on aggregate data across the full sample as well as various subsamples. In Part III, which follows, we present a more granular review of benefit analysis for a selection of twenty exemplars drawn from our full sample.

A. The Incidence of Benefit Analyses

We begin with a review of the distribution of benefit analyses in our survey, starting first with the full sample of seventy-two regulations and focusing on the incidence of benefit analyses.[80] As displayed in Figure Two, all of the thirteen benefit categories identified in our taxonomy were represented in the survey results. Information Failures and Negative Externalities were the most commonly cited benefits from the original Campbell et al. justifications, being present in 59.7 percent and 55.6 percent of the surveyed regulations, respectively. However, Consumer Welfare and Market Efficiencies – two residual benefit categories added as a result of our preliminary survey – were actually present even more frequently, with incidences of 58.3 percent and 62.5 percent, respectively. Other benefit categories appearing in more than a third of all survey regulations were the reduction of unfair outcomes (37.5 percent) and increased compliance/self-regulation (36.1 percent).

[80] In Figure Two and subsequent figures and tables, the incidence of a benefit category for a particular regulation is measured by whether that benefit category received a Qualitative Score greater than zero for that particular regulation. In other words, the benefit category had to at least be implied in the Federal Register release. If a benefit category is at least implied in half of a group of regulations, then that benefit category has an incidence of 50 percent within that group. Elsewhere we will present data on the detail and focus ("intensity") of benefit analysis for the full sample or specific subsamples. There, intensity is measured by the average Qualitative Score for the population in question, conditional upon the Qualitative Score being greater than zero. This intensity measure is designed to convey how thoroughly a benefit was evaluated once the agency or agencies in question identified the benefit category as relevant. If an agency discusses a particular benefit in detail (earning a Qualitative Score for that benefit category of 3.0 whenever that benefit is mentioned, *see supra* Part II.C), then the regulation would be considered to have a benefit intensity score of 3.0 for that benefit category. Figure Six, below, reports this intensity measure under the heading "Average Qualitative Scores When Positive" for the CFPB subsample and the subsample of all other agencies.

Figure Two



When the full sample is decomposed into various subsamples, significant differences in the incidence of benefit categories begin to emerge. Figures Three through Six give four different presentations of the incidence of benefit analyses. So, for example, as displayed in Figure Three, the nineteen regulations in the CFPB subsample were more likely to make reference to information failures, principal-agent issues, market power, unfair outcomes, clarity/reducing litigation, and both residual categories of consumer welfare and market efficiency, than did regulations from other agencies included in the full sample. The CFPB was also more likely to discuss both behavioral economic benefits (cognitive biases and limited financial capabilities). On the other hand, the CFPB was less likely to cite the reduction of negative externalities, international coordination, and the promotion of public goods, than were other agencies.

Figure Four decomposes the incidence of positive benefit scores across three subsamples: the CFPB, the (other) Independent Agencies, and the OIRA agencies. A few interesting distinctions emerge. First, and perhaps not surprisingly, international cooperation emerges as nearly an exclusive concern of the independent agencies. Conversely, the reduction of cognitive biases appears not to figure into the benefit analyses of independent agencies but is nearly as prominent for the OIRA agencies as it is for the CFPB. Benefits associated with adjustments to existing legal baselines (clarity/reducing litigation and increased compliance) figure less prominently in the OIRA subsample than in other subsamples.

Figure Three

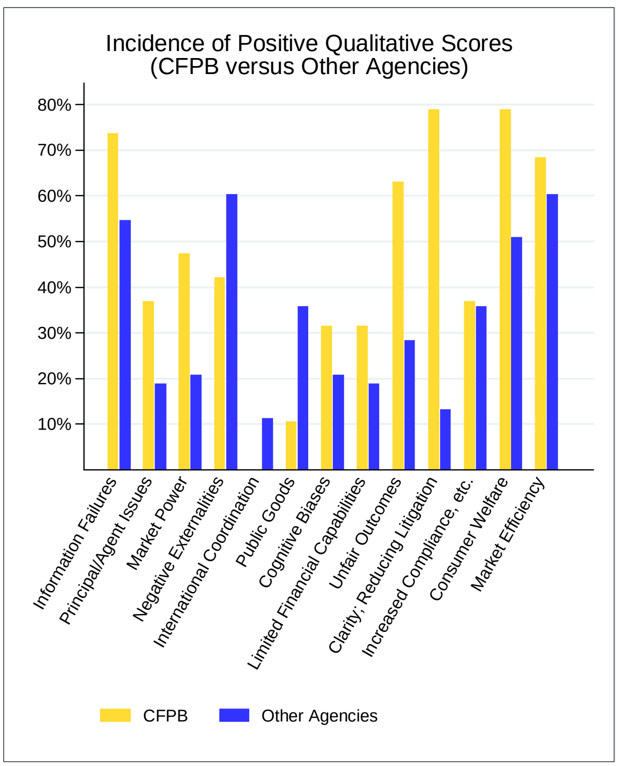


Figure Four

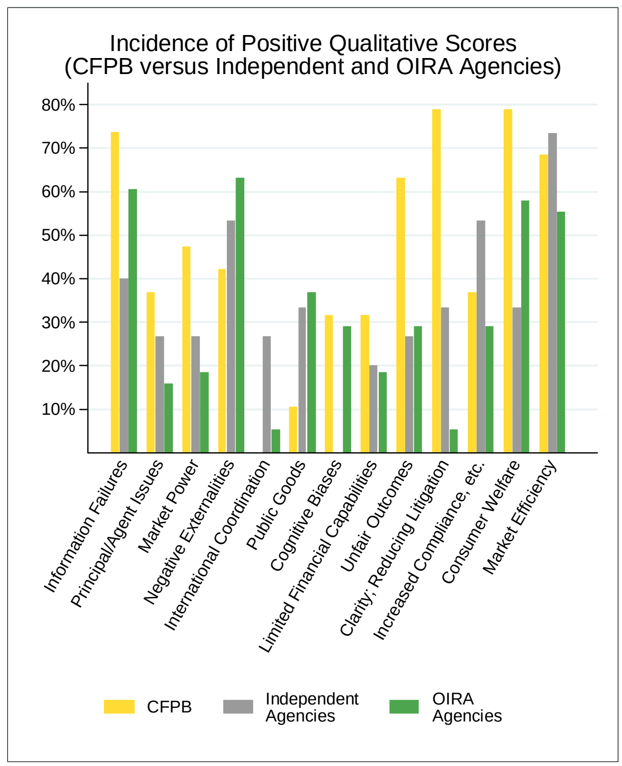


Figure Five compares the CFPB subsample with a subsample of twenty-two regulations involving financial rulemakings of other agencies, both independent and subject to OIRA review. Again, the data presented here highlights the CFPB's somewhat different orientation with respect to benefit analysis, with a greater focus on information failures, principal-agent issues, market power, and cognitive biases, as well as a substantially greater emphasis on consumer welfare (as compared with market efficiency) within the two residual categories.

Figure Six separates out regulations in our sample that adopt significant consumer disclosure standards. Thirty-five of our seventy-two rulemakings have mandate significant consumer disclosure standards. Eleven of these thirty-five are by the CFPB (58% of the CFPB total), four by Independent Agencies (27%), and twenty by OIRA Agencies (53%). The fact that Independent Agencies mandated fewer significant consumer disclosures than the CFPB is consistent with the notion that these agencies focus less on transactions directly involving consumers. We do not, however, claim that these rulemakings are representative for these independent agencies either individually or as a group.[81]

Perhaps not surprisingly, information failures, principal-agent issues, and market power are more prevalent in the disclosure rulemakings, as are behavioral economic benefits (reducing cognitive biases and addressing limited financial capabilities). The disclosure regulations are less likely to be associated with benefits tied to corrections of legal baselines, especially increased compliance/self-regulation. And of course, disclosure regulations only infrequently improve international coordination.

[81] Similarly, significant consumer disclosure standards occur in eight of twenty-two (36%) financial rulemakings by agencies other than the CFPB.

Figure Five

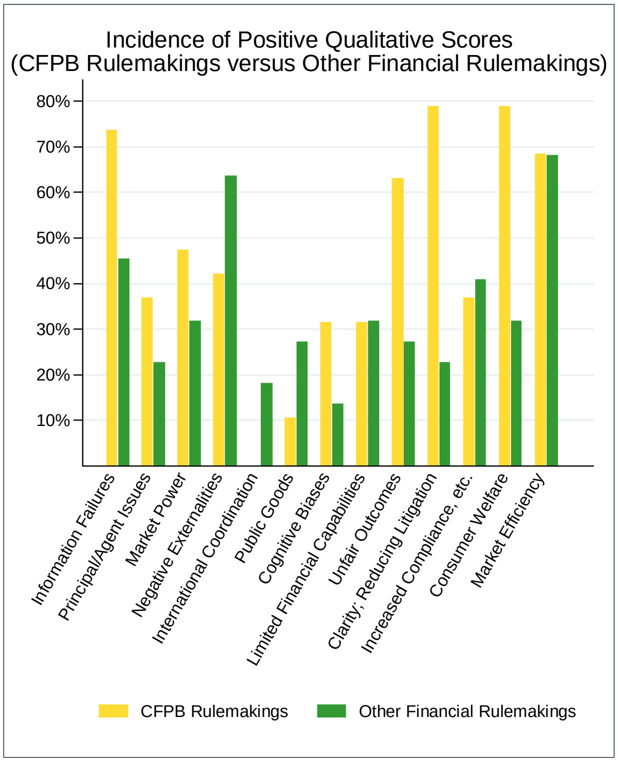
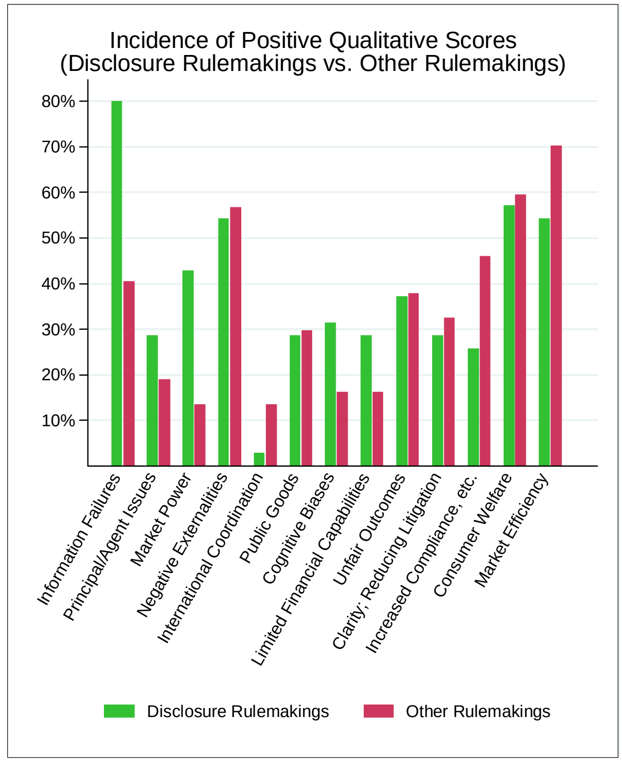


Figure Six



B. Intensity of Benefit Analyses, Benefit Counts and Total Scores

We turn now to aspects of our survey data that speak more to the quality of benefit analyses in our surveyed regulations. We start with an overview of the detail and focus ("intensity") of benefit analysis for each benefit category, measured by the average score of the Qualitative Scores awarded by our research assistants. Here and throughout subsequent analysis, this measure of intensity incorporates only those instances in which the benefit in question was present. In other words, we excluded here benefits that received Qualitative Scores of zero.[82] Figure Seven reports average Qualitative Scores by benefit category, separating out the CFPB subsample from the rulemakings of all other agencies. In general, there is much less variation in

[82] *See supra* Part II.C (explaining methodology).

these averages than there are in the raw incidence of benefits, as presented in Figures One through Six. In general, the average measure of intensities ranged between a score of 2 (mentioned as a benefit) and 3 (discussed in detail), although in a few instances the averages dipped below 2, meaning that in some number of cases the benefit was merely implied. An interesting takeaway from Figure Seven is that agencies tended to discuss with greater intensity benefit categories that are more commonly cited in the agencies' rulemakings. For example, information failures, which has a higher incidence in CFPB rulemaking as compared with the rulemakings of other agencies, also has a higher average Qualitative Score. Similarly, other agencies tend to cite more frequently and analyze more intensively negative externalities, as compared to the CFPB.

Figure Seven

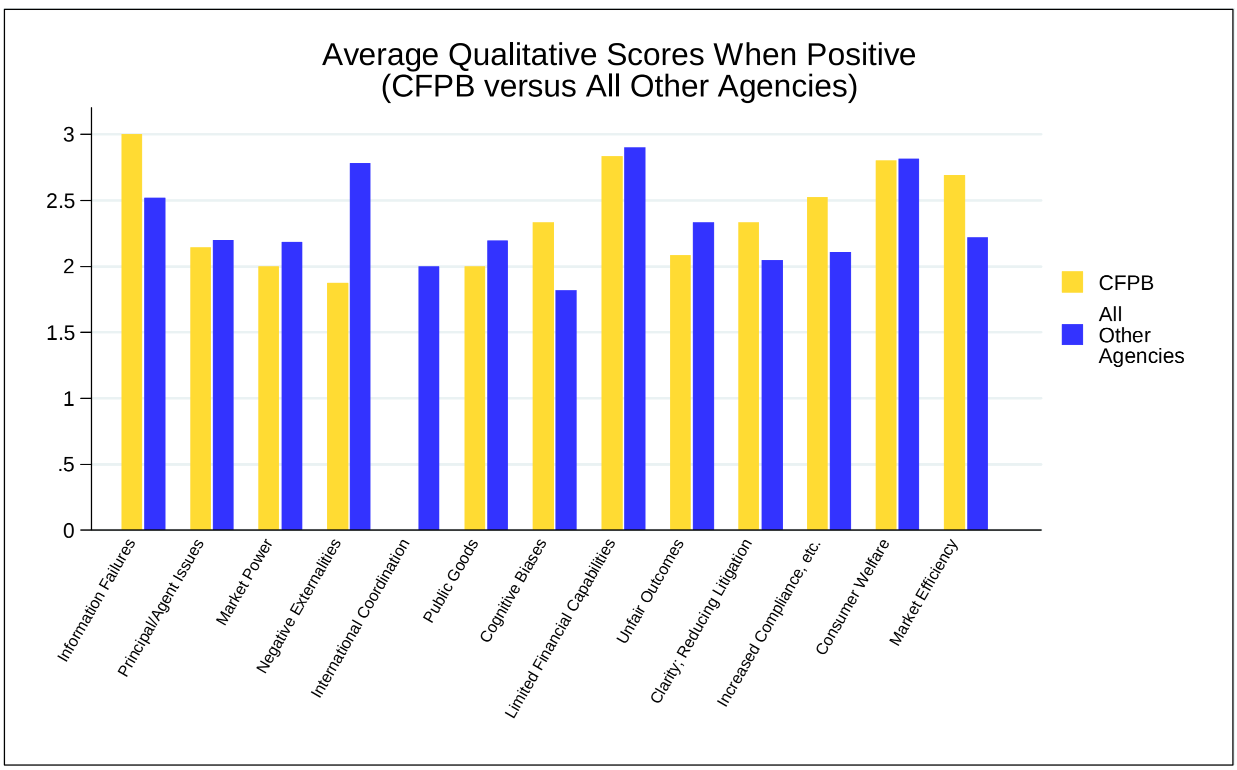


Table Five presents another take on this data. It reports average benefit counts by various subsamples and the full sample as well as averages of average intensities across benefit categories.[83] For the full sample, the average benefit count was 4.7 benefits, meaning that our research assistants found an average of slightly under five benefits in the seventy-two rulemakings they surveyed. The CBPB averages somewhat higher, with nearly six benefits (5.9) on average in the CFPB rulemakings. In contrast, there was little variation in the average intensity across various subsamples, with all groups showing averages of roughly 2.5. The last column of Table Five shows a measure of total effort, defined as each group's benefit count times its average effort. Again, the CFPB subsample has the highest total effort score, largely a function of its higher benefit counts.

Table Five - Benefit Counts, Average Intensity, & Total Effort Scores (CFPB versus Other Subsamples)

	Average of Count of Benefits Scored	Average of Avg. Intensity (If mentioned)	Average Total Effort (Count of Benefits Scored x Avg. Intensity)
CFPB	**5.91**	**2.56**	**14.53**
Other Agencies	4.26	2.52	10.34
Independent Agencies	4.33	2.50	10.20
OIRA Agencies	4.24	2.52	10.40
Financial Rulemakings	4.36	2.50	11.71
Full Sample	**4.70**	**2.53**	**11.45**

[83] For each group, this statistic averages the average Qualitative Score for each benefit category.

Box Four – Why Are the Benefit Counts So High?

One potential puzzling result of our survey is the relatively high number of benefits identified in our sample. Surveyed rulemakings averaged 4.7 asserted benefits and the CFPB rulemakings in particular averaged 5.9 asserted benefits. Compared to benefit-cost analysis in other areas, such as environmental regulation, these relatively large numbers of asserted benefits may strike some as high, and they certainly complicated certain conventions in benefit-cost analysis, such as break-even analysis built around a unitary regulatory benefit.

Conceivably, the high benefit counts simply reflect the multifaceted ways in which consumer protection regulation addresses market failures. A new required form of disclosure might well simultaneously address information failures, problems of market power, cognitive biases, as well as limited financial capabilities, and also create some sort of public good, thus generating a benefit count of five. It is, however, somewhat unexpected that the average benefit count in our full sample approached that number, and raises the possibility that our benefit counts might reflect some sort of behavioral anomaly.

Some readers, for example, have speculated that agencies might artificially expand benefit counts in cases where quantitative measures of benefits were not possible. On this view, agencies might be "throwing in the kitchen sink" when they are unable to quantify asserted benefits. To test this hypothesis, we ran a series of simple regressions, exploring the relationship between benefit counts and the extent to which benefits were quantified, as proxied by each regulation's highest benefit Quantification Score. We found no relationship for the full sample. Indeed, when expanded our regression analysis to include three explanatory variables (the highest benefit Quantification Score interacted with a dummy for each of our principal subgroups), we found that higher benefit Quantification Scores for the CFPB subsample were positively associated with benefit counts. Thus, for at least this subsample, more extensive quantitative analysis seemed to be associated with more identified benefits. So, contrary to the speculation of some readers, at least the CFPB seemed to broaden its discussion of benefits when more quantification was undertaken rather than the other way around.

C. Quantification Scores of Benefit Analyses and Word Counts

On two different dimensions, our survey process attempted to distinguish between the intensity with which surveyed agencies assess benefits as compared to costs. Our premise in undertaking this project was that the benefit analysis for consumer protection regulations has been less developed than cost analysis, and the data we collected comparing intensity of analysis as between benefits and costs largely confirmed this intuition.

Table Six presents data on Quantification Scores for both benefit analysis and cost analysis. As explained earlier, our research assistants were instructed to produce Quantification Scores for both costs and benefits, and typically produced multiple scores for individual benefits and costs in each regulation. For purposes of our analysis in Table Six and elsewhere, we focused on the highest benefit Quantification Score and the highest cost Quantification Score for each regulation on the view that quantification should be measured by the areas in which the agencies expended the greatest effort. As reported in Table Six, for the full sample and all principal subsamples, highest cost Quantification Scores exceeded highest benefit Quantification scores, whether measured by the median or the mean. Perhaps not surprisingly, both the high cost and high benefit Quantification Scores of the OIRA subsample, as measured by median and mean, exceeded those of the other subsamples. The Other Financial Rulemakings also had somewhat higher scores on both dimensions than did the CFPB subsample or the subsample of Independent Agencies.

Table Six – Quantification Scores for Benefits and Costs (CFPB versus Other Agencies)

	Median of Highest Benefit Quantification Score	Median of Highest Cost Quantification Score	Average of Highest Benefit Quantification Score	Average of Highest Cost Quantification Score
CFPB	**1.00**	**2.00**	**1.45**	**2.47**
Other Agencies	1.00	4.00	2.25	3.68
Independent Agencies	0.00	1.00	0.60	2.07
OIRA Agencies	4.00	4.75	2.91	4.32
Financial Rulemakings	1.00	4.00	1.54	3.11
Full Sample	**1.00**	**4.00**	**2.04**	**3.36**

A similar picture emerges from Table Seven, which reports the estimated word counts of the amount of text devoted to benefit analysis as opposed to cost analysis. For the full sample and all subsamples, the average number of words dedicated to cost analysis in Federal Register releases exceeds the average number of words dedicated to benefit analysis. In most, but not all cases, the median word counts had the same relationship. These word counts, however, should be regarded as noisy proxies for effort, as our research assistants had difficulty agreeing on word count totals, as the allocation of text proved to be more subjective than we had originally anticipated. In addition, as discussed earlier, some agencies, particularly agencies in the OIRA subsample, cross reference other documents with additional benefit-cost analysis and these ancillary documents were not included in our word counts.[84]

Table Seven – Word Counts: Benefit versus Cost Analysis

	Median of Benefit Word Counts	Median of Cost Word Counts	Average of Benefit Word Counts	Average of Cost Word Counts
CFPB	**1354**	**1388**	**2116**	**2467**
Other Agencies	581	916	1381	1534
Independent Agencies	1456	1291	1331	1661
OIRA Agencies	550	833	1401	1483
Financial Rulemakings	1015	1075	1313	1536
Full Sample	**883**	**1256**	**1575**	**1780**

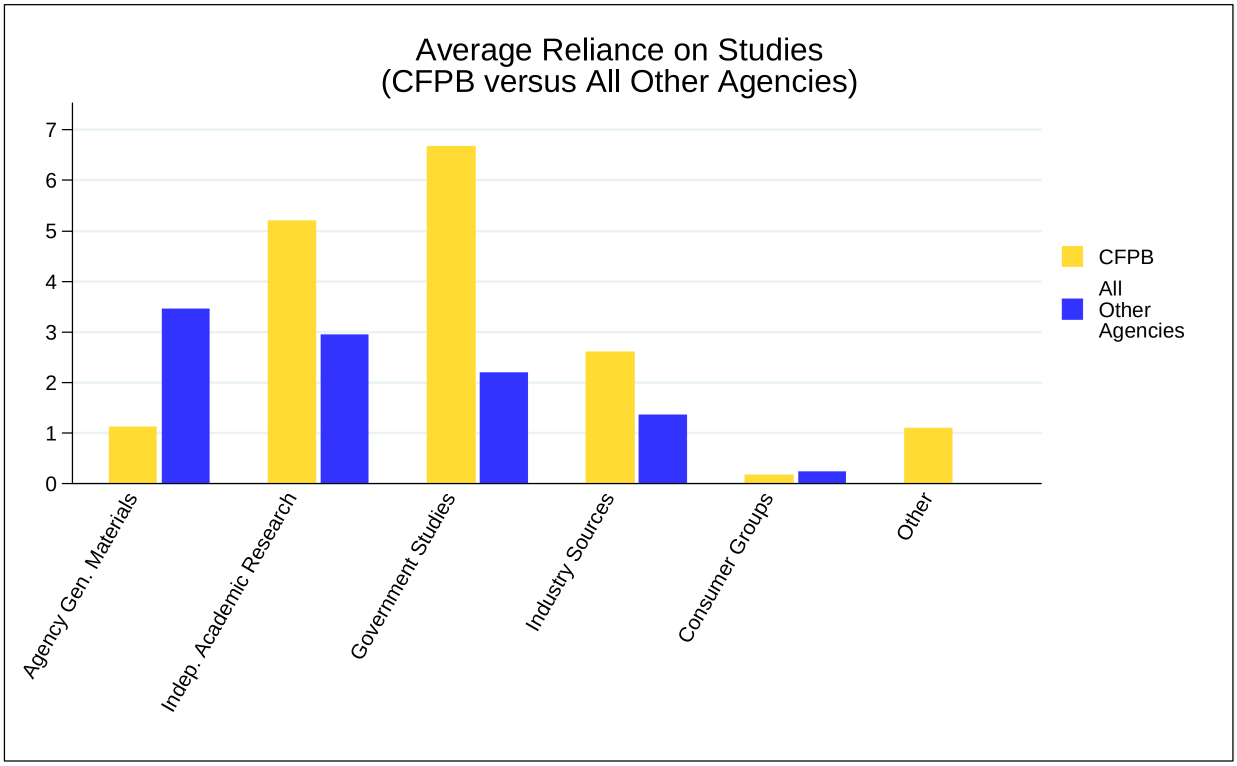
D. Additional Investigations of Survey Dataset

To give a flavor of additional variables included in our dataset and available for future investigation, we conclude this Part with several additional figures and tables of potential interest. Figure Eight, for example, reports on the average number of studies relied on by the rulemakings, distinguishing the CFPB subsample from all other agencies in the rulemakings. The Figure indicates that other agencies relied to a greater degree on agency generated materials (3.5 studies on average) than did the CFPB (1.1 studies on average). The CFPB, on the other hand, made

[84] *See supra* Part II.E.

greater use of independent academic research and government studies (5.2 and 6.9 studies on average) than did the other agencies (3.0 and 2.2 studies on average). For both subsamples, there was greater reliance on industry studies than on studies provided by consumer groups.[85]

Figure Eight



Another possible extension of previous results is to explore the relationship between the different benefit categories. Table Eight offers a simple correlation matrix of Qualitative Scores for each benefit category, with statistically significant correlation coefficients highlighted. This matrix suggests which benefit categories commonly appear together in the same regulation. For example, market power is fairly highly correlated with information failures, principal-agent issues and limited financial capabilities. Arguably, this result suggests that many of the regulatory interventions combine information problems with some sort of market power, perhaps

[85] For additional insights into the use of studies in benefit analysis, see Part III infra where we review twenty exemplars of benefit analysis and highlight key studies cited for each example.

in the form of search costs that inhibit competitive pricing. Perhaps not surprisingly, our two benefit categories grounded in behavioral economics (cognitive biases and limited financial capabilities) are also highly correlated, and market efficiencies are also commonly associated with regulations that reduce compliance costs and increase self-regulation.

To the extent our survey might suggest future avenues of research regarding the estimation of regulatory benefits in consumer finance, correlated benefit categories might offer an especially fruitful line of investigation.[86]

Table Eight – Correlation Matrix of Benefits
(Measured by Qualitative Scores)

	Information Failures	Principal-Agent Issues	Market Power	Negative Externalities	Public Goods	Unfair Outcomes	Cognitive Biases	Limited Financial Capabilities	Clarity etc	Increased Compliance	International Cooperation	Consumer Welfare	Market Efficiency
Information Failures	1												
Principal/Agent Issues	0.3536*	1											
Market Power	0.4363*	0.3526*	1										
Negative Externalities	-0.1082	-0.125	-0.1278	1									
Public Goods	0.0597	-0.1404	-0.0882	0.1291	1								
Unfair Outcomes	0.3837*	0.3533*	0.251	-0.0397	-0.1095	1							
Cognitive Biases	0.4235*	-0.0071	0.0876	0.0683	-0.2556	0.1423	1						
Limited Financial Capabilities	0.2948	0.2671	0.379*	-0.0031	-0.2467	0.1591	0.4135*	1					
Clarity etc	0.132	0.0548	-0.0049	-0.002	-0.0397	0.0657	0.104	-0.0426	1				
Increased Compliance	-0.2481	-0.1591	-0.0731	0.0566	0.0915	0.1097	-0.1323	-0.1293	0.1132	1			
International Cooperation	-0.1806	-0.1444	-0.0662	0.1488	0.1392	-0.1516	-0.0447	-0.0687	0.0513	0.2365	1		
Consumer Welfare	0.0886	0.0297	0.2179	-0.1536	-0.2781	0.1692	0.1546	0.1175	-0.0305	-0.0771	-0.152	1	
Market Efficiency	-0.2265	0.0893	0.0708	-0.1247	-0.1289	0.0057	-0.2406	0.0778	0.0316	0.3354*	0.1553	0.1004	1

*** = coefficients different than zero at the 10 percent significance level.**

Finally, Table Nine segments the sample based on criteria provided by the Regulatory Flexibility Act (RFA) and the Congressional Review Act (CRA). Under the RFA, an agency must either certify that a final rule will not have a "significant economic impact on a substantial

[86] Note that with 78 (= (13)*(12)/2) distinct correlations, it is possible by chance to find seven or eight that are strictly positive at the 10 percent significance level. The correlations and statistical tests are useful for identifying patterns in the data and suggesting directions for further research.

number of small entities" or provide a Final Regulatory Flexibility Act analysis (FRFA) of the impact.[87] Under the CRA, the Office of Information and Regulatory Affairs, with input from the issuing agency, will find that a final rule is "major" if the rule is likely to have an annual effect on the economy of $100 million or more or meets one of two other tests; otherwise the rule is non-major.[88]

We find that the inclusion of a detailed certification or a FRFA or designation as "major" under the CRA was clearly associated with higher Quantification Scores (as measured by average highest benefit Quantification Score) and higher Average Qualitative Scores (when positive). On the other hand, the inclusion of a detailed certification or a FRFA was associated with a higher benefit count while a CRA "major" designation was weakly associated with a lower benefit count. Whether the RFA and CRA requirements have a causal connection to the quality of benefit analysis remains to be proven. The RFA and CRA focus on the costs of regulation, but information about costs may inform benefit analysis through, for example, the analysis of pass-through and other market-wide effects. If so, the need to provide a detailed certification or a FRFA or to support a CRA major designation could prompt an agency to collect information relevant to benefit analysis that it otherwise might not collect. Alternatively, agency sensitivities regarding regulations that may impose a significant economic impact on a substantial number of small entities or an annual effect on the economy of $100 million or more might prompt greater attention to benefit analysis. The data presented in Table Nine are consistent with both interpretations.

Table Nine – Variations in Benefit Scores With Respect to Legal Contexts

[87] For a discussion of rulemaking requirements under the Regulatory Flexibility Act, see Box 2, *supra*.
[88] *See supra* note 67.

	Regulatory Flexibility Act Analysis		Congresssional Review Act Determination	
	Detailed Certification or FRFA (28)	Other Analysis or Exempt (44)	Major (34)	Non-Major (35)
Average of Count of Benefits Scored	5.37	4.27	4.71	4.81
Average Qualitative Benefit Score (if positive)	2.58	2.49	2.55	2.46
Average Total Effort Score	13.85	9.92	12.18	11.08
Average High-Benefit Quantification Score	2.57	1.70	3.22	1.04

Box Five – Are Agencies Quantifying the Right Benefits?

Our survey includes information about both the intensity of benefit analysis (the Qualitative Score) as well as the quantification of benefit analysis (the Quantification Score, proxied by the highest Quantification Score for each regulation). These two independent variables allow us to explore the question whether agencies in our survey quantify what seems to be the more important benefit of the rulemaking in question or simply the benefit that is easiest to quantify. We explored this question in two separate ways, drawing on the eighteen regulatory exemplars explored in Part III.

First, using a subjective approach, we asked the research assistant who helped us draft the Part III analysis to review the benefit analysis of the eighteen regulations and ascertain whether, in his view, the benefit analysis of each regulation addressed the most important asserted benefit for the regulation or some other benefit. He reported that in twelve of the eighteen cases the most quantified benefit was clearly the most important benefit and in another three cases the most quantified benefit was arguably the most important benefit. So in only three of the eighteen exemplars – or 16.7 percent of the cases – was the most quantified benefit not at least arguably the most important benefit.

Our second approach was more objective, simply asking whether the most quantified benefit identified by our research assistant earned the highest Qualitative Score in our survey. Here, for eight of the eighteen exemplars, the most quantified benefit also had the highest Qualitative Score and in another four cases, the most quantified benefit was tied for the highest Qualitative Score. For six of the exemplars (that is, one third of the cases), the most quantified benefit did not receive the highest Qualitative Score. But in many of the cases, the benefit with the highest Qualitative Score was conceptually similar to the most quantified benefit. For example, in one case, Unfair Outcomes received the highest Qualitative Score but Information Failures was the most quantified. In another case, Limited Financial Capabilities received the highest Qualitative Score, but Cognitive Biases was the most quantified.

While it is possible that agencies adjusted their qualitative discussions to reflect their quantitative efforts, our data on its face does not suggest that agencies systemically quantified benefits that were not important grounds for adopting the regulations surveyed.

Part IV: Exemplars of Benefit Analysis

This section presents an overview of twenty exemplars of benefit analysis from nineteen rulemakings. Each exemplar is a case study in the analysis of a regulatory benefit. For the most part, the exemplars are impact analyses that received high scores for quantification. A close examination of the exemplars, however, shows that the quantification sometimes uses empirical assumptions rather than observations or inferences from data.[89] Further, the analyses sometime focus on impacts that can be quantified but are a step or two removed from actual changes in consumer welfare.[90] Overall, the review of exemplars indicates both the strengths and limitations of existing methodologies and provides certain cautions regarding potential changes,

[89] We note at the outset that gaps in empirical information, and the strategies that agencies use to compensate for them, may be entirely justified. We discuss this point further below. Nevertheless, these features of regulatory benefit-cost analysis prompt recurring criticism. *See, e.g.*, Coates, *supra* note 20, at 887 ("The case studies show that quantified CBA/FR amounts to no more than 'guesstimation,' entailing . . . the use of problematic data; and/or . . . the same kinds of contestable, assumption-sensitive macroeconomic or political modeling used to make monetary policy."); Chaloupka et al., *supra* note 28, at 113 ("In its efforts to quantify these benefits, the FDA omitted several significant benefits, while making questionable assumptions that most likely lead to a substantial underestimate of the actual benefits for those that were included."); Ellig & Peirce, *supra* note 13, at 427 ("With respect to costs, the SEC estimated that the amortized paperwork burden over three years for exempt reporting advisers would be 2.67 hours but does not provide a clear basis for this assumption.") (footnote omitted); Hahn et al., *supra* note 36, at 876-77 ("Agencies often failed to use consistent analytical assumptions, the use of which would ensure that agencies are comparing and presenting consistent results. Only ten out of forty-eight rules used a consistent dollar year, a consistent discount rate, and a consistent estimate of benefits and costs.").

[90] The exemplars in the current study do go beyond the quantification of Paperwork Reduction Act costs and similar administrative costs. The literature, however, reveals numerous criticisms of agencies for failing to go beyond this type of quantification. *See, e.g.,* Coates, *supra* note 20, at 977 ("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."); Ellig & Peirce, supra note 13, at 427 ("[T]he SEC estimated that the amortized paperwork burden over three years for exempt reporting advisers would be 2.67 hours but does not provide a clear basis for this assumption. More significantly, however, the SEC failed to seriously assess potential indirect costs of the exempt reporting adviser requirements.) (footnote omitted); Arthur Fraas & Randall Lutter, *On the Economic Analysis of Regulations at Independent Regulatory Commissions*, 63 ADMIN. L. REV. 213, 216 (2011) ("[T]he [independent agencies] appear to be issuing major regulations without reporting any quantitative information on benefits and costs—apart from the paperwork burden—that would routinely be expected from executive branch agencies covered by Executive Order 12866.") (footnotes omitted) (emphasis added); GAO REPORT GAO-13-101, *supra* note 15, at 14 ("The cost discussions primarily were qualitative except for the PRA analysis, which typically included quantitative data (such as hours or dollars spent to comply with paperwork-related requirements)."); OFFICE OF THE INSPECTOR GEN. OF THE SEC, *supra* note 16, at 13-14 ("[W]e found the following in the . . . rule releases . . . None attempted to quantify benefits. All attempted to quantify the estimated PRA burden. None attempted to quantify non-PRA costs. Some used quantitative data to describe the market affected by the rulemaking.").

including mandates for additional quantification, in the analysis of benefits in consumer financial protection regulation.

A. Selection and Characteristics of the Exemplars

The exemplars were selected primarily on the basis of the scores described in Part II. We first identified all of the rules for which the benefit of some requirement was partially or fully monetized (i.e., the benefit analysis received a Quantification Score of four or five). Conditional on the benefit category, we regarded the benefit analysis as a potential exemplar if the benefit of the requirement was partially or fully monetized and the benefit was either mentioned as a benefit, discussed in detail, a key benefit cited or the only benefit cited (i.e., the benefit analysis received a Qualitative Score of two, three, four or five). We selected fifteen benefit analyses from fourteen different rulemakings, favoring those with higher Qualitative Scores and taking into account breadth across agencies and subject matter. We then selected an additional five benefit analyses with lower Quantification Scores from five additional rulemakings. This allowed us to add two additional benefit categories to the discussion (Limited Financial Capabilities and Clarity/Reducing Litigation) and add a second benefit analysis to the Unfair Outcomes category. These five additional rules are indicated with an asterisk in the tables in Part IV.C.

Table Ten – Distribution of Exemplars

Benefit Category	Count	Average Qualitative Score of Exemplars	Average Quantification Effort Score of Exemplars
Information Failures	3	3.67	4.33
Externalities	3	3.33	4.33
Market Power	1	4.00	4.00
Public Goods	1	4.00	4.00
Principal/Agent Issues	1	3.00	4.00
Cognitive Biases	2	2.50	5.00
Limited Financial Capabilities	3	3.33	1.67
Unfair Outcomes	2	3.50	2.50
Consumer Welfare	2	2.50	4.00
Clarity/Reducing Litigation	1	2.00	3.00
Increased Compliance/Self-Regulation	1	4.00	4.00

Each of the twenty exemplars belongs to one of eleven benefit categories. The first nine exemplars belong to five benefit categories that are associated with neo-classical economic justifications for regulation: information failures, externalities, market power, public goods, and principal-agent problems. The remaining exemplars belong to six benefit categories that are associated with other justifications for regulation. These justifications include benefit categories associated with behavioral economics, such as cognitive biases and limited financial capabilities; unfairness; and benefits not clearly associated with any of the above categories, which we designate as "consumer welfare."[91] We also discuss a rule that may reduce litigation by extending a presumption of compliance; and a rule that may increase substantive compliance by facilitating certain new business practices.

[91] DellaVigna provides a taxonomy of behavioral deviations from the standard model. His three classes of deviations are: nonstandard preferences, including hyperbolic discounting; nonstandard beliefs, including overconfidence about one's own future self-control; and nonstandard decisionmaking, including limited attention, heuristics and confusion. Our cognitive biases benefit category falls within his first two classes while the limited financial capabilities category falls within his third. *See* Stefano DellaVigna, "Psychology and Economics: Evidence from the Field," *Journal of Economic Literature*, 2009, Vol. 47, No. 2, 315-372.

In our discussion of each exemplar, we describe the regulatory requirements, the intended impacts, and the intended benefits.[92] We then focus on the measures used to quantify or monetize a particular benefit (the "benefit metric"). As discussed above, the benefits of a regulation result from the impact of the regulation on a pre-specified baseline environment.[93] That is to say, the benefits result from changes that would not have occurred absent the regulation. Thus, for a regulation intended to reduce a particular harm, the benefit metric would incorporate any reduction in the number of individuals at risk, any reduction in the probability of incurring the harm conditional on being at risk, and any reduction in the magnitude of harm conditional on incurring the harm, all relative to the baseline.

The analysis of the exemplars highlights instances in which the benefit analyses use empirical assumptions in place of observations or inferences from data. It is important to keep in mind, however, that it is standard practice for benefit analysis to use data from analogous policies, elasticities based on the broader market, and informed "guesstimates," and then to perform appropriate sensitivity analysis.[94] We also do not consider how agencies could have obtained the missing data or whether it would have been reasonable for the agencies to incur the associated expense and delay. The goal here is not to criticize the exemplars for gaps in empirical information or the strategies used to compensate for the gaps but rather to identify critically important areas for research.

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[92] This analysis draws on previous discussions and references (*e.g.*, Jin et al., *supra* note 28; Weimer and Vining, *supra* note 31); current research, especially in regards to cognitive biases; and two influential textbooks on benefit-cost analysis, Anthony E. Boardman, David H. Greenberg, Aidan R. Vining, and David L. Weimer, *Cost-Benefit Analysis, Concepts and Practice* (4th ed. 2011); and Richard E. Just, Darrell L. Hueth, and Andrew Schmitz, *The Welfare Economics of Public Policy* (2004).

[93] *See* Box One and also Boardman et al., *supra* note 92, at 7. The same statement holds for regulatory costs.

[94] *See* Boardman et al., *supra* note 92 at 177-187 and 274-281 ("Analysts must often be clever and bold to complete comprehensive CBAs. They should also anticipate the errors inherent in their efforts and consciously assess them to the greatest extent possible" at 275); *see also* Circular A-4, *supra* note 44 at 24 ("Benefit-Transfer Methods").

B. Behavioral Economics and Benefit Analysis

The next two sections consider twenty exemplars of benefit analysis. The discussions summarize the methodologies that the agencies use in the impact analyses, highlighting both the selection of benefits and the management of gaps in the data that is needed to measure benefits. It is generally outside the scope of our discussions to evaluate these methodologies against ideal approaches.[95] However, eight of the twenty exemplars at least mention cognitive biases[96] and methods for evaluating regulatory benefits when consumers have a behavioral bias are not well known. It is therefore useful to briefly review the applied work in behavioral economics that is directly relevant to the benefit analyses in these exemplars.

As an initial matter, it useful to distinguish the research on identifying "true" or unbiased consumer preferences from the large body of research that provides general guidance for policies when consumers have behavioral biases.[97] While general guidance may be useful for rule development, it is not precise enough to allow for careful comparisons of alternative regulatory requirements. Unbiased preferences, in contrast, provide the information needed to measure and therefore compare the welfare of behavioral consumers under alternative requirements. General guidance may be sufficient when few alternatives are feasible or there is great uncertainty about

[95] Measures of welfare loss due to standard neo-classical market failures, and thus the potential benefits from regulation, are rigorously derived and discussed in Just et al., *supra* note 92. Similarly, we do not consider how well regulatory requirements are tailored to market failures since we are not evaluating the regulations themselves (i.e., we are not evaluating whether the benefits exceed the costs or whether different regulations would provide higher net benefits).

[96] A smaller fraction of the benefit analyses in the overall sample (24%) at least mention cognitive biases.

[97] Regarding consumer financial protection policy in particular, see the surveys by Michael Barr, Sendhil Mullainathan, and Eldar Shafir, "Behaviorally Informed Financial Services Regulation," 2008, New American Foundation, available at https://www.newamerica.org/asset-building/behaviorally-informed-financial-services-regulation/ (regarding mortgages, credit cards and bank savings products); John Campbell et al., *supra* note 73 (regarding mortgages, payday lending, and retirement savings products); and Roman Inderst and Marco Ottaviani, "Financial Advice," *Journal of Economic Literature*, 2012, Vol. 50, No. 2, 494-512 (on savings and retirement plans offered by conflicted financial advisors). *See also* the recent extension of models on contracting and time inconsistency with application to the credit card market in Paul Heidhues and Botond Koszegi, "Exploiting Naivete about Self-Control in the Credit Market," *American Economic Review*, 2010, Vol. 100, No. 5, 2279-2303.

regulatory impacts, but in other circumstances it may be impossible to identify superior alternatives without accurate information about the true preferences of behavioral consumers.

Chetty, Loony and Kroft (2009) study the effects of the salience of commodity taxes on consumer behavior and welfare.[98] They establish, through field tests, that consumers misperceive the total prices of commodities when sales taxes are not included in posted prices. This misperception of the total price creates an optimization error. By varying the salience of the taxes, and thus the magnitude of the error, they can derive consumers' "true preferences." They use their empirical results to study tax incidence, deadweight loss and the general consequences of taxation on consumer welfare when agents do not optimize perfectly.

Although couched in the language of tax salience, Chetty et al. (2009) emphasize that their framework is not limited to tax policy or tax salience. Their framework is applicable whenever a behavioral bias affects consumer choices and through these choices consumer welfare; and these choices would be optimal absent the bias.[99] Their model uses two demand curves, one describing behavior given the behavioral bias (and therefore relevant to predicting behavior and market outcomes) and one describing behavior absent the bias (and therefore relevant to measuring consumer welfare).[100] Recovering true preferences may present practical challenges, but once this is done, the results can be used in theoretical formulas for benefit

[98] Raj Chetty, Adam Looney, and Kory Kroft, "Salience and Taxation: Theory and Evidence," *America Economic Review*, 2009, Vol. 99, No. 4, 1145-1177.
[99] *See* assumptions A1 and A2, *Id.* at 1170.
[100] A closely related formulation based on utility functions distinguishes "decision utility" from "experienced utility"; *see* Sendhil Mullainathan, Joshua Schwartzstein and William J. Congdon, "A Reduced-Form Approach to Behavioral Public Finance," *Annual Review of Economics*, 2012, Vol. 4, 511-540. Maximizing decision utility subject to constraints would give the observed demand curve in the Chetty model, while maximizing experienced utility subject to constraints would give the welfare-relevant demand curve. The additional structure on utility in Mullainathan et al. allows them to more explicitly model biases and the effects on policy (e.g., nonsalient components of price, present bias and overconfidence are captured by different constraints on utility parameters). The two types of utility are discussed in detail in Daniel Kahneman, Peter P. Wakker, and Rakesh Sarin, "Back to Bentham? Explorations of Experienced Utility," *Quarterly Journal of Economics*, 1997, Vol. 112, No. 2, 375-405.

analysis that are natural extensions of well-known formulas.[101] The authors conclude that their general approach of estimating consumer responses when prices, and thus incentives, are not fully transparent should be useful in a number of contexts, including the analysis of the benefits of consumer protection regulation.[102]

Allcott and Sunstein (2015) survey recent work on energy policy and cognitive biases. Similar to Chetty et al. (2009), Allcott and Sunstein emphasize that, "the challenge is to determine in a principled way which choices reflect true preferences and which reflect mistakes."[103] They offer four principles for identifying true preferences[104] and discuss recent research that implements at least some of these ideals.[105] They also consider the policy

[101] Chetty et al. also briefly consider the impact of a pre-existing market distortion (preexisting taxes) on their results. This important extension is addressed more thoroughly in Raj Chetty, "The Simple Economics of Salience and Taxation" (National Bureau of Economic Research Working Paper 15246, Aug. 2009); Mullainathan et al. (2012), *supra* note 100 (emphasizing the general result that, "in the presence of other market failures, even nudges that would improve private welfare may not be socially optimal" and therefore "it may be socially optimal to allow errors to persist"; at 524); and Hunt Allcott, Sendhil Mullainathan and Dmitry Taubinsky, "Energy Policy with Externalities and Internalities," *Journal of Public Economics*, 2014, Vol. 112, 72-88 (deriving the impact on consumer welfare from energy policy taking into account both standard externalities and the cost of being inattentive to energy efficiency when purchasing energy-using goods ("internalities")).

[102] "[T]he approach to welfare analysis proposed here—using a domain where incentives are fully salient to characterize the welfare consequences of policies that are not salient—can be applied in other contexts. Many social insurance and transfer programs (e.g., Medicare and Social Security) have complex features and may induce suboptimal behaviors. One can characterize the welfare consequences of these programs more accurately by estimating behavioral responses to analogous programs whose incentives are more salient. Another potential application is to optimal regulation (e.g., consumer protection laws, financial market regulations). By identifying "suboptimal" transactions using data on consumer's choices in domains where incentives are more salient, one could develop rules to maximize consumer welfare that do not rely on paternalistic judgements." Chetty et al., *supra* note 98, at 1176.

[103] Hunt Allcott and Cass R. Sunstein, "Regulating Internalities," *Journal of Policy Analysis and Management*, 2015, Vol. 34 No. 3, 698-705.

[104] "1. Use well-informed choices. 2. Use considered choices. Here, 'considered' means choices where the individual evaluates all relevant facets of a product or activity. 3. Use active choices. Such choices reflect the agent's own values and tastes, whereas passive choices (such as failing to opt in or opt out of a default setting) may not. 4. If individuals are present-biased, use long-run instead of present-biased (impulsive) choices." *Id.* at 702.

[105] Allcott and Sunstein state, "Kling et al. (2012) [Jeffrey Kling, Sendhil Mullainathan, Eldar Shafir, Lee Vermeulen, and Marian Wrobel, "Comparison Friction: Experimental Evidence from Medicare Drug Plans," *Quarterly Journal of Economics*, 2012, Vol. 127, No. 1, 199-235] show that people are more likely to choose a lower-cost health insurance plan when given simplified comparison information; Carroll et al. (2009) [Gabriel Carroll, James Choi, David Laibson, Brigitte Madrian, and Andrew Metrick, "Optimal Defaults and Active Decisions," *Quarterly Journal of Economics*, 2009, Vol. 124, 1639-1674] show that more people enroll in 401k savings plans when making active choices instead of passive "opt-in" choices; and Hossein and Morgan (2006) [Tanjim Hossain and John Morgan, "...Plus Shipping and Handling: Revenue (Non)Equivalence in Field Experiments on eBay," *Advances in Economic Analysis and Policy*, 2006, Vol. 6] show that consumers are less

implications of this work. Allcott and Sunstein emphasize that cognitive biases do not overturn the standard result that taxes and subsidies are generally superior to regulation (which in the cases they consider are energy standards).[106] Regardless of the policy conclusion, however, the research they discuss advances methodologies for measuring the benefits of policy interventions, including regulation, in the presence of behavioral biases.

Finally, research by Weimer, Vining, and Thomas (2009) and Jin, Kenkel, Liu, and Wang (2015) measure the benefits of regulations directed at reduced consumption of an addictive good (cigarettes).[107] Weimer et al. define the welfare-relevant demand curve for cigarettes to be consumer demand without the addictive component.[108] They conduct a contingent valuation survey to directly estimate consumer willingness-to-pay to eliminate the addiction. Addiction causes over-consumption from the vantage point of the welfare-relevant demand curve, and in general there could be negative consumer surplus at the actual (observed) level of consumption.

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likely to buy a product when more of the cost is included in the base price instead of "shrouded" as part of shipping and handling charges. In all three examples, people's choices differ between two contexts (informed vs. uninformed, active vs. passive choice, clearly-presented vs. shrouded costs), and the first of the two contexts more plausibly reflects true preferences." Allcott and Sunstein, *Id.* at 698. They also note recent research on uncovering the true preferences of consumers for car fuel efficiency. *See* Hunt Allcott and Nathan Wozny, "Gasoline Prices, Fuel Economy, and the Energy Paradox," *Review of Economics and Statistics*, 2014, Vol 96., No. 10 (December), 779-795; Meghan Busse, Christopher Knittel, and Florian Zettelmeyer, "Are Consumers Myopic? Evidence from New and Used Car Purchases," *American Economic Review*, 2013, Vol. 103, No. 1 (February), 220-256; and James Sallee, Sarah West, and Wei Fan, (2015). "Do Consumers Recognize the Value of Fuel Economy? Evidence from Used Car Prices and Gasoline Price Fluctuations." Working Paper, University of Chicago (January).

[106] Allcott and Sunstein, *Id.* at 700-701. Of course, regulation can be superior to the status quo even if welfare would be higher-still under a different policy. Further, when consumer choice is demonstrably biased and difficult to influence through the combined effects of nudges and taxes and subsidies, then the case for regulation may be strong. O'Donoghue and Rabin (2006) note that over-consumption may be driven by "visceral motivations" or addiction and thus may not be very price-sensitive. Ted O'Donoghue and Matthew Rabin, "Optimal Sin Taxes," *Journal of Public Economics*, 2006, Vol. 90, No. 10-11, 1825-1849, at 1839-1840.

[107] David L. Weimer, Aidan R. Vining, and Randall K. Thomas, "Cost-Benefit Analysis Involving Addictive Goods: Contingent Valuation to Estimate Willingness to Pay for Smoking Cessation," *Health Economics*, 2009, Vol. 18, 181-202; and Lawrence Jin, Donald S. Kenkel, Feng Liu, and Hua Wang, "Retrospective and Prospective Benefit-Cost Analysis of US Anti-Smoking Policies" (National Bureau of Economic Research Working Paper 20998, Mar. 2015). The literature on smoking and behavioral bias (time-inconsistent preferences) begins with Jonathan Gruber and Botond Koszeki, "Is Addiction 'Rational'? Theory and Evidence," *Quarterly Journal of Economics*, 2001, Vol. 116, No. 4, 1261-1303.

[108] Weimer et al., *Id.* at 184.

In other words, a ban on an addictive good could increase consumer welfare.[109] The authors conclude, based on true consumer preferences, that the actual reduction in consumer surplus from a 25% increase in price is just 75% of what the market demand curve would imply.[110]

Jin et al. (2015) build on Chetty (2009), Mullainathan et al. (2012) and Weimer et al. (2009) as well as the conceptual framework in Ashley, Nardinelli, and Lavaty (2015) [111] to estimate consumer benefits from U.S. anti-smoking policies from 1964 to 2010. Jin et al. begin by estimating the impact of anti-smoking policies on consumer demand. This requires simulating what market demand would have been in each year absent these policies and computing the difference from observed demand. To measure the benefit to consumers, they estimate the welfare-relevant demand curve in each year, which is the demand for cigarettes by a "fully informed rational decision-making" smoker.[112] They then estimate a standard measure of welfare change, the compensating variation, but using the welfare-relevant demand curve. Roughly speaking, this compensating variation is the amount of money the rational smoker would need to be given to be indifferent between her actual consumption and (higher) consumption defined by non-rational smokers absent the anti-smoking policies.[113] They then sum up these benefits over each year from 1964 to 2010. At a discount rate of 3 percent, the

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[109] If consumer surplus is negative at the market outcome, then a ban on the good would increase consumer welfare, but a less extreme policy would generally provide even greater consumer welfare than a ban. *See also supra* note 106.

[110] These findings are obviously sensitive to whether demand without the addictive component takes into account all of the effects that cigarette consumption imposes on one's future self. Given the breadth of the long-term health impacts from smoking, there is skepticism among some researchers about whether it is possible to measure a fully-informed demand curve for cigarettes (and presumably other addictive goods). *See* Chaloupka et al., *supra* note 28.

[111] Elizabeth M. Ashley, Clark Nardinelli, and Rosemarie A. Lavaty, "Estimating the Benefits of Health Policies That Reduce Harmful Consumption," *Health Economics*, 2015, Vol. 24, 617-624.

[112] Jin et al., *supra* note 28, at 22.

[113] More precisely, this is the compensating variation from the policy change using "experienced utility"; Jin et al., *supra* note 28, at 3. See also Mullainathan et al. (2012), *supra* note 100.

present value of these benefits was about $573 billion in 2010 dollars, or $369 to each smoker in each year of smoking.[114]

In summary, there have been important advances in measuring the benefits of policies that alter consumption choices that have been influenced by behavioral biases. This work is still in its early stages, however. For consumer financial protection in particular, negative outcomes associated with consumer financial products are highly heterogeneous, ranging from relatively minor fees and charges to persistently low returns on savings, penalty interest rates, bankruptcy, foreclosure and loss of access to the banking and credit system. The influence of behavioral biases on the likelihood of these outcomes and the impact of these outcomes on consumer welfare present distinct and challenging measurement problems. Finally, given the practical constraints on policy, methodologies for measuring benefits must be applicable not only to taxes, subsidies, information disclosure, and nudges but also to the more prescriptive requirements found in many regulations.

C. Neo-Classical Market Failures

1. Information Failures

Rule	Agency	Information Failures Qualitative Score	Requirements associated with benefit	Quantification Effort Score	Benefit Metric	Key empirical assumption or estimate
Fiduciary Requirements for Disclosure in Participant-Directed Individual Account Plans	DOL	4: Key benefit cited	Disclosure of comparative performance information and fees	5: Fully monetized	Time saved	Assumed 60-90 minute reduction in search time
Enhancing Airline Passenger Protections	DOT	3: Discussed in detail	Disclosure of full fares in advertising	4: Some monetization	Time saved	Estimated 3 minute reduction in search time
Tire Fuel Efficiency Consumer Information Program	DOT	4: Key benefit cited	Disclosure of replacement tire ratings for fuel efficiency, safety and durability	4: Some monetization	Fuel saved and reduced greenhouse gas emissions	Assumed 1 percent of targeted tires would have 5% improved rolling resistance

[114] Jin et al., *supra* note 28, at 25.

The three rules in this section address information failures[115] in the markets for retirement investments, airline tickets, and replacement tires for automobiles. The regulatory impact analyses for retirement plans and airline tickets measure the benefit of additional information by the value of the time consumers are expected to save in finding the products they want. These analyses note that additional information may also lead consumers to make better or more personally satisfying choices; however, neither attempts to measure this effect. In contrast, the benefit of additional information regarding automobile tires is measured by the value of fuel consumers would save from finding and selecting tires they preferred.

It is worth emphasizing at the start that information failures provide a very common rationale for consumer protection regulations. This is true both in our sample[116] and historically.[117] Further, the economics of information has informed the analysis of consumer protection regulations almost since its inception.[118] Early contributions include general guidance

[115] "Information failures: Present if regulation addresses information asymmetries or other information problems that existed during the baseline period. Usually found in disclosure regulations. Be careful to distinguish from cognitive biases and limited financial capabilities. The focus here should be on whether, or not there was a lack of information available, not whether the information was easily or properly understood." Instructions for CBA Evaluations, Spring 2014.

[116] Sixty percent of the entire sample and seventy percent of the exemplars at least mention information failures as a benefit category.

[117] *See* Alan Schwartz and Louis L. Wilde, "Competitive Equilibria in Markets for Heterogeneous Goods Under Imperfect Information: A Theoretical Analysis with Policy Implications," *The Bell Journal of Economics*, 1982, Vol. 13, No. 1, 181-193 ("For over a decade, the federal government has responded aggressively to apparent information imperfections in consumer markets. Examples of such responses include the Truth in Lending Law, the Magnusson-Moss Warranty-Federal Trade Commission Improvement Act, the Consumer Leasing Act, and the Real Estate Settlement Procedures Act"; the authors also opine, "Congress has passed almost all of this regulation with no clear idea of what purposes it wanted to achieve, or could in fact achieve, or of the relation between various intervention strategies and the possible goals of government action."); also Aidan R. Vining and David L. Weimer, "Information Asymmetry Favoring Sellers: A Policy Framework," *Policy Sciences*, 1988, Vol. 21, 281-303 ("Most of the programs of the Consumer Product Safety Commission and the Food and Drug Administration, for instance, seem to be responses to the perception that consumers suffer in various ways because manufacturers have greater information about the true characteristics of their products. But examples can be found in almost all areas of public policy: labelling requirements (such as energy efficiency ratings for appliances and mileage ratings for automobiles), mandatory disclosure rules (as applied to insurance and real estate contracts), minimum quality standards for inputs (specification of materials in building codes and certification requirements for health professionals) and outputs (crash standards for automobile bumpers), limitations on buyers (drugs by prescription and minimum age of legal purchase for alcohol), and outright prohibitions (bans on substances such as Laetrile)").

[118] *See* for example Pauline M. Ippolito, "Consumer Protection Economics: A Selective Survey," in P.M. Ippolito and D.T. Scheffman, Eds., *Empirical Approaches to Consumer Protection Economics*, Bureau of Economics,

for information policy, [119] detailed analysis of the potential benefits and unintended consequences of requiring or prohibiting disclosures,[120] and a standard model of welfare losses due to "uninformed demand" (and thus the benefits of better-informed demand).[121] At least one early consumer financial protection rulemaking justified prescriptive requirements over information disclosures in terms that are still relevant today.[122]

Failures in the market for information provide general motivation for the three rulemakings in this section.[123] If information were provided efficiently, the benefit to consumers from additional information would exactly equal the additional cost of collecting and providing it. The reasons that information may not be provided efficiently by sellers or third parties are well known: once collected, information sold to one individual may become available to many others

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Federal Trade Commission, Washington, DC, March 1986, available at https://www.ftc.gov/sites/default/files/documents/reports/empirical-approaches-consumer-protection-economics/198404consumereconomics.pdf ("The economics of consumer protection regulation is essentially contained in the economics of information").

[119] *See e.g.,* Michael R. Darby and Edi Karni, "Free Competition and the Optimal Amount of Fraud," *Journal of Law and Economics*, 1973, Vol. 16, No. 1, 67-88 (distinguishing the risks to consumers due to information failures on whether a good is a "search good," "experience good" or "credence good").

[120] *See* Howard Beales, Richard Craswell, and Steven C. Salop, "The Efficient Regulation of Consumer Information," *Journal of Law and Economics*, 1981, Vol. 24, No. 3, 491-539; Vining and Weimer, *supra* note 117; and Paul H. Rubin, "The Economics of Regulating Deception," *Cato Journal*, 1991, V. 10, No. 3, 667-690.

[121] *See* Vining and Weimer, *supra* note 117, at 282-284; a thorough and more recent treatment is in Just et al., *supra* note 92, at 417-450 ("Chapter 11: The welfare economics of information with applications to advertising and information policy").

[122] In 1984, the Federal Trade Commission issued a rule that prohibited the inclusion of certain collection remedies in consumer credit contracts issued by the non-bank entities over which the Commission had jurisdiction (the bank regulators subsequently issued substantially similar rules.). *See* Trade Regulation Rule; Credit Practices, 49 Fed. Reg. 7740 (March 1, 1984)(16 C.F.R. Part 444). The Commission found that the prohibited collection remedies imposed substantial injury on consumers, and the Commission considered why competition and consumer search wouldn't create contracts without these terms. In summarizing its analysis (*see* "The Market for Creditors' Remedies"), the Commission stated, "Because remedies are relevant only in the event of default, and default is relatively infrequent, consumers reasonably concentrate their search on such factors as interest rates and payment terms. Searching for credit contracts is also difficult, because contracts are written in obscure technical language, do not use standardized terminology, and may not be provided before the transaction is consummated. Individual creditors have little incentive to provide better terms and explain their benefits to consumers, because a costly education effort would be required with all creditors sharing the benefits. Moreover, such a campaign might differentially attract relatively high risk borrowers." 49 Fed. Reg. 7740, at 7744.

[123] *See* Weimer and Vining, *supra* note 31, 103-111. As these authors note, it is sometimes useful to distinguish information undersupply (valuable information is not collected) from information asymmetry (valuable information is collected and known by some parties but not others). The presence of asymmetric information, however, somewhat begs the question of why a market for trading the information does not develop. This failure to trade may reflect the same concerns about receiving payment that prevent other types of information from being collected in the first place.

who do not compensate the provider. This reduces the incentive for the good seller or a third party to collect the information at all. Personalized after-market information (e.g., regarding the actual or likely cost-of-use of a product) is somewhat different since it may not be useful to multiple individuals. However, this type of information may also not be provided efficiently if the goods provider controls the information and the revenue received from selling the information (plus the revenue gained from any new customers) is less than the revenue lost due to changes in how customers use the product (along with revenue lost from any departing customers).

In a rulemaking on retirement plans,[124] the Employee Benefits Security Administration (EBSA) of the Department of Labor issued a final rule establishing a uniform, basic disclosure regime for participant-directed individual retirement account plans such as 401(k) plans. Plan providers must provide up-front and annual disclosures about expenses and returns. They must also provide quarterly disclosures showing the dollar amount of the administrative or individual plan-related fees and expenses actually charged to or deducted from the individual accounts. The information must be provided in a chart or similar format designed to facilitate a comparison of each investment option available under the plan. Thus, the disclosure regime for investment products involves a mix of uniform and personalized disclosures that are broadly intended to facilitate initial consumer choices and the monitoring and review of those choices.

To measure the benefit, EBSA estimates the number of people who participate in individual investment accounts and the number likely to be already receiving the required disclosures. This analysis draws on both administrative data and research conducted by the Employee Benefits Retirement Institute. However, EBSA states that it "does not have empirical

[124] Fiduciary Requirements for Disclosure in Participant-Directed Individual Account Plans, 75 Fed. Reg. 64909 (Oct. 20, 2010) (29 C.F.R. Part 2550).

evidence" on the amount of time each participant may save because of the new content and formatting requirements. To complete the analysis, EBSA assumes that participants in covered plans that currently provide disclosures that are similar to the ones required by the new rule would save 60 minutes while participants in other covered plans would save 90 minutes.[125]

In a rulemaking on airline safety standards,[126] the Department of Transportation (DOT) issued a final rule establishing requirements on airline contingency plans, disclosures, and customer refunds in order to improve "the air travel environment for consumers".[127] In particular, the rule has a number of provisions for "full-fare advertising," which, among other things, require that all advertised fares incorporate government-imposed taxes and fees as well as mandatory carrier-imposed fees (like booking charges); require the clear and conspicuous disclosure of any round-trip purchase requirement when advertising each-way fares; and prohibit the automatic inclusion of fees for optional services, so consumers would no longer need to opt-out of the service to avoid the fee.

The analysis of benefits from full-fare advertising focuses on the time consumers would save from no longer having to search across multiple websites for fares that include all fees and charges.[128] DOT uses a range of administrative data to estimate the number of air passengers who purchase tickets online. It acknowledges, however, having very limited information on the number of consumers who search and examine multiple websites to compare fares or how frequently these consumers encounter websites that do not display full-fare advertising. Once DOT estimates the number of consumers who would benefit from full-fare advertising, the

[125] *Id.* at 64929.
[126] Enhancing Airline Passenger Protections, 76 Fed. Reg. 23109 (April 25, 2011) (14 C.F.R. Parts 244, 250, 253, 259, and 399).
[127] *Id.* at 23110.
[128] *See* Department of Transportation and Econometrica, Inc., Final Regulatory Analysis (FRA) for "Enhancing Airline Passenger Protections II," Final Rule, April 2011, pp. 54-59, *available at* http://www.regulations.gov/contentStreamer?objectId=0900006480c3085d&disposition=attachment&contentType=pdf.

agency states that it assumes each consumer would save 3 minutes on average, "based on a series of user time trials." The agency does not say anything about the methodology used for the time trials or report the sample size, in contrast to the extensive discussion of the data used to estimate the number of air passengers who purchase tickets online. The agency does acknowledge that the sample was not representative of all ticket purchasers.[129]

In a rulemaking on tire standards,[130] the National Highway Traffic Safety Administration (NHTSA), an agency housed within the Department of Transportation, issued a final rule pursuant to the Energy Independence and Security Act of 2007 (EISA). EISA required the NHTSA to establish a new consumer information program about the comparative performance of replacement passenger car tires in terms of fuel efficiency, safety, and durability.[131] The rule defines test procedures for tire ratings and requires manufacturers to submit these ratings to NHTSA. These testing and reporting requirements are the first step in the development of a database of comparative performance information on tire fuel efficiency, safety, and durability.

The analysis of benefits from establishing a database of comparative tire performance focuses on the savings both to individual consumers from using more fuel-efficient tires and to society through reductions in CO_2 emissions.[132] NHTSA argues that consumers would purchase more fuel efficient replacement tires if they could more easily compare performance characteristics and price. NHTSA has extensive information on how frequently tires are replaced,

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[129] FRA, p. 57. DOT also presents a brief quantitative analysis of the possibility that consumers purchase tickets that they would prefer to avoid because they "anchor" on lower, incomplete fares and then fail to fully take into account the full fare when it is revealed during the purchase process. DOT states that "the main analysis" does not include the analysis of "suboptimal purchasing decisions" and refers readers to Appendix 2 (FRA 56-57). There, DOT notes that, "industry commenters to the rule strongly disagreed with this theoretical assumption" that consumers might anchor on lower, incomplete fares that they see when searching (FRA B-1).
[130] Tire Fuel Efficiency Consumer Information Program, 75 Fed. Reg. 15893 (March 30, 2010) (49 C.F.R. Part 575).
[131] *Id.* at 15895.
[132] *See* National Highway Traffic Safety Administration, Department of Transportation, Final Regulatory Impact Analysis for the Tire Fuel Efficiency Consumer Information Program (FRIA), March 2010, at http://www.nhtsa.gov/staticfiles/rulemaking/pdf/Rolling_Resistance_FRIA.pdf

and can therefore estimate how many improved tires would be on the road for any given number of annual purchases of improved tires. However, NHTSA does not have information about how providing comparative performance information in a database would change consumer purchase behavior. Thus, the Final Regulatory Impact Analysis estimates benefits “using a range of hypothetical assumptions.”[133] The main estimate of benefits assumes that, because of the database, one percent of tires that consumers purchase have a 5 percent reduction in rolling resistance, which translates into a .65% improvement in fuel efficiency.[134]

2. Externalities

Rule	Agency	Externalities Qualitative Score	Requirements associated with benefit	Quantification Effort Score	Benefit Metric	Key empirical assumption or estimate
Energy Conservation Standards for Residential Refrigerators, Refrigerator-Freezers, and Freezers	DOE	4: Key benefit cited	Requirements for energy efficiency	4: Some monetization	Reduced greenhouse gas emissions	Estimated reduction in demand for refrigerators using price elasticity of demand
Emergency Homeowners' Loan Program	HUD	2: Mentioned as a benefit	Framework for providing emergency financial assistance to homeowners	4: Some monetization	Value of foreclosures avoided	Assumed 75%-85% of participants avoid foreclosure
Examinations of Work Areas in Underground Coal Mines for Violations of Mandatory Health or Safety Standards	DOL	4: Key benefit cited	Additional examinations for specific risks; disclosures	5: Fully monetized	Mineworker injuries and fatalities avoided	Assumed examinations would eliminate 100% of violations and associated injuries and fatalities

The three rules in this section address externalities[135] in the markets for refrigerators and housing and also in regards to workplace safety. The regulatory impact analyses measure reductions in external harms through the value of reduced greenhouse gas emissions, the value of

[133] 75 Fed. Reg. at 15933.
[134] FRIA, 83-95.
[135] “Externalities: Present if the benefit limits negative externalities that existed in the market during the baseline period. Score here if a transaction between two parties in the pre-regulatory period had negative external effects on others or society as a whole, *and* the regulation attempts to address the issue. For example, a regulation that limits foreclosures will limit the negative externalities that foreclosures trigger on communities.” Instructions for CBA Evaluations, Spring 2014. *See also* Weimer and Vining, *supra* note 31, at 91-97.

reduced foreclosures, and (as explained below) reduced mineworker injuries and fatalities. Other benefits are also measured as part of a broader analysis of the impacts of the rules.

In a rulemaking on refrigerator standards,[136] the Department of Energy (DOE) issued a final rule pursuant to the Energy Policy and Conservation Act (EPCA) that prescribes energy conservation standards for refrigerators, refrigerator-freezers, and freezers.[137] Under the regulatory regime established by EPCA, DOE prescribes test procedures that manufacturers must use as the basis for certifying to DOE that their products meet the prescribed standards. DOE must also use these test procedures to determine compliance with the standards.[138] EPCA also requires DOE to consider whether an amended standard is economically justified using seven specific factors, and DOE may not prescribe an amended standard if it determines that the amended standard is not economically justified.[139] The actual standards in this rule are statements of maximum annual energy use by the products covered by the rule, which are different types of refrigerators, refrigerator-freezers, and freezers.

DOE's estimates of energy savings take into account the full chain of effects that begin with more restrictive energy standards and subsequently lead to higher manufacturing costs, higher consumer prices, and reduced market demand. Since all new appliances will have to comply with the standards, DOE essentially estimates the rate at which new appliances will diffuse into consumer households and computes the energy savings based on the difference in energy consumption between new and old appliances. The analysis is repeated for all of the different types of covered products as well as for different sub-groups of consumers. DOE then

[136] Energy Conservation Program: Energy Conservation Standards for Residential Refrigerators, Refrigerator-Freezers, and Freezers, 76 Fed. Reg. 57515 (Sept. 15, 2011) (10 C.F.R. Part 430). The Quantification Scores assigned by the research assistants were 4 and 5, the table reports 4 for simplicity.
[137] *Id.* at 57516.
[138] *Id.* at 57521.
[139] *Id.* at 57521.

uses an existing computer model to convert the estimated energy savings into reduced power sector emissions of carbon dioxide[140] and monetizes the reduction using a model for the social cost of carbon.[141]

DOE also projects the economic impacts on individual consumers, using a product life-cycle model. Interestingly, DOE reports that these impacts are generally positive: consumers pay more initially for appliances that meet the new standards but the lower cost-of-use more than offsets the additional cost. This raises the obvious question of why consumer demand does not lead the market to produce more energy efficient products in the first place. DOE notes that "the economics literature provides a wide-ranging discussion of how consumers trade off upfront costs and energy savings … [and] attempts to explain why consumers appear to undervalue energy efficiency improvements," and then provides a list of possible reasons, including "excessive focus on the short term."[142] Any such behavioral bias would be reflected in the price elasticities of demand that DOE uses. Note that while the bias, and thus the rate at which new appliances are purchased, might be sensitive to information about energy savings (e.g., as provided on product labels[143]), simply de-biasing consumers would not in itself lead to an efficient market outcome in the presence of an externality.[144]

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[140] *Id.* at 57558.
[141] *Id.* at 57518.
[142] *Id.* at 57593.
[143] DOE notes that the Federal Trade Commission is generally responsible for labeling issues on consumer products (57521).
[144] There is a growing body of research on consumer investments in energy efficiency and the policy implications of differences between the actual discounted stream of energy cost savings and the value that consumers place on these savings (or their perceptions of these savings). *See* the discussion of behavioral biases and energy policy in Part IV.B. above as well as Hunt Allcott and Michael Greenstone, "Is There an Energy Efficiency Gap?" *Journal of Economic Perspectives*, 2012, Vol. 26 No. 1, 3-28.

In a rulemaking on a mortgage assistance program,[145] the Department of Housing and Urban Development (HUD) issued a final rule that reinstates a framework for providing emergency relief to financially distressed and underemployed homeowners who are temporarily unable to make their mortgage payments.[146] The Emergency Homeowners' Loan Program (EHLP) allows the U.S. Department of Housing and Urban Development to provide a maximum of $50,000 for five years at zero interest to eligible homeowners. Homeowners must be at least 90 days delinquent on their mortgages due to a reduction of household income and face the threat of foreclosure. Reasons for the reduction of income are limited to involuntary unemployment, involuntary under-employment, and medical conditions. Current household income must be less than 85% of the household's previous income and previous income must have been no more than 120 percent of Area Median Income (AMI). Homeowner's must also meet certain conditions to demonstrate that they have a reasonable likelihood of resuming full monthly mortgage payments and repaying the loan.

HUD first estimates the number of program participants using the program budget and the expected average loan size.[147] HUD then estimates the benefits of preventing a single foreclosure to four groups: homeowners, lenders, neighbors and local governments. The external benefit of preventing a single foreclosure accrues to neighbors and to some extent local governments. The benefit to neighbors comes through avoiding the negative effects on the quality of life from unoccupied and potentially damaged property. These negative effects include additional crime and reduced visual attractiveness of the neighborhood. Some, but

[145] Emergency Homeowners' Loan Program, 76 Fed. Reg. 11946 (Mar. 4, 2011) (24 C.F.R. Chapter XV). The Quantification Scores assigned by the research assistants were 4 and 5, the table reports 4 for simplicity.
[146] *Id.* at 11946.
[147] *See* Department of Housing and Urban Development, (RIAEHLP) "Regulatory Impact Analysis for Emergency Homeowners' Loan Program," Interim Rule, March 2011, at http://portal.hud.gov/hudportal/documents/huddoc?id=ia-emrgncyhmownerslp.pdf

perhaps not all, of these negative effects would be capitalized into lower housing prices. To the extent local governments work to maintain property values through programs and policing, those expenses attenuate the reduction in quality of life that would otherwise occur and the associated decline in housing prices. Thus, these expenses may also provide an external benefit. HUD draws on its own data and published work to estimate these benefits per prevented foreclosure.

While HUD is able to estimate the number of program participants and the benefit of preventing an individual homeowner's foreclosure, HUD does not have the data with which to estimate the reduction in the probability of foreclosure caused by the program. This data is needed, along with the previous information, to compute the per-participant and total benefit of the program. To complete the analysis, HUD assumes a program foreclosure rate of 15%, so a program participant has an 85% reduction in the probability of foreclosure. While HUD notes that 15% is twice the national rate of homeowners seriously delinquent or in foreclosure,[148] there is no analysis to explain why a randomly drawn program participant (i.e., a homeowner who is distressed but with high potential for recovery) would have twice the foreclosure rate of a homeowner drawn randomly from the population.

In a rulemaking on mine safety standards,[149] the Mine Safety and Health Administration (MSHA), an agency housed within the Department of Labor, promulgated a final rule that revises the requirements for mine operators' examinations of underground coal mines and identification of health and safety violations. Under the new requirements, mine examiners must not only examine for hazardous conditions but also identify, record, and correct violations of nine health or safety standards that are known to quickly create hazardous conditions. MSHA review of accident investigation reports and enforcement data showed repeated violations of

[148] RIAEHLP, 5.
[149] Examinations of Work Areas in Underground Coal Mines for Violations of Mandatory Health or Safety Standards, 77 Fed. Reg. 20700 (Apr. 6, 2012) (30 C.F.R. Part 75).

these standards and that "these violations present some of the most unsafe conditions in underground coal mines."[150]

Although somewhat non-standard, one may view the benefit of the rule as reducing an externality on the current workforce. In a workplace that has multiple sources of risk, employers can unilaterally, or with parties other than workers, reduce precaution and increase risk without the workers necessarily observing the change. From this perspective, these decisions create an (after-market) external harm.[151] In the long run the additional risk should be realized and either removed or priced into wages, but this is true for any externality where rights in the underlying transaction—in this case, employment—are clear and parties can bargain.[152]

To quantify the benefits of the inspection program, MSHA reviewed mine inspection reports to identify injuries and deaths that were attributable to the health and safety violations that the rule requires examiners to identify, record and correct. However, the MSHA analysis does not attempt to predict the effectiveness of the inspection program. Instead, the analysis implicitly assumes that all such violations would have been corrected and that as a result none of the injuries or deaths attributable to those violations would have occurred. Thus, having identified 12 fatalities attributable to these violations in five years of data, MSHA estimates that the rule will prevent (12/5 =) 2.4 fatalities per year. A similar analysis leads MSHA to conclude

[150] *Id.* at 20702.

[151] It is more conventional in this scenario to focus on the information asymmetry than the externality, but the externality has certainly been noted. *See* Weimer and Vining, *supra* note 31, at 103 ("[T]here may be differences in the amount of information relating to the attributes of an externality between the generator of the externality and the affected party. Workers, for instance, may not be as well informed about the health risks of industrial chemicals as their employers."). The information asymmetry also limits the feasibility of taxes or subsidies instead of regulation to reduce workplace safety risks.

[152] Weimer and Vining, *supra* note 31, at 95. The rule also requires the examiner to post a conspicuous danger sign in the area where any hazardous condition (not presenting an "imminent danger") is found. These disclosures would then inform workers that working conditions were more dangerous than they realized. In principle this could facilitate bargaining that would proactively enhance workplace safety and reduce the externality. The efficiency rationale for mandating additional examinations, as opposed to simply posting disclosures or doing nothing, rests on how well the additional examinations are tailored to the problem, the relative speed of risk and wage adjustment under the different alternatives, and the ability (or tendency) of employers to increase and then reduce precaution when workers cannot readily observe these changes in workplace safety.

that the rule will prevent 6.4 lost-time injuries per year.[153] While it may be reasonable to assume that all violations will be identified and corrected, the analysis of benefits provides no discussion of this issue.

3. Market Power

Rule	Agency	Market Power Qualitative Score	Requirements associated with benefit	Quantification Effort Score	Benefit Metric	Key empirical assumption or estimate
Health Insurance Issuers Implementing Medical Loss Ratio (MLR) Requirements Under the Patient Protection and Affordable Care Act	HHS	4: Key benefit cited	Rebates to consumers if the ratio of claims to premiums is too low.	4: Some monetization	[None: "unable to quantify benefits"] Increase in MLRs; rebates	Estimated impact on MLRs in range of 1%-7% compared to 2009, based on discussions with industry

In a rulemaking on health insurance premium standards,[154] the Department of Health and Human Services (HHS) issued an interim final rule that establishes disclosure requirements and medical loss ratio (MLR) requirements for health insurance issuers.[155] In particular, the rule provides an annual rebate to enrollees if the issuer's MLR—in essence, the ratio of claims to premiums—is below a critical threshold. The thresholds are generally 85 percent in the large group market and 80 percent in the small group or individual market.[156]

This rule primarily addresses market power in the market for health insurance.[157] According to HHS, this market power results from both a lack of price transparency as well as from the absence of multiple competing plans in some locations.[158] The emphasis on price

[153] 77 Fed. Reg. at 20706-07.
[154] Health Insurance Issuers Implementing Medical Loss Ratio (MLR) Requirements Under the Patient Protection and Affordable Care Act, 75 Fed. Reg. 74863 (December 1, 2010) (45 C.F.R. Part 158).
[155] As defined by the rule, MLR is "an accounting statistic that…measures the percentage of total premiums that insurance companies spend on health care and quality initiatives, versus what they spend on administration, marketing and profit" (74895).
[156] *Id.* at 74865.
[157] "Market power: Present if the regulation talks about market participants having power to raise prices without market feedback mechanisms, or if the regulation points to the fact that consumer could not accurately comparison-shop for the best price during the baseline period." Instructions for CBA Evaluations, Spring 2014. *See also* Weimer and Vining, *supra* note 31, at 64-65 and 114.
[158] 75 Fed. Reg. at 74895.

transparency to some extent echoes the statutory mandate, which calls for greater transparency and accountability around the expenditures made by health insurance issuers.[159] HHS emphasizes in the burden analysis that a lack of transparency may prevent adequate competition based on the value of the product.[160]

The rule has a disclosure requirement that addresses the market power caused by a lack of price transparency. Issuers are required to send information on their revenues and expenses to the Department of Health and Human Services and the Department posts this information on its web site. The MLR rebate requirement provides an incentive for issuers with a medical loss ratio that would not otherwise reach the threshold to increase spending on “quality-promoting activities.”[161] Issuers who pay the rebates may be transferring back to consumers some of the surplus earned when competitive pressures do not align prices and costs. However, the impact analysis does not claim that rebates (when triggered) leave consumers as well off as they would be absent market power or that rebates (when not triggered) imply that prices are competitive.[162] Indeed, HHS states explicitly, “we are unable to quantify benefits,”[163] presumably because of the difficulty in fully accounting for how the MLR requirement affects pricing and how additional quality-promoting activities and changes in pricing affect consumer welfare.

Although HHS cannot quantify benefits, it does estimate changes in the MLRs and rebates.[164] HHS has a great deal of data with which to estimate MLRs prior to the rule. To

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[159] *Id.* at 74865.
[160] “Even in markets with multiple competing plans, lack of transparency in pricing may prevent adequate competition based on the value of product, since it is difficult to ascertain if a low premium is due to high efficiency, low coverage of medical claims, or a healthy underlying population of enrollees. As a result, insurers can provide an inefficient, low-value product without consumers being fully aware of what they are purchasing.” *Id.* at 74895.
[161] *Id.* at 74895.
[162] *Id.* at 74893-94.
[163] *Id.* at 74893.
[164] *See* Department of Health and Human Services, Regulatory Impact Analysis (RIA) to “Health Insurance Issuers Implementing Medical Loss Ratio (MLR) Requirements under the Patient Protection and Affordable Care Act,”

estimate how the MLRs may change because of the rule, HHS spoke with industry experts. Based on these discussions, HHS developed an initial estimate that MLRs would increase by 3 percent of premium (i.e., 3 percentage points) with a range of 1 to 5 percent of premium.[165] After incorporating other uncertainties, the agency concluded that MLRs would increase at most 7 percent of premium.[166] HHS was then able to compute a range of values for the rebates, which would be paid by issuers whose MLRs would still not reach the threshold.

4. Public Goods

Rule	Agency	Public Goods Qualitative Score	Requirements associated with benefit	Quantification Effort Score	Benefit Metric	Key empirical assumption or estimate
Patient Safety and Quality Improvement	HHS	4: Key benefit cited	Framework to encourage health care providers to voluntarily report information on adverse events.	4: Some monetization	Cost savings from adverse events prevented	Assumed reduction in preventable adverse events by 1% to 3% in the first five years

In a rulemaking on health care reporting standards,[167] the Agency for Healthcare Research and Quality (AHRQ), an agency housed within the Department of Health and Human Services, issued a final rule that establishes a framework by which health care providers may voluntarily report information to Patient Safety Organizations (PSOs) for the aggregation and analysis of patient safety events. The rule establishes the requirements that entities must meet to

Final Rule, December 2010, at http://www.cms.gov/CCIIO/Resources/Files/Downloads/mlr_20101122_technical_appendix.pdf

[165] "Discussions with industry experts suggest that quality improving activities are likely to account for an average of approximately 3 percent of premium, but there is substantial uncertainty concerning this estimate. Few observers think that quality improving activities will be greater than 5 percent of premium, and few expect that they will be less than 1 percent of premium. In the mid-range estimate, the Department assumes that quality improving activities will account for 3 percent of premium, and uses the 1 percent and 5 percent estimates as the range in a sensitivity analysis" (RIA, 16).

[166] RIA, 16-17 and Table 10.

[167] Patient Safety and Quality Improvement, 73 Fed. Reg. 70732 (Nov. 21, 2008) (42 C.F.R. Part 3).

become PSOs and provides privilege and confidentiality protections for the information that is assembled and developed by providers and PSOs.[168]

This rule furthers the overall goal of the statute, "to develop a national system for analyzing and learning from patient safety events."[169] The PSOs promote the collection and analysis of information that may reduce the risk of adverse outcomes to patients when receiving health care. Since the information is costly to collect and analyze, but equally available to (qualified) users once produced, the PSOs may be regarded as providing a public good.[170]

Regarding the benefits of the rule, the legal framework removes barriers to voluntary information sharing that exist in the pre-rule (or baseline) regulatory regime. The rule therefore promotes the voluntary provision of a public good relative to the baseline. The rule does not, however, address the general inefficiency associated with the voluntary (or private) provision of public goods. The analysis of benefits by AHRQ largely sets this issue aside, presumably because hospitals and many other health care providers already have adverse event reporting systems and a safety/quality function.[171] Providing information to PSOs would therefore not require significant additional expense for these providers and so they would contribute.

Regarding the reduction in adverse patient outcomes that PSOs might achieve, AHRQ draws on research by the Institute of Medicine and reports that the total national costs of preventable adverse events lies between $17 to $29 billion.[172] Of this, health care providers have the ability to control $8.5 to $14.5 billion. AHRQ then assumes that PSOs would be capable of reducing such events by one percent to three percent within their first five years of operation.

[168] *Id.* at 70732.
[169] *Id.* at 70741.
[170] "Public goods: In addition to including tragedies of the commons, a public goods benefit is present if the regulation creates new public information. This would include, for example, a new *public* data source as a result of new data collection." Instructions for CBA Evaluations, Spring 2014. *See also* Weimer and Vining, *supra* note 31, at 72-91.
[171] 73 Fed. Reg. at 70793.
[172] See the Notice of Proposed Rulemaking, 8169.

This appears to be for purposes of illustration, as no empirical foundation or source for this figure is offered. AHRQ then multiplied the 1% to 3% range by the $8.5 to $14.5 billion range, yielding estimated savings of $85 to $145 million at the 1% level and $255 to $435 million at the 3% level.

5. Principal-Agent Issues

Rule	Agency	Principal/Agent Issues Qualitative Score	Requirements associated with benefit	Quantification Effort Score	Benefit Metric	Key empirical assumption or estimate
2013 Real Estate Settlement Procedures Act (Regulation X)	CFPB	3: Discussed in detail	Disclosures; servicer must renew homeowner's insurance instead of obtaining force-placed insurance in certain cases	4: Some monetization	Cost savings from force-placed insurance avoided	Assumed 10% reduction in force-placed insurance

In a rulemaking on mortgage loan servicing standards,[173] the Consumer Financial Protection Bureau (CFPB) issued a final rule that implements provisions of the Dodd-Frank Wall Street Reform and Protection Act regarding mortgage loan servicing.[174] In particular, the rule provides protections to borrowers with respect to the use of force-placed (i.e., lender-placed) insurance by servicers.[175]

This rule addresses an agency issue in the servicing of mortgage loans.[176] For unsecuritized mortgages (known as "whole loans"), servicers are the agents of the owners; for

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[173] Mortgage Servicing Rules under the Real Estate Settlement Procedures Act (Regulation X), 78 Fed. Reg. 10695 (Feb. 14, 2013) (12 C.F.R. Part 1024).
[174] *Id.* at 10696.
[175] "The statute [i.e., the Dodd-Frank Act] generally defines 'force-placed insurance' as hazard insurance coverage obtained by a servicer of a federally related mortgage loan when the borrower has failed to maintain or renew hazard insurance on such property as required of the borrower under the terms of the mortgage loan" (10762).
[176] "Principal/agent issues: Centers around misalignment of incentives between a principal and someone acting on her behalf. This does not concern corporate governance issues, but it is implicated when a hired agent does not act fully on behalf of the principal (*e.g.*, real estate agents not acting purely on behalf of their client). When appropriate, you may include a non-traditional principal-agent relationship (e.g., mortgage brokers and their customers), if the regulation indicates that principal-agent misalignments are at issue." Instructions for CBA Evaluations, Spring 2014. Weimer and Vining provide a brief discussion, *supra* note 31, at 178-179; a formal analysis is in Hal R. Varian, *Microeconomic Analysis*, 3d edition, W. W. Norton and Company, Inc., at 440-454.

securitized loans, however, servicers are retained by the trustee of a mortgage pool. The owners of whole loans and the investors in mortgage pools have a direct financial interest in loan performance. Servicers who are agents of the owners of whole loans, and especially servicers who are employed by trustees of servicing pools, face complicated and often weak incentives to work with homeowners once loans are in default.[177] Individual investors and trustees have in practice limited incentives or ability to discipline servicers[178]; borrowers have essentially none.[179] As a result, servicers may pursue their self-interest to the detriment of both borrowers and investors. In regards to force-placed insurance, the CFPB provides citations to federal complaints and comments at public hearings regarding payments made to servicers, and services offered to servicers, by providers of force-placed insurance that reduce servicer incentives to notify borrowers about lapsing insurance and which may drive up the cost of force-placed insurance.[180]

The rule imposes a number of requirements on mortgage loan servicers with respect to the use of force-placed insurance. Servicers must, among other requirements, provide two written notices to a borrower over at least 45 days before imposing a charge for force-placed insurance on the borrower. The notices generally warn the borrower that hazard insurance is

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[177] 78 Fed. Reg. at 10699-10700, 10818, & 10853. *See also* Adam J. Levitin and Tara Twomey, "Mortgage Servicing," *Yale Journal on Regulation*, 2011, Vol. 28, No. 1., at 37 ("Servicers are compensated in four ways: a servicing fee, float income, ancillary fees, and a retained interest in the securitization. The values of three of the four types of compensation—servicing fees, float, and retained interests—vary based on factors beyond the servicer's control, particularly mortgage prepayment speeds, which are largely a function of interest rates. Accordingly, a servicer's ability to influence its net servicing income depends on its ability to levy ancillary fees and to control servicing costs. This compensation structure incentivizes servicers to aggressively pursue ancillary fees and to pursue loss mitigation strategies that minimize costs, even if they fail to maximize returns to investors."); *and* Diane E. Thompson, "Foreclosing Modifications: How Servicer Incentives Discourage Loan Modifications," *Washington Law Review*, 2011, Vol. 86, 755-840.

[178] *See* Levitin and Twomey, *supra* note 177, at 57-69. Fannie Mae and Freddie Mac, as guarantors as well as trustees, have a greater incentive to monitor servicers and can more easily strip servicers of their servicing rights for poor performance; *see* 66-67.

[179] 78 Fed. Reg. at 10843 ("A borrower cannot readily leave a servicer if the quality of servicing proves to be unsatisfactory, and the borrower [who refinances] cannot control the selection of the new servicer.").

[180] *Id.* at 10762.

required, that the servicer needs proof that the borrower has hazard insurance, and that the servicer will obtain hazard insurance at the borrower's expense without this proof. All charges must bear a reasonable relationship to the servicer's cost of providing the service. Further, for borrowers who pay for hazard insurance through an escrow account, the servicer must advance funds to the escrow account and pay the premium when failure to pay the premium is the only reason the hazard insurance will be cancelled.

The CFPB uses data from a range of sources to estimate the number of homeowners that incur force-placement each year, the number of months they pay for force-placed insurance, and the difference between the average homeowner's monthly insurance premium and the average force-placed insurance premium. The CFPB does not, however, have data with which to estimate the fraction of these individuals who would no longer pay for force-placed insurance because of the rule. For purpose of illustration, the CFPB considered a scenario in which the rule would reduce the incidence of force-placed insurance by 10 percent.[181] This implied 104,000 fewer homeowners would incur force-placement each year. The CFPB then multiplied this figure by the estimated annual savings in premiums ($73 to $440) to obtain total savings of $7.6 million to $45.8 million per year.

[181] *Id.* at 10850.

D. Behavioral Economic and Other Benefits

1. Cognitive Biases

Rule	Agency	Cognitive Biases Qualitative Score	Requirements associated with benefit	Quantification Effort Score	Benefit Metric	Key empirical assumption or estimate
Investment Advice—Participants and Beneficiaries	DOL	2: Mentioned as a benefit	Under limited circumstances, allows a fiduciary advisor to offer investment advice for a fee.	5: Fully monetized	Investment losses avoided due to fewer investment mistakes by participants	Assumed that advised participants make investment errors at one-half the rate of unadvised participants
Required Warnings for Cigarette Packages and Advertisements	HHS	3: Discussed in detail	Mandatory display of health warnings on cigarette packages and advertisements.	5: Fully monetized	Value of smoking ceased or avoided to the affected individuals	Estimated the number of people who cease or avoid smoking and the value to them

The two rules in this section address cognitive biases[182] that may affect such diverse consumer decisions as the selection of retirement investments and the use of cigarettes. The Employee Benefits Security Administration (EBSA) of the Department of Labor argues that cognitive biases can produce myopia and overconfidence which in turn can cause participants in retirement plans to make poor investment decisions.[183] The impact analysis measures the benefit of the rule by the investment losses that are avoided due to the additional investment advice that the rule makes available. The Department of Health and Human Services (HHS) argues that the same cognitive biases play a role in smoking initiation and continuation by some consumers.[184] The impact analysis measures the benefit of the rule primarily by the health benefits to the people who cease or avoid smoking because of the rule.

[182] "Cognitive biases: Present if the market failure is a result of the flawed way people process information. This would include, for example, a bias for short-term benefits over greater long-term benefits." Instructions for CBA Evaluations, Spring 2014. *See also* the discussion of behavioral economics and benefit analysis in Part IV.B.
[183] *Id.* at 66153.
[184] 76 Fed. Reg. 36719.

In a rulemaking on investment advice standards,[185] EBSA issued a final rule that in limited circumstances allows a fiduciary advisor to offer investment advice for a fee to individuals in participant-directed individual account plans. Fiduciaries are generally prohibited from rendering investment advice to plan participants and receiving fees.[186] The rule implements two statutory exceptions to this prohibition. Under the first exception, advice is exempt if it meets a “fee-leveling” requirement. This requirement proscribes the receipt of fees or compensation that varies based on investment options selected.[187] Under the second exception, advice is exempt if it meets a “computer-model” requirement. Under this requirement, the investment advice must be generated by a computer model that takes into account historic risks and returns, avoids inappropriately favoring investment options offered by the fiduciary advisor, and meets other conditions.[188]

EBSA estimates the cost of investment mistakes to participants and the reduction in these costs due to the rule. Using a wide range of government, academic, and industry sources, EBSA estimates that mistakes cost investors about $114 billion annually.[189] EBSA then estimates percentages of plan participants that will use the advice made available by the rule, under varying assumptions.[190] Using these percentages and information on numbers of plan participants, EBSA estimates that an additional 9 to 11 million defined-contribution plan

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[185] Investment Advice—Participants and Beneficiaries, 66 Fed. Reg. 66135 (25 October 2011) (29 C.F.R. Part 2550).

[186] A similar conflict-of-interest in mortgage lending was addressed by the mortgage loan originator rules issued by the Board of Governors (75 Fed. Reg. 58509) and the CFPB (78 Fed. Reg. 11280). The Board rule in particular prohibited, among other things, loan originators from steering consumers to consummate a loan not in their interest because of greater compensation for the loan originator.

[187] 66 Fed. Reg. at 66139.

[188] *Id.* at 66141.

[189] *See* Table 2, “Existing/Pre-PPA advice only (baseline),” *Id.* at 66152 and fn. 45, which references the 2008 proposed rule. The academic and industry sources are provided in the regulatory impact analysis for the 2008 proposed rule. In that analysis, EBSA estimates that $109 billion in investment losses occur from unnecessary fees and expenses, poor trading strategies, inadequate diversification, inappropriate risk, and excess taxes. *See* 73 Fed. Reg.49896, 49903-49905.

[190] *See* Table 4, *Id.* at 66155, and fn. 67.

participants and 25 to 41 million IRA plan participants will use investment advice that is available because of the rule.[191] To complete the analysis, EBSA assumes that advised participants make investment errors at one-half the rate of unadvised participants. Relying on this assumption, the above information, and data on retirement assets, EBSA estimates that the reduction in investment errors by advised participants would save plan participants $7 billion to $18 billion annually.[192]

In a rulemaking on cigarette health warnings,[193] the Department of Health and Human Services (HHS) issued a final rule that added a new requirement for the display of graphic health warnings on cigarette packages and in advertisements. HHS estimates the likely impact of graphic warning labels on U.S. smoking rates by comparing trends in U.S. and Canadian smoking rates from 1995 to 2009 and using the fact that Canada required the use of warning labels in December 2000.[194] HHS runs a simple regression on Canadian smoking rates in order to estimate "unexplained" smoking rates that depend only on random factors and (after 2000) the graphic warning labels.[195] Subtracting the average unexplained smoking rates for 1995 to 2000 from the average unexplained smoking rates for 2001 to 2009 provides one estimate of the impact of the graphic warning labels. This estimate, however, assumes that random factors on average have the same impact on smoking rates in both time intervals. A potentially superior estimate allows the impact to change over time and assumes instead that the change in impact is the same in the United States and Canada.[196] HHS estimates this change by running the above regression on smoking rates in the United States and subtracting the average unexplained

[191] *See* Table 5, *Id.* at 66156
[192] *See* Table 2, "New/PPA advice," *Id.* at 66152-66153.
[193] Required Warnings for Cigarette Packages and Advertisements, 76 Fed. Reg. 36627 (June 22, 2011) (21 C.F.R. Part 1141).
[194] *See* generally *Id.* at 36719-36721 and 36755-36756.
[195] *Id.* at 36755.
[196] "In our preferred estimation method…we use the U.S. experience as an additional control," *Id.* at 36756.

smoking rates for 1995 to 2000 from the average unexplained smoking rates for 2001-2009. HHS concludes that graphic warning labels would reduce smoking rates in the United States by .088 percentage points or 213,000 people in 2013.[197]

HHS then quantifies the benefits that accrue to dissuaded smokers.[198] In the primary analysis, HHS state that time inconsistency causes consumers to incompletely recognize the full costs of smoking.[199] As a result, cigarettes are overconsumed, and the rule benefits consumers by mitigating this outcome. HHS measures the benefits of the rule as the difference in the value of health improvements to dissuaded smokers less the value that they give up from not engaging in the activity of smoking (*i.e.*, the lost consumer surplus). HHS finds that 93% of the value of the rule-induced health benefits is offset by lost consumer surplus.[200] The remaining 7%, however, nevertheless provides a substantial benefit to dissuaded smokers. HHS estimates that benefits annualized over 20 years are $630.5 million at a 3-percent discount rate.[201]

We note in closing that a number of the papers discussed in Part IV. B. address addiction and cigarette smoking. HHS notes that their methodology for measuring the benefits of reduced cigarette consumption is equivalent to that in Weimer, Vining and Thomas (2009).[202] Conversely, Jin, Kenkel, Liu and Wang (2015) discuss the "health benefit" methodology in this

[197] *Id.* at 36721. In 2012, the U.S. Court of Appeals for the District of Columbia ruled that these estimates did not provide "substantial evidence" that the rule's requirements "directly advance the asserted [governmental] interest" (i.e., reducing smoking rates) and vacated the rule. The Court argued HHS did not adequately address the full range of confounding variables in the Canadian data and thus HHS did not establish that the warning labels caused a reduction in Canadian smoking rates. Further, even setting aside this issue, the reported impact on U.S. smoking rates based on the Canadian data was not statistically distinguishable from zero. *See* R.J. Reynolds Tobacco Co. v. FDA, 696 F.3d 1205, 1219-22 (D.C. Cir. 2012).

[198] *See* generally *Id.* at 36721-36722 and 36772-36774.

[199] *Id.* at 36721. HHS also considers data on willingness-to-pay to participate in smoking cessation programs to estimate the benefits of the rule. HHS provides several reasons that this data likely underestimates the benefits of the rule, including the fact that smokers who are willing to participate in smoking cessation programs are a select group who have recognized the benefits of cessation and are acting on this realization. *Id.* at 36721.

[200] *Id.* at 36722 and 36774.

[201] *See* Table 2, *Id.* at 36708.

[202] "[T]he two analytic methods will produce equivalent results, as we illustrate below" *Id.* at 36773. *See* Weimer et al., *supra* note 107.

exemplar and demonstrate that it is consistent with their own, arguably more standard, methodology based on the compensating variation for the change in cigarette consumption.[203] They also implement the HHS health benefit methodology using their own data and find, similar to HHS, that net benefits are only about 6 percent of gross health benefits.

2. Limited Financial Capabilities

Rule	Agency	Limited Financial Capabilities Qualitative Score	Requirements associated with benefit	Quantification Effort Score	Benefit Metric	Key empirical assumption or estimate
Investment Adviser Performance Compensation*	SEC	4: Key benefit cited	Effectively removes home equity from net worth calculation for "qualified clients"	3: Impact quantified, not monetized	Number of households affected by the rule (positively and negatively).	Estimated 1.3 million households can no longer enter into performance fee contracts unless they meet another test of the rule
High-Cost Mortgage and Homeownership Counseling Amendments to Regulation Z and Homeownership Counseling Amendment*	CFPB	3: Discussed in detail	Pre-loan counseling prior to origination for "high-cost" and negative amortizing loans	1: Qualitative, explanation for why not quantified	NA	NA
Escrow Requirements under the Truth in Lending Act*	CFPB	3: Discussed in detail	Escrow accounts must be maintained for at least 5 years for "higher-priced" mortgage loans	1: Qualitative, explanation for why not quantified	NA	NA

The three rules in this section address the effects of limited financial capabilities[204] on investors and consumers obtaining mortgages. The SEC rule strengthens existing restrictions on access to less sophisticated investors by advisors who may have a conflict-of-interest. The regulatory impact analysis measures the benefit of the rule by the reduction in the number of investors with an advisor who may offer conflicted advice. The two CFPB rules respectively

[203] "In contrast to the market-based approach…several recent BCAs of health-related regulation use what we term the health benefits approach. Although the approaches are not necessarily inconsistent…the approaches implicitly frame the policy problem quite differently." Jin et al., *supra* note 28, at 12. They also note, "An offset ratio of zero is inconsistent with the compensating variation (CV) measure of consumer welfare in both standard and behavioral welfare economics." Jin et al., supra note 28, at 33.

[204] "Limited financial capabilities: Present if failure to process mathematical or financial information enables a market failure. This may be particularly common if adequate disclosures present information that requires a high degree of mathematical acuity to process or digest." Instructions for CBA Evaluations, Spring 2014.

ensure that consumers who are considering certain mortgages receive counseling and increase the length of time that some of them have escrow accounts. Counseling may help these consumers understand the terms of these mortgages so they can better evaluate both affordability and whether they should continue searching for alternatives. Escrow accounts provide both convenience and budgeting benefits. The regulatory impact analyses provide mostly qualitative discussions of these benefits.[205]

The SEC rule is closely related to the EBSA rule on investment advisors discussed above. While the SEC rule strengthens existing restrictions on potentially conflicted advisors, the EBSA rule allows potentially conflicted advisors to begin offering a limited set of products. Both regulatory regimes balance the need for advice against the risks associated with conflicts-of-interest, but the two rules happen to move the respective regulatory regimes in opposite directions. The two CFPB rules on expensive mortgages facilitate informed consumer choice and reduce risks subsequent to that choice, respectively. Counseling is similar to mandatory disclosure in facilitating choice without restricting alternatives. Counseling, however, may be more useful than disclosure to consumers with limited financial capabilities. In contrast, the escrow account requirement amounts to a design standard on expensive mortgages. This requirement reduces risks to consumers who may have particular difficulty keeping track of scheduled payments, accumulating the funds needed to make payments, or managing an increase in payments from an increase in hazard insurance or property tax rates.

In a rulemaking on investment adviser performance compensation,[206] the Securities and Exchange Commission (SEC) issued a final rule that revises the net worth test for "qualified clients" to exclude home equity. This change decreases the number of investors whose

[205] Note that, as indicated by the asterisks, the three rules in this section have quantification effort scores below 4.
[206] Investment Adviser Performance Compensation, 77 Fed. Reg. 10358 (February 22, 2012) (17 C.F.R. 275)

computed net worth is large enough that they may be charged performance based compensation by an investment advisor.[207] In its discussion of the rule, the SEC states, "We believe that the value of an individual's primary residence may bear little or no relationship to that person's financial experience or ability to bear the risks of performance fee arrangements."[208]

To measure the benefit of the rule, the SEC estimated the difference between the total number of households with a net worth above the $2 million threshold when respectively including and excluding home equity. By definition, this difference is the number of households that are now protected by the performance fee restriction. The expected number of households who benefit from the rule, however, is the number now protected who, absent the rule, would have also incurred losses because of performance based compensation. The expected monetized benefit of the rule depends on this number and the average size of the losses. The analysis does not provide these numbers.

In a rulemaking on home mortgage counseling standards,[209] the Consumer Financial Protection Bureau (CFPB) issued a final rule that imposed a pre-loan counseling requirement on high-cost mortgages covered by the Home Ownership Equity Protections Act of 1994 (HOEPA). A similar requirement was imposed for negative amortizing loans made to first-time borrowers. The rule also imposed a broad requirement to provide loan applicants with a list of housing counselors.[210]

The CFPB provided several paragraphs of qualitative discussion of the potential benefits of counseling described above, with references to various sources. Counseling might improve

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[207] *Id.* at 10358.
[208] The Commission adds, "In addition, because of the generally illiquid nature of residential assets, the value of an individual's home equity may not help the investor to bear the risks of loss that are inherent in performance fee arrangements" (10364). *See also* 10361 n. 41.
[209] High-Cost Mortgage and Homeownership Counseling Amendments to the Truth in Lending Act (Regulation Z) and Homeownership Counseling Amendments to the Real Estate Settlement Procedures Act (Regulation X), 78 Fed. Reg. 6856 (Jan 31, 2013) (12 C.F.R. Parts 1024 and 1026).
[210] *Id.* at 6857.

the consumer's assessment of his or her ability to meet the scheduled loan payments or make the consumer aware of alternatives such as purchasing a different home or different mortgage product.[211] Counseling might also counteract any tendency among consumers to consider only loan features that are most certain, most easily understood, most immediately relevant, or most clearly highlighted by the creditor.[212] Thus, counseling might cause some consumers to identify preferable alternatives to a high-cost or negative amortizing mortgage and thus reduce the risk of unnecessarily incurring costs that are unique to these mortgages.

In a rulemaking on escrow requirements,[213] the CFPB issued a final rule that implements the Dodd-Frank Act's escrow-related amendments to the Truth in Lending Act (TILA).[214] The rule increases to five years the period of time in which an escrow account is mandatory for a higher-priced mortgage loan, with an exemption for small creditors.

The CFPB considered both budgeting and convenience benefits from escrow accounts. Absent uniform mandatory escrow payments, some consumers would fail to save adequately for property taxes and home insurance and face higher risks of default.[215] The CFPB approximated this benefit by drawing on a Federal Reserve Board study on the value to taxpayers of over-withholding (and subsequent refunds) of personal income taxes.[216] Based on this study, the CFPB estimated that the average value of over-withholding due to incremental mortgage payments was 2.65 percent of the yearly amount paid for property taxes and insurance.[217] The CFPB acknowledged that the mortgage and tax analogy is not exact since a tax refund can be

[211] *Id.* at 6949.
[212] *Id.* at 6950.
[213] Escrow Requirements under the Truth in Lending Act (Regulation Z), 78 Fed. Reg. 4726 (Jan. 22, 2013) (12 C.F.R. Part 1026).
[214] *Id.* at 4726.
[215] *Id.* at 4745.
[216] Michael Barr and Jane Dokko, Federal Reserve Board, "Paying to Save: Tax Withholding and Asset Allocation Among Low- and Moderate-Income Taxpayers," Finance and Economics Discussion Series, 2008.
[217] *Id.* at 4745.

used for any purpose. However, the CFPB also pointed out that tax refunds would likely be used on the most pressing needs first just as escrow surpluses would be used on the pressing need to prevent foreclosure.[218]

Regarding the convenience benefits from escrow accounts, the CFPB noted that consumers may prefer to pay a single bill instead of separately paying a mortgage bill, insurance bill and tax bill. The servicer in effect takes on this burden.[219] Noting the lack of current research on convenience benefits, the CFPB found an approximation in a study of home Internet services.[220] This study estimated a benefit of around $20 per month per customer from the value of paying the same bill for phone, cable television, and Internet services.[221] In addition, the CFPB noted that 217,260 loans would have been covered by the rule if it had been in effect in 2011.[222] This is at least suggestive of the number of consumers who would benefit from the rule, at least initially.

3. Unfair Outcomes

Rule	Agency	Unfair Outcomes Qualitative Score	Requirements associated with benefit	Quantification Effort Score	Benefit Metric	Key empirical assumption or estimate
Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities	DOJ	4: Key benefit cited	Requires enough space in single-user toilet rooms for side method of transferring from a wheelchair to a toilet	4: Some monetization	Value of time saved; changes in consumer surplus	Estimated value of time saved and changes in consumer surplus
Interim Final Rules Prohibiting Discrimination Based on Genetic Information*	DOL	3: Discussed in detail	Prohibition on discrimination in health insurance coverage and group health plans based on genetic information	1: Qualitative, explanation for why not quantified	NA (CBO predicted the bill would increase health insurance coverage by 600 people per year)	NA

[218] *Id.* at 4745.
[219] *Id.* at 4744.
[220] Hongju Liu, Pradeep Chintagunta, and Ting Zhu, "Complementarities and the Demand for Home Broadband Internet Services," *Marketing Science* 29: 701–720 (2010).
[221] 78 Fed. Reg. at 4745.
[222] 78 Fed. Reg. at 4744.

The two rules in this section address unfair outcomes.[223] The Department of Justice (DOJ) rule requires larger handicapped toilet rooms in public accommodations (i.e., businesses that are generally open to the public and fall into one of 12 categories in the ADA) and commercial facilities like office buildings. This rule, like others implementing the ADA, enhances the accessibility of different types of facilities to individuals with disabilities. The Department of Health and Human Services (HHS) rule concerns discrimination based on genetic information. The rule is intended to prohibit discrimination based on genetic information in health insurance coverage and group health plans.

In a rulemaking on accessibility standards,[224] the Department of Justice (DOJ) issued a final rule that adopts accessibility standards under the Americans with Disabilities Act of 1990 (ADA). In particular, the rule's water closet clearance standards require that "single-user toilet rooms with in-swinging and out-swinging doors… allow sufficient room for 'side' or 'parallel' methods of transferring from a wheelchair to a toilet."[225] The general discussion by DOJ explains that side or parallel transfers are used by large numbers of persons who use wheelchairs and are regularly taught in rehabilitation and occupational therapy. The revised regulations made single-user toilet rooms accessible to more persons who use wheelchairs but lack the physical strength, balance, and dexterity and the training to use a front transfer method.[226]

DOJ first assessed the time savings per use of a toilet room that complied with the standards by individuals with various disabilities. DOJ then created estimates for the number of visits to toilet rooms in public accommodations, accounting for the different types of disabilities,

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[223] "Unfair outcomes: Includes fair access to goods, services, and credit if not tied to some other identified benefit. Focus is on justice. Regulations addressing discrimination or abusive practices will be scored under unfair outcomes." Instructions for CBA Evaluations, Spring 2014.

[224] Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities, 75 Fed. Reg. 56236 (Sept. 15, 2010) (28 C.F.R. 36)

[225] *Id.* at 56242.

[226] *Id.* at 56241-42.

facilities, and income levels, to develop aggregate time savings and the value of this savings. For example, DOJ concluded that the total net monetary benefits of water clearance standards for toilet rooms with out-swinging doors was "approximately $900 million over the life of these regulations."[227] Importantly, in the Final Regulatory Impact Analysis, DOJ also estimated the impact of the requirements on toilet rooms on the demand for visits to different types of public accommodations and the associated increase in the welfare (consumer surplus) of handicapped individuals. Thus, the DOJ analysis of benefits provides a thorough discussion of the change in welfare of handicapped individuals. However, data was not available to estimate all of the parameters in these demand curves, including the initial difference in "ease of access" for handicapped and non-handicapped individuals. DOJ simply assumed that the standards would fully eliminate the difference.[228]

In a rulemaking on genetic information standards,[229] the Departments of Labor, Treasury, and Health and Human Services issued a final rule that prohibits discrimination based on genetic information in health insurance coverage and group health plans. In particular, the rule aims to decrease the number of individuals that are denied coverage due to genetic predispositions for diseases.[230]

Comments received in response to the Departments' Request for Information (RFI) indicate that genetic testing and research currently are being underutilized. A major reason cited for the lack of genetic testing is the public's fear of adverse employment-related or health coverage-related consequences associated with having genetic testing or participating in research studies that examine genetic information. Thus, one potential benefit associated with GINA is

[227] *Id.* at 56242.
[228] *See* FRIA at 29, 353, 356.
[229] Interim Final Rules Prohibiting Discrimination Based on Genetic Information in Health Insurance Coverage and Group Health Plans, 74 Fed. Reg. 51664 (Oct. 7, 2009) (26 C.F.R. Part 54).
[230] *Id.* at 51671.

that genetic testing and research may increase if the protections provided under GINA allay these concerns. Removing barriers that impede the growth of genetic testing and research has the potential to improve health and save lives by providing patients and physicians with critical knowledge to facilitate early intervention often before disease symptoms are manifested. It also could expand the development of scientific research, which could result in the development of new medicines, therapies, and treatments for diseases and disorders.

The Departments declined to quantify the benefits of the prohibitions in the rule, stating that, "relatively few genetic tests and research studies are performed in the private sector and a limited number of genetic tests are available." The Departments noted that when scoring the Genetic Information Nondiscrimination Act (GINA) bill, the Congressional Budget Office estimated that the bill would increase health insurance coverage by about 600 people a year, with most of the increase in the individual market.

4. Consumer Welfare

Rule	Agency	Consumer Welfare Qualitative Score	Requirements associated with benefit	Quantification Effort Score	Benefit Metric	Key empirical assumption or estimate
Electronic Prescriptions for Controlled Substances	DOJ	3: Discussed in detail	Requirements that would allow electronic prescriptions for controlled substances	4: Some monetization	Value of reduced time in pharmacies waiting for prescriptions to be filled	Assumed a 15 year phase-in and 15 minutes saved per electronic prescription
Adoption of Standards for Health Care Electronic Funds Transfers (EFTs) and Remittance Advice	HHS	2: Mentioned as a benefit	Standards to promote electronic funds transfers (EFT) from health care insurers to providers	4: Some monetization	Administrative costs saved; value of reduced time in payment and positing activities at physician practices	Estimated additional EFT share of transactions

The two rules in this section provide certain consumer welfare[231] benefits that do not fit easily into the other categories of benefits. Both rules promote the use of technology to potentially improve certain outcomes for consumers.

In a rulemaking on electronic prescription standards,[232] the Drug Enforcement Administration (DEA), an agency housed within the Department of Justice, issued a final rule that provides medical practitioners with the option of writing prescriptions for controlled substances electronically. One of the benefits of this rule is the reduction in wait time for patients picking up prescriptions.[233] The DEA monetized the benefit of the option to write prescriptions for controlled substances by the value of the potential reduction in wait time.

The DEA drew on extensive resources to estimate the number of original controlled substance prescriptions that could require public wait time. The rule could potentially eliminate waiting for all of these prescriptions, but DEA did not have data on how long patients were currently waiting. To complete the analysis, DEA assumed that the average wait time was 15 minutes for the relevant prescriptions. Using BLS's measure of the current United States average hourly wage, the DEA obtained estimates of hours-saved and cost-savings for each year.

Notwithstanding this analysis, the Department reported its "primary estimate" for reduction in public wait time to be *zero*. This conclusion was based on concerns over whether pharmacies would actually be willing to fill electronic prescription for controlled substances without the patient present. The Department cited research showing that 28 percent of electronic prescriptions transmitted were never picked up by patients; for painkillers, more than 50 percent

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[231] "Consumer welfare: Present if the benefit language is not tied explicitly or implicitly to one of the benefits identified above, but still indicates that consumers will benefit. Increased consumer confidentiality or lower consumer prices are examples of consumer welfare benefits." Instructions for CBA Evaluations, Spring 2014.

[232] Electronic Prescriptions for Controlled Substances, 75 Fed. Reg. 16235 (June 1, 2010) (21 C.F.R. Parts 1300, 1304, 1306, and 1311).

[233] *Id.* at 16299.

were never picked up. The Department noted that filling these prescriptions caused the pharmacy to spend time for which it would not be reimbursed. The pharmacy would then spend further time returning the drugs to stock and correcting records. The risk of incurring these costs may be sufficient to deter pharmacies from filling electronic prescriptions for controlled substances prior to the arrival of the patient.[234]

In a rulemaking on electronic funds transfers,[235] the Department of Health and Human Services (HHS) issued a final rule that requires the adoption of a standard for business-to-business "health care electronic funds transfers" (health care EFT). A health care EFT conveys both billing information and payments from health plans to providers. HHS argued that the adoption of this standard was necessary to promote the growth of health care EFT by plans and providers.[236] The growth of health care EFT would in turn promote the streamlining of health care administrative tasks, including billing and insurance related tasks (BIR tasks), thereby generating cost savings for health plans and time savings for physician practices and hospitals. The cost savings would ultimately benefit patients.[237]

HHS estimated expected reductions in health plan administrative costs as well as the amount (and value) of time that hospitals and physician practices would no longer need to spend in billing and insurance related tasks. HHS suggests that at least some of these savings could reduce costs to patients and increase time spent caring for patients, but it did not monetize that benefit.

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[234] *Id.* at 16299.
[235] Administrative Simplification: Adoption of Standards for Health Care Electronic Funds Transfers (EFTs) and Remittance Advice, 77 Fed. Reg. 1555 (Jan. 10, 2012) (45 C.F.R. Parts 160 and 162).
[236] *Id.* at 1574.
[237] *Id.* at 1574, 1581.

5. Clarity/Reducing Litigation

Rule	Agency	Clarity/Reducing Litigation Qualitative Score	Requirements associated with benefit	Quantification Effort Score	Benefit Metric	Key empirical assumption or estimate
Ability-to-Repay and Qualified Mortgage (QM) Under the Truth in Lending Act (Regulation Z)*	CFPB	2: Mentioned as a benefit	New type of QM loan for small creditor portfolio loans	3: Impact quantified, not monetized	Additional QM loans, number of small creditors with additional QM loans	Estimated loan counts, loan features and Debt-to-Income ratios when data for small entities was missing

In a rulemaking on ability-to-repay requirements,[238] the Consumer Financial Protection Bureau (CFPB) promulgated a final rule that creates certain “exemptions, modifications, and clarifications to TILA’s [Truth in Lending Act] ability-to-repay requirements.”[239] In particular, the rule grants creditors that meet the new qualified mortgage definition “a conclusive or rebuttable presumption of compliance with the ability-to-repay provisions.”[240] The CFPB quantified the potential reduction in litigation by estimating the number of institutions and loans that would enjoy this presumption of compliance because of the rule.

Not all of the institutions and loans that enjoy a presumption of compliance actually benefit from the rule, however, since few would have been subject to litigation absent the rule. That is to say, the expected number of institutions and loans that benefit from the rule is the number that would have experienced litigation and therefore incurred a cost absent the rule. The expected monetized benefit of the rule depends on this number and the average size of the loss that would have occurred. The analysis does not provide these numbers.

[238] Ability-to-Repay and Qualified Mortgage Standards under the Truth in Lending Act (Regulation Z), 78 Fed. Reg. 35430 (June 12, 2013) (12 C.F.R. Part 1026).
[239] *Id.* at 35430.
[240] *Id.* at 35496.

6. Increased Compliance/Self-Regulation

Rule	Agency	Increased Compliance/ Self-Regulation Qualitative Score	Requirements associated with benefit	Quantification Effort Score	Benefit Metric	Key empirical assumption or estimate
Electronic Prescriptions for Controlled Substances	DOJ	4: Key benefit cited	Requirements that would allow electronic prescriptions for controlled substances	4: Some monetization	Value of lives saved from reduced diversion of controlled substance	Reduced diversion would save an unknown fraction of the lives that were lost to diversion in 2003

In a rulemaking on electronic prescription standards,[241] the Drug Enforcement Administration (DEA), an agency housed within the Department of Justice, issued a final rule that provides medical practitioners with the option of writing prescriptions for controlled substances electronically. One of the benefits of this rule is a reduction in the diversion of controlled substances, which would result from having fewer forged and altered prescriptions.[242] The DEA partially quantified this benefit by providing estimates of (a) the value of lives lost and the cost of emergency room visits due to prescription drug misuse and (b) the agency's own legal costs due to diversion cases.

DEA provides data on deaths and emergency room visits due to the misuse of prescription controlled drugs. People who misuse prescription drugs, however, can obtain the drugs through many channels. The DEA does not have data on the number of people who die or visit emergency rooms because they misuse drugs that they obtained through forged or altered prescriptions. Further, this data would provide just an upper bound on the benefit, since the rule would not prevent all forged and altered prescriptions. Thus, the DEA states that it has no basis

[241] Electronic Prescriptions for Controlled Substances, 75 Fed. Reg. 16235 (June 1, 2010) (21 C.F.R. Parts 1300, 1304, 1306, and 1311).
[242] *Id.* at 16300.

for estimating this benefit.[243] The agency notes, however, that only a small fraction of deaths and emergency care need to be prevented for the benefits of the rule to exceed the costs.

E. Summary

This review of twenty exemplars of benefit analysis highlights the range of regulatory impacts that agencies must measure in order to quantify the benefits of regulation. We summarize our findings by considering which benefit analyses come closest to measuring regulatory benefits, which are furthest, and which fall in the broad middle. This characterization roughly tracks the combined Qualitative and Quantification scores. It also takes into account our general sense of the adequacy of the benefit metric and the quality of the data sources used.

Four of the exemplars use broad measures of regulatory benefits and quantify all of the critical impacts needed to measure benefits. These exemplars address the rules for energy conservation standards (DOE), required warnings for cigarette packages (HHS), nondiscrimination in public accommodations (DOJ), and standards for health care electronic funds transfers (HHS). The benefits are respectively quantified or monetized by reduced greenhouse gas emissions, the value of smoking ceased or avoided, the increase in consumer willingness to pay (consumer surplus) to utilize public accommodations, and savings in administrative costs. An examination of the determinants of these outcomes is outside the scope of the research here. However, it is clear that these benefit analyses drew on investments in research and analysis that support, or could support, multiple rulemakings and other basic activities of the agencies.

At the other end of the spectrum are four exemplars that do not measure benefits at all. These exemplars had strong Qualitative Scores in the three benefit categories where the

[243] *Id.* at 16300.

Quantification Scores were generally low: market power, limited financial capabilities, and unfairness. In addition, these agencies were dealing with somewhat idiosyncratic issues in new statutory regimes.

The exemplars in this category address the rules for rebates under the medical loss ratio requirement in the Affordable Care Act (HHS), the homeownership counseling requirements and escrow requirements in the Dodd-Frank Act (CFPB), and the prohibition on discrimination based on genetic information in the Genetic Information Nondiscrimination Act (DOL). The HHS exemplar addresses market power and quantifies the expected rebates to consumers under the medical loss ratio rule. There is no connection, however, between rebates paid and either a reduction in market power (the ratio would have to be carefully tailored to the degree of market power) or an increase in quality-promoting expenditures. The two CFPB exemplars address limited financial capabilities. These exemplars provide detailed qualitative analyses but little or no quantitative analysis. The DOL exemplar addresses unfairness in a market that has not yet developed and which may be constrained by concerns about fairness. We can only speculate, however, on whether the nature of the benefits and the newness of the statutory regimes were factors that shaped the benefit analyses.

The remaining twelve exemplars define a somewhat limited benefit metric (four) or rely on scenarios or illustrations (eight) to complete the quantification of benefits. In this first group are the rules for enhancing airline passenger protections (DOT), changing the computation of investor net worth so fewer investors can be charged performance based compensation by an advisor (SEC), defining an additional type of “qualified mortgage” (CFPB), and allowing electronic prescriptions for controlled substances (DEA). The DOT rule focus on the time individuals may save because of the mandated disclosures. The benefit metric does not take into account the fact that individuals with clearer information may also make better choices. The SEC estimates the number of investors who can no longer be charged performance based compensation. The benefit metric does not take into account the expected reduction in investment losses due to this change. The CFPB computes the number of institutions and loans that benefit from the enhanced protections against litigation on qualified mortgages. The benefit metric does not consider the expected reduction in losses due to this change. Finally, DEA estimates the value of lives lost due to diversion of controlled substances. The benefit metric considers neither the expected reduction in diversion due to the regulation nor the implied reduction in lives lost. In these four cases, the agencies may have chosen narrow measures of benefits in order to limit the amount of speculation they would need to do to complete the quantitative analysis.

In the remaining eight exemplars, the agencies opted for a broad measure of benefits. However, the agencies then relied on empirical assumptions rather than observations or inferences from data in order to complete the analyses. It may be the case that clear assumptions produce clearer conclusions than do narrow benefit metrics. Consideration of this issue, however, is outside the scope of the research here. The reliance on assumptions by the twelve exemplars that fall in the broad middle group reflects a range of practical constraints, and understanding and addressing these constraints would contribute to improvements in benefit analysis.

Part V: Preliminary Conclusions and Paths for Future Research

We began by presenting an operationally useful and (relatively) parsimonious taxonomy for regulatory benefit analysis. The taxonomy is grounded in the traditional sources of market failure, but expanded to allow for benefits based on behavioral biases, problems of fairness and inequality, and the practical needs of agencies to clarify statutory mandates or develop business-to-business standards with fairly direct benefits to consumers. We established that independent researchers, reading the same benefit analyses across 72 selected regulations, generally identified the same type of benefit (i.e., component of the taxonomy) and that all significant benefits asserted by agencies could be classified.

The regulations selected for study address challenges to consumer decision-making and welfare that generally motivate the regulations issued by agencies with a formal consumer protection mandate. By controlling for subject matter, our expectation was that the regulatory impact analyses would face analogous challenges and might therefore be informative in regards to the potential characteristics of the impact analyses for consumer protection and consumer financial protection regulations generally. The shared characteristics of the exemplars include an emphasis on a particular benefit and high quantification effort. Exemplars also tend to rely on expert sources and have high word counts. These features of regulatory impact analyses have typically not been tracked in other studies.

Our quantitative findings reveal certain similarities and differences between the benefit analyses performed by the Executive Branch agencies subject to OIRA review and the independent agencies (and sometimes in contrast to those of the CFPB). Given the basis on which we selected rules, it is reassuring that all agencies cite addressing information problems as the most common benefit. Among the more prominent differences, the OIRA agencies (along with the CFPB) cite the reduction of cognitive biases as a benefit more frequently than do the other agencies. Conversely, regulations intended to facilitate adjustments to existing legal baselines (e.g., to promote clarity and facilitate compliance) figure more prominently for the independent agencies (including the CFPB) than for the OIRA agencies. Negative externalities are infrequently cited by the CFPB compared to all the other agencies, and the precise reason for this difference requires further study.

As expected, the benefits analyses by the OIRA agencies showed greater quantification effort than did those by the independent agencies. For example, both the median and mean quantification effort scores of the highest scoring benefit in each rulemaking by the OIRA agencies and the independent agencies were higher for the OIRA agencies; *see* Table 6 above. The scores were also high in absolute terms, 2.91 (out of 5) for the mean and 4 out of 5 for the median. While this may not be surprising given the emphasis on quantification and monetization in Executive Order 12866 and Circular A-4, it does point toward the need for deeper examination of the differences and what, exactly, the OIRA agencies are measuring.

The analysis of twenty exemplars of benefits analysis takes an initial step toward this more granular analysis. As discussed above, the exemplars were chosen largely on the basis of the Quantification Scores. Consistent with the previous results, fifteen of the twenty are the work of OIRA agencies and only one of the twenty is by an independent agency and has a high Quantification Score. These very preliminary results reveal that while the OIRA agencies undertake great efforts to measure the number of entities or transactions with a gap between current practices and proposed requirements, and they further trace the impact of closing the gap on measures correlated with consumer welfare, the actual impact of the proposed requirements on the gap is often the subject of speculation. Further, while we do not view this result to be surprising, we do believe it is worth considering carefully the fact that the highest scoring analyses according to our objective measures are nevertheless limited in this way. We also find that the missing information is frequently in regards to the direct impact of the new requirements, e.g., how consumers will respond to additional information, a subsidy, or advice; or how businesses will respond to a new opportunity for which a legal framework is being established. Thus, the estimated benefit often incorporates an upper bound, a scenario, or the midpoint of a range for which the empirical foundation is largely if not entirely hypothetical.

These preliminary comments are in no way intended to minimize the accomplishments in measurement demonstrated by the exemplars or the value of these efforts. We recognize that these ranges in benefits become part of the breakeven analyses that may ultimately show that the benefits exceed the cost in some or even all scenarios. Where the missing information is largely if not entirely hypothetical, however, this conclusion rests on the same foundation as the missing information itself and needs to be interpreted in this light. We encourage others to review the exemplars carefully, consider the current limits in the abilities of most agencies to measure the benefits of consumer protection rulemakings, and assess the policymaking value from advancing the frontier in measuring these benefits.

In terms of sketching out a path forward, we offer the following very preliminary thoughts as to potentially fruitful but practical steps to improve benefits analysis in consumer financial regulation.

A. Best Practices for Articulating Benefits of Financial CBA

Our first set of recommendations concern the manner in which regulatory officials articulate expected benefits in financial CBA. We focus here solely on the communication of benefit analysis in public documents and not on internal procedures and practices.

While our survey design was reasonably successful in locating asserted benefits into our taxonomy of expanded Campbell factors, the textual discussions of benefits were in some cases ambiguous. Going forward, it would be preferable if agencies were to specify more clearly and consistently the channel of market correction through which each asserted benefit is envisioned to operate. This practice would be especially useful where benefits are now simply characterized as improving consumer welfare or market efficiency. To the extent that agencies could also be more parsimonious in identifying benefits or least distinguish what are thought to be the more economically significant benefits, this would also be helpful in identifying the most significant expected effects of new regulations and also suggest where further quantification and monetization of benefits would be most valuable.

In cases where regulations are envisioned as having measurable effects on specific endpoints—like the number of foreclosures or dispersion of fees—offering either a point estimate of the predicted effect or, if appropriate, providing a range of possible effects, could be extremely helpful for several reasons. Where a new regulation is part of a suite of related initiatives—as was true of the handful of new mortgage regulations that CFPB adopted in early 2013—such endpoint projections might best be articulated as the result of a combination of agency actions. Offering such endpoint estimates would both more clearly communicate to the general public the intended impact of new regulations and also offer a standards against which retrospective analysis of the regulation might be measured, thereby providing a feedback mechanism for improvements in benefits analyses going forward.

Finally, on a more technical level, where agencies produce regulatory impact analyses in documents separate from their Federal Register releases (as is often the case with agencies subject to OIRA review) or in other background documentation, it would be useful to clarify which benefits asserted in a Federal Register notice were supported by quantitative analysis in the regulatory impact analysis or other documents and which were not. And, to the extent possible, including direct links to underlying documents would facilitate independent reviews of financial CBA, such as this current study.

B. Addressing the Centrality of Disclosure Strategies

Given the prominence of disclosure strategies in consumer protection efforts at both the CFPB and other agencies charged with consumer protection responsibilities, we believe that disclosure is a logical target for additional research and analysis.[244]

Comprehension versus Changes in Behavior. Benefit analysis for disclosure regulations is often ambiguous as to whether the goal of the intervention is simply to increase consumer comprehension or rather to change behavior by eliminating the mistaken or otherwise inappropriate choices. The latter course is, no doubt, more problematic because it requires regulatory officials to have a normative framework to define which choices are correct for which consumers. But improved comprehension without accompanying changes in behavior does not necessarily generate personal or social benefits. Additional research into the conditions under which improved comprehension might appropriately deemed beneficial—either as an independent value or as a reliable proxy for desirable changes in behavior—would be extremely useful. Even more useful—though likely a good deal more challenging to produce—would models to identify correct and incorrect consumer choices.

Heterogeneity of Consumers and Consumer. Perhaps more tractable in the short term would be investigation into the heterogeneity of consumers. Many regulations covered in our

[244] In some of this research, it may be useful to distinguish among disclosure strategies based on the channel of market correction the strategy is supposed to operate. As reflected above in Table 8, some information asymmetries are associated with problems of market power, while other are associated with public goods and yet others associated with cognitive biases. Conceivable, research useful for benefit analyses of disclosure strategies might also differ along these lines.

survey noted the cognitive limitations of some consumer; others identified information asymmetries increasing search costs for other populations. Additional research into the heterogeneity of consumers and consumer responses in at least some typically consumer financial markets could provide valuable inputs to benefits analyses in other areas. While research of this sort could be undertaken in a number of different ways, more empirical results drawn from surveys, testing, observational studies, and pilot programs would be most welcome.

Role of Supplier Responses & Third Party Reactions. A number of benefit analyses speculated as to supplier responses and third-party interactions to disclosure. For example, the mechanism whereby some disclosures are supposed to be effective is not through direct consumer responses, but through supplier adjustments in anticipation of consumer reactions (or possibly fear of regulatory sanction). In other situations, disclosure requirements are not intended for direct consumer use, but rather through the filter of third-party information intermediaries (such as iPhone apps and other validation systems). Research defining the conditions under which these supplier responses and third-party effects are most likely to be effective (and the extent of their effects) could also be useful.

Impact of Disclosure on Prices. A number of disclosure strategies are premised on the strategies' predicted effect on consumer prices, either due to reduced search costs or the compression of price dispersion through a reduction in price discrimination. Documenting the extent of such price changes from past improvements in disclosure could provide useful inputs for benefits analyses of future disclosure strategies with similar goals.

Relative Merits of Alternative Strategies. For the most part, the benefit analyses in our survey focused on disclosure in isolation, but in practice disclosure typically is just one of several possible regulatory options. Others commonly considered alternatives include default rules, mandates, or enforcement strategies. Research designed to offer a rough handle on the relative efficacy of these alternative approaches in certain areas of consumer protection could greatly enhance the quality of benefit analysis.

C. Development of New Metrics for Consumer Financial Protection

In investigating the current state of benefits analyses in financial CBA, one cannot but cast an envious eye on the environmental arena where BCA experts have developed consensus (if not wholly uncontroversial) views on the statistical value of lives or the social cost of carbon. One could imagine in the coming years to see the development of similar new metric for consumer financial protection. We conclude with two possible lines of investigation.

Value of Bankruptcy Avoidance/Foreclosure Avoidance/Reduced Financial Stress. Many consumer financial protection regulations are designed to avoid financially adverse consequences, such as bankruptcy, foreclosure, or some sort of financial distress that falls short of bankruptcy. Though not exactly the equivalent of financial death, these conditions might be considered analogous to financial morbidity, and it is conceivable that careful research might produce estimates of the value of their avoidance, perhaps even producing benefit estimates that vary with the age of the individual in question. While it is conceivable to imagine any agency could undertake such an investigation in the context of a single regulatory initiative, one could imagine that, were consensus estimates to be produced, those estimates could find use in the evaluation of numerous different regulatory initiatives.

Valuing Certain Transfers. Many consumer financial protection regulations include benefits that consist of reducing prices paid by consumer to producers. While these benefits may be entirely appropriate considerations for an agency such as the CFPB with a specific mandate to protect consumers, transfers from consumers to producers, in and of themselves, typically understood to produce economic benefits (although sometimes such transfers are classified as benefits in benefit analyses in our surveyed regulations). Additional research into when and how such transferred should qualify as economic benefits would be another fruitful research project and one that could also have application in number benefit analyses in the future. There is, for example, literatures on valuing theft reduction and charitable contributions, both of which may provide helpful analogies. Or, to the extent transfer move certain individuals away from financial distress, the value of this reduction might be utilized. Lastly, the insurance value of risk reduction might also be estimated in certain contexts.

Appendix One: List of Regulations Surveyed

Entry	File Name	Agency	Mandate Category	Date (FR)	Fed Reg
1	CFPB - 20120207 - OriginalRemittanceRule - FINAL	CFPB	CFPB Mandate	2/7/2012	77 Fed. Reg. 6,194 – 6,309
2	CFPB - 20120720 - DefiningConsumerReporting - FINAL	CFPB	CFPB Mandate	7/20/2012	77 Fed. Reg. 42,874-42,900
3	CFPB - 20120820 - SafeHarborRemittance - FINAL	CFPB	CFPB Mandate	8/20/2012	77 Fed. Reg. 50,244- 50,279
4	CFPB - 20121031 - DefiningConsumerDebtCollection - FINAL	CFPB	CFPB Mandate	10/31/2012	77 Fed. Reg. 65,775- 65,799
5	CFPB - 20130122 - EscrowRequirements - FINAL	CFPB	CFPB Mandate	1/22/2013	78 Fed. Reg. 4,726–4,757
6	CFPB - 20130130 - AbilitytoRepayTILA - FINAL	CFPB	CFPB Mandate	1/30/2013	78 Fed. Reg. 6,048-6,620
7	CFPB - 20130131 - HighCostMortgageCounseling - FINAL	CFPB	CFPB Mandate	1/31/2013	78 Fed. Reg. 6,856-6,975
8	CFPB - 20130131 - RegBAppraisalsandValuations - FINAL	CFPB	CFPB Mandate	1/31/2013	78 Fed. Reg. 7,216-7,247
9	CFPB - 20130213 - TILAAppraisals - FINAL	CFPB	CFPB Mandate	2/13/2013	78 Fed. Reg. 10,368 – 10,447
10	CFPB - 20130214 - RESPA RegX - FINAL	CFPB	CFPB Mandate	2/14/2013	78 Fed. Reg. 10,696 – 10,899
11	CFPB - 20130214 - TILAMortgageServicing - FINAL	CFPB	CFPB Mandate	2/14/2013	78 Fed. Reg. 10,902 – 11,021
12	CFPB - 20130215 - FOIADisclosures - FINAL	CFPB	CFPB Mandate	2/15/2013	78 Fed. Reg 11,484 – 11,520
13	CFPB - 20130215 - LoanOrigComp - FINAL	CFPB	CFPB Mandate	2/15/2013	78 Fed. Reg. 11,280 – 11,427
14	CFPB - 20130321 - ATM Disclosures - FINAL	CFPB	CFPB Mandate	3/21/2013	78 Fed. Reg. 18,221-18,224
15	CFPB - 20130322 - TILARegZ (CreditCard) - FINAL	CFPB	CFPB Mandate	3/22/2013	78 Fed. Reg. 18,795-18,798
16	CFPB - 20130522 - ElectronicFundTransfers - FINAL	CFPB	CFPB Mandate	5/22/2013	78 Fed. Reg. 30,662-30,721
17	CFPB - 20130612 - AbilitytoRepayRegZ - FINAL	CFPB	CFPB Mandate	6/12/2013	78 Fed. Reg. 35,430-35,506
18	CFPB - 20131001 - ECOAMortgageRulesRESPATILA- FINAL	CFPB	CFPB Mandate	10/1/2013	78 Fed. Reg. 60,382-60,451
19	CFPB - 20131231 - Integrated Mortgage Disclosures - FINAL	CFPB	CFPB Mandate	12/31/2013	78 Fed. Reg. 79,730 -80,365
20	CFTC - 20111118 - PositionLimits - FINAL	CFTC	Statutory Mandate	11/18/2011	76 Fed. Reg. 71,625 - 71,706
21	CFTC - 20120224 - CPO CTA Reqs - FINAL	CFTC	Statutory Mandate	2/24/2012	77 Fed. Reg. 11,251 - 11,344
22	CFTC - 20120612 - SDR Reqs - FINAL	CFTC	Statutory Mandate	6/12/2012	77 Fed. Reg. 35,199 - 35,239
23	CFTC - 20120719 - EndUserException - FINAL	CFTC	Statutory Mandate	7/19/2012	77 Fed. Reg. 42,559 - 42,591
24	CFTC - 20120905 - CPO CTA Amendments - FINAL	CFTC	Statutory Mandate	9/5/2012	77 Fed. Reg. 54,355 -54,360
25	CFTC - 20130117 - ExemptiveOrder - FINAL	CFTC	Statutory Mandate	1/17/2013	78 Fed. Reg. 858 - 882
26	CPSC - 20100121 - GuidelinesMandatoryRecall - FINAL	CPSC	No Mandate	1/21/2010	75 Fed. Reg. 3,355-3,371
27	CPSC - 20101209 - PubliclyAvailableDatabase - FINAL	CPSC	No Mandate	12/9/2010	75 Fed. Reg. 76,831-76,872
28	DOE - 20110627 - ACHeatPumps - FINAL	DOE	OIRA 12866	6/27/2011	76 Fed. Reg. 37,407-37,548
29	DOE - 20100416 - WaterHeaters - FINAL	DOE	OIRA 12866	4/16/2010	75 Fed. Reg. 20,111-20,236
30	DOE - 20110915 - RefrigeratorStandards - FINAL	DOE	OIRA 12866	9/15/2011	76 Fed. Reg. 57,516-57,612
31	DOJ - 20100915 - Nondiscrimination - FINAL	DOJ	OIRA 12866	9/15/2010	75 Fed. Reg. 56,236-56,358
32	DOL - 20101020 - Investment Advice - FINAL	DOL	OIRA 12866	10/25/2011	76 Fed. Reg. 66,136-66,167
33	DOL - 20101025 - IndividualAccountPlans - FINAL	DOL	OIRA 12866	10/20/2010	75 Fed. Reg. 64,910-64,946
34	DOT - 20121015 - GHG and Fuel Economy - FINAL	DOT/EPA	OIRA 12866	10/15/2012	77 Fed. Reg. 62,624-63,200
35	DOT - 20081216 - NewEntrantSafetyAssurance - FINAL	DOT	OIRA 12866	12/16/2008	73 Fed. Reg. 76,472-76,497
36	FRB - 20100924 - MortgageOrigination - FINAL	FRB	No Mandate	9/24/2010	75 Fed. Reg. 58,509 - 58,538
37	FRB - 20130405 - NonBankDefinitions - FINAL	FRB	No Mandate	4/5/2013	78 Fed. Reg. 20,755 - 20,781
38	FSOC - 20110718 - SIMarketUtilities - FINAL	FSOC	OIRA 12866	7/18/2011	76 Fed. Reg. 44,763 - 44,776
39	FSOC - 20120403 - NonBankSupervision - FINAL	FSOC	OIRA 12866	4/3/2012	77 Fed. Reg. 21,637 -21,662
40	FTC - 20101201 - MortgageAssistanceRelief - FINAL	FTC	No Mandate	12/1/2010	75 Fed. Reg. 75,092-75,144
41	OCC - 20090701 - ConsumerReportingAccuracy - FINAL	OCC	OIRA 12866	7/1/2009	74 Fed. Reg. 31,484-31,528
42	FTC - 20120612 - IdentityTheft - FINAL	FTC	No Mandate	12/6/2012	77 Fed. Reg. 72,712-72,715
43	HHS - 20081125 - PatientSafetyQuality - FINAL	HHS	OIRA 12866	11/21/2008	73 Fed. Reg. 70,732-70,814
44	HHS - 20110622 - WarningsCigarettePackages - FINAL	HHS	OIRA 12866	6/22/2011	76 Fed. Reg. 36,628-36,777
45	HUD - 20081117 - RESPA Mortgage Rule - FINAL	HUD	OIRA 12866	11/17/2008	73 Fed. Reg. 68,204-68,288
46	SEC - 20120222 - InvestmentAdviserPerformance - FINAL	SEC	Statutory Mandate	2/22/2012	77 Fed. Reg. 10,358-10,368
47	SEC - 20111116 - ReportingInvestmentAdvisers - FINAL	SEC/CFTC	Statutory Mandate	11/16/2011	76 Fed. Reg. 71,128-71,239
48	SEC - 20111219 - NetWorthAccreditedInvestors - FINAL	SEC	Statutory Mandate	12/19/2011	76 Fed. Reg. 81,793-81,806
49	DOJ - 20100331 - ElectronicPrescriptionsControlledSubstances - FINAL	DOJ	OIRA 12866	3/31/2010	75 Fed. Reg. 16,235 -16,319
50	DOJ - 20090406 - OnlinePharmacy - FINAL	DOJ	OIRA 12866	4/6/2009	74 Fed. Reg. 15,596 -15,625
51	DOJ - 20130314 - NonProfitCreditCounseling - FINAL	DOJ	OIRA 12866	3/14/2013	78 Fed. Reg. 16,138 -16,159
52	DOL - 20081231 - CoalMineSafety - FINAL	DOL	OIRA 12866	12/31/2008	73 Fed. Reg. 80,656 -80,700
53	DOL - 20120214 - BenefitsCoverageUniform - FINAL	DOL/Treasury/HHS	OIRA 12866	2/14/2012	77 Fed. Reg. 8,667 -8,706
54	DOL - 20091007 - GeneticInfoHealthInsurance - FINAL	DOL/Treasury/HHS	OIRA 12866	10/7/2009	74 Fed. Reg. 51,664 -51,697
55	DOL - 20100406 - HighVoltageMining - FINAL	DOL	OIRA 12866	4/6/2010	75 Fed. Reg. 17,529 -17,553
56	DOL - 20120406 - ExaminationViolationCoalMine - FINAL	DOL	OIRA 12866	4/6/2012	77 Fed. Reg. 20,700 -20,716
57	DOT - 20110119 - VehicleStandardsEjection - FINAL	DOT	OIRA 12866	1/19/2011	76 Fed. Reg. 3,211 -3,305
58	DOT - 20110425 - EnhancingAirlinePassenger - FINAL	DOT	OIRA 12866	4/25/2011	76 Fed. Reg. 23,109 -23,167
59	DOT - 20100330 - TireFuelEfficiency - FINAL	DOT	OIRA 12866	3/30/2010	75 Fed. Reg. 15,893 -15,947
60	DOT - 20090512 - RoofCrushResistance - FINAL	DOT	OIRA 12866	5/12/2009	74 Fed. Reg. 22,348 -22,393
61	DOT - 20100706 - DisabilitiesPassengerVessels - FINAL	DOT	OIRA 12866	7/6/2010	75 Fed. Reg. 38,877 -38,902
62	HHS - 20110617 - SunscreenOTC - FINAL	HHS	OIRA 12866	6/17/2011	76 Fed. Reg. 35,619 -35,665
63	HHS - 20130208 - ChildrensHealthTransparency - FINAL	HHS	OIRA 12866	2/8/2013	78 Fed. Reg. 9,457 -9,528
64	HHS - 20101201 - ACAMedicalLossRatio - FINAL	HHS	OIRA 12866	12/1/2010	75 Fed. Reg. 74,863 -74,934
65	HHS - 20120110 - AdminSimplificationEFTs - FINAL	HHS	OIRA 12866	1/10/2012	77 Fed. Reg. 1,555 -1,590

66 HHS - 20110523 - RateIncreaseDisclosure - FINAL	HHS	OIRA 12866	5/23/2011	76 Fed. Reg. 29,963 -29,988
67 HUD - 20110304 - EmergencyHomeLoan - FINAL	HUD	OIRA 12866	3/4/2011	76 Fed. Reg. 11,946 -11,956
68 OCC - 20100728 - RegMortgageLoanOrig - FINAL	OCC	OIRA 12866	7/28/2010	75 Fed. Reg. 44,655 -44,708
69 USDA - 20120126 - NutritionStandards - FINAL	USDA	OIRA 12866	1/26/2012	77 Fed. Reg. 4,087 -4,167
70 USDA - 20090115 - CountryOriginLabel - FINAL	USDA	OIRA 12866	1/15/2009	74 Fed. Reg. 2,658 -2,707
71 USDA- 20110120- Bio-based Labeling - FINAL	USDA	OIRA 12866	1/20/2011	76 Fed. Reg. 3,789 -3,813
72 USDA - 20130405 - ObesityPreventionGrant - FINAL	USDA	OIRA 12866	4/5/2013	78 Fed. Reg. 20,411 -20,422

Appendix Two: Survey Template and Instructions

Agency:	*Name of Agency*
Rulemaking:	*Name of Rulemaking*
Federal Register:	*Page*

Date:	*Date Published in the F.R.*
Status:	*Final, Interim, Proposed, etc.*
RIN:	*RIN Number*

LINK:

I. CBA Dashboard: Identified Benefits

0 = Not mentioned or implied *3 = Discussed in detail*
1 = Implied, but not mentioned *4 = Key benefit cited*
2 = Mentioned as a benefit *5 = Only benefit cited*

Campbell Benefits:

Externalities	Information Failures	Market Power	Public Goods	Cognitive Biases	Limited Financial Capabilities	Unfair Outcomes	Principal/ Agent Issues

Additional Benefits:

Clarity; Reducing Litigation	Increased Compliance/ Self-Regulation	International Coordination	Consumer Welfare (if not tied to one of the benefits above)	Market Efficiency (if not tied to one of the benefits above)

II. CBA Dashboard: Quantification Efforts

0 = Qualitative, No explanation for why not quantified *3 = Impact Quantified, not Monetized*
1 = Qualitative, Explanation for why not quantified *4 = Some Monetization*
2 = Quantitative Data, Impact not quantified *5 = Fully Monetized*

Provision	Benefits Identified	Quantification Scoring	
		Benefits	Costs
Break out provisions of the regulation			

III. CBA Dashboard: Methods of Quantification

0 = None *2 = Extensively Used*
1 = Some Utilization *3 = Primary Method Used*

	Top-Down Estimate	Bottom-Up Summation	Focus Groups/ Interviews	Quantitative Surveys	Lab Experiments	Other:
Benefits						
Costs						

IV. CBA Dashboard: Sources of Data

	Agency	Independent	Government	Industry	Consumer	Other

	Generated Materials	Academic Research	Studies	Sources	Groups	
Number of Sources						
Number of Sources Generated for Notice & Comment Process						

V. CBA Dashboard: Rulemaking Indicators

Is there a Regulatory Flexibility Analysis?	*Yes/No*

Aggregate Word Counts: Economic Analysis Portions of the Rulemaking

Word Count for Benefits:	*Word Count*	Word Count for Costs:	*Word Count*	Word Count for Portions Not Assigned to Benefits/ Costs:	*Word Count*

VI. Summary of Rule

Copy and Paste (with quote marks) the summary of the rule from the front of the rulemaking[245]

VII. CBA: General Commentary

- *Required Economic Analysis*: Executive Order 12,866, [Regulatory Flexibility Act?]
- *Mandatory/ Discretionary*: *Type of Rule*
- *Discussion of internal guidelines:* *Yes or No*
- *Background for Regulation*:
- *Extent and Detail of 1022(b)(2) Analysis:* *Brief Synopsis, including page count.*
- *Benefits:*
- *Costs:*
- *Consideration of Alternatives*:
- *Regulatory Flexibility Act:*
- *Paperwork Reduction Act:*

VIII. CBA: Justification Categories

- *Externalities:*
- *Information Failures:*
- *Market Power:*
- *Public Goods:*
- *Cognitive Biases:*
- *Limited Financial Capabilities:*
- *Unfair Outcomes:*
- *Principal/ Agent Issues:*
- *Clarity; Reducing Litigation:*
- *Increased Compliance/ Self-Regulation:*

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[245] Cite Rule according to bluebook

- *International Coordination:*
- *Consumer Welfare (if not tied to one of the benefits above):*
- *Market Efficiency (if not tied to one of the benefits above):*

Spring 2014 Memorandum (Version 1.1)

To: HLS Student Research Team

From: Howell Jackson (HLS)
Paul Rothstein (CFPB)
Kelley O'Mara (HLS '14)

Date: January 29,2014

Welcome aboard!

This memorandum is designed to guide your evaluation of the economic analyses conducted by federal agencies in rulemakings. As you read these instructions, please also review the attached example documents. If you have any questions about what is needed in order to complete the assignment, please feel free to email komara@jd14.law.harvard.edu and hjackson@law.harvard.edu. Both would be happy to answer your questions.

Evaluating the Rulemakings

Over the course of the next two months, we will be reviewing 24 different rulemakings. For each regulation, two reviewers will individually populate a blank template with information from the regulation and their assessment of key metrics. After conducting individual evaluations, each student pairing will then reconcile their scoring in textual analysis utilizing procedures specified below. It is important that initial scores are not shared among reviewers to ensure that the process results in the best information possible.

The rulemakings vary greatly in length, but some are close to 100 pages. All of the regulations in our data set come from Executive Branch agencies, and have been through OIRA review under Executive Order 12,866. Additionally, the agencies may also have undertaken a Regulatory Flexibility Analysis or a Paperwork Reduction Act Analysis.

All of the relevant rulemakings can be found at federalregister.gov. PDF versions of the rulemakings will be provided via the Spring 2014 dropbox (see below). Though you may find the online Federal Register version easiest to work with when copying and pasting text, make sure to cite text using the appropriate PDF page number according to the PDF version. Please make sure you include page number citations for all text you quote. Also, as you review your PDF versions of the regulations, please make sure you mark all sections of the rulemaking that make reference to benefits (explained below).

Background of the Evaluation Documents

Each evaluation document should stand on its own to provide the reader with a comprehensive view of the benefits, costs and methodology used in the economic analysis. In order to complete the evaluation, you should focus carefully on three sections of the rulemakings:

- Summary of the Rule: The summary section details the provisions of the rule and briefly discusses the goals of the rule. This portion of the rulemaking will denominate the different provisions of the rule, which will prove essential for the evaluation portion of the project (namely, Section II). It will also guide your evaluation of the economic analysis section, which typically contains a discussion of costs and benefits by provision.

- Background for the regulation: One of the initial sections of the rulemaking details the background for the regulation. This section will include some of the justifications for regulating, as well as the statutory authority and imminent motivation for regulating.

- Economic Analysis: This analysis usually comes toward the end of a rulemaking and is commonly labeled "Economic Analysis" or "Executive Order 12,866." You should also make sure you look at the Regulatory Flexibility Analysis and the Paperwork Reduction Act sections. To the extent that these analyses cross-reference other parts of the Federal Register materials, you should follow the cross-references and incorporate any relevant benefit or cost discussions from other sections of the release. In some cases, it is conceivable that agencies might refer back to cost benefit analyses done in the original proposal of the rulemaking, in which case you should also track down that references and include the PDF for the proposal in your analysis. The economic analysis section is the central focus of this study and it is where you should focus the bulk of your efforts.

Evaluation Documents - Scoring

There are five scoring dashboards in the evaluation documents: Asserted Benefits of Regulation, Quantification Efforts, Methods of Quantification, Sources of Data, and Rulemaking Indicators. Scoring is the last step, and your scores should be consistent with the analysis you provide in sections VII-VIII. Specifically, the scores in the first four dashboards should be fully substantiated by the text quoted in Section VII and the brief benefit summaries in Section VIII. Before finalizing your scoring of any of the regulations, you may want to review several regulations in order to calibrate your understanding of how the rubrics should be applied.

- **Section I. CBA Dashboard: Identified Benefits**
  - **Campbell Benefits**: For each of the denominated benefits, provide a score indicating how the benefit was treated in the rulemaking. These benefits are explained in detail in the HBR (synopsis can be found in graphics on pages 7-8 and JEP articles). Note that these benefits are not mutually exclusive, and thus some language may support the finding of more than one benefit. The Campbell benefits include:
    - Externalities: Present if the benefit limits negative externalities that existed in the market during the baseline period. Score here if a transaction between two parties in the pre-regulatory period had negative external effects on others or society as a whole, *and* the regulation attempts to address the issue. For example, a regulation that limits foreclosures will limit the negative externalities that foreclosures trigger on communities. (The creation of positive externalities is best scored under "public goods" below.)
    - Information Failures: Present if regulation addresses information asymmetries or other information problems that existed during the baseline period. Usually found in disclosure regulations. Be careful to distinguish from cognitive biases

and limited financial capabilities. The focus here should be on whether or not there was a lack of information available, not whether the information was easily or properly understood

- Market Power: Present if the regulation talks about market participants having power to raise prices without market feedback mechanisms, or if the regulation points to the fact that consumer could not accurately comparison-shop for the best price during the baseline period.
- Public Goods: In addition to including tragedies of the commons, a public goods benefit is present if the regulation creates new public information. This would include, for example, a new *public* data source as a result of new data collection.
- Cognitive Biases: Present if the market failure is a result of the flawed way people process information. This would include, for example, a bias for short-term benefits over greater long-term benefits.
- Limited Financial Capabilities: Present if failure to process mathematical or financial information enables to a market failure. This may be particularly common if adequate disclosures present information that requires a high degree of mathematical acuity to process or digest.
- Unfair Outcomes: Includes fair access to goods, services, and credit if not tied to some other identified benefit. Focus is on justice. Regulations addressing discrimination or abusive practices will be scored under Unfair Outcomes.
- Principal/Agent Issues: Note, this is not directly discussed in Campbell. Centers around misalignment of incentives between a principal and someone acting on her behalf. This does not concern corporate governance issues, but it is implicated when a hired agent does not act fully on behalf of the principal (*e.g.*, real estate agents not acting purely on behalf of their client). When appropriate, you may include a non-traditional principal-agent relationship (e.g., mortgage brokers and their customers), if the regulation indicates that principal-agent misalignments are at issue.

- **Additional Benefits**: A second scoring chart contains "additional benefits," that should also be scored using the rubric below. These items should only be listed if they are "free standing," (*i.e.,* not a means to a Campbell benefit you have already accounted for). These benefits include, but may not be limited to:
  - Clarity; Reducing Litigation: Present if the rulemaking indicates that the rule itself will clarify the existing statutory/regulatory structure so as to reduce the likelihood of litigation. Alternatively, this may be present if increased compliance is predicted to reduce errors that would result in litigation. *Only tag this if litigation or liability is explicitly mentioned. This should not be flagged if the regulation merely provides clarity regarding statutory requirements without a corresponding expectation of reducing litigation.*
  - Increased Compliance/Self-Regulation: Present if the regulation increases the incentives of market participants to comply with regulations or regulate themselves. *This should not include vague statements about increasing compliance with the regulation at issue. Rather, this should be scored if the rule has a self-regulatory bent or if it enables the agency to better monitor compliance with existing regulations.*
  - International Coordination: Present if the rulemaking indicates that the regulation will facilitate regulatory coordination among countries.

    - <u>Consumer Welfare</u>: Present if the benefit language is not tied explicitly or implicitly to one of the benefits identified above, but still indicates that consumers will benefit. Increased consumer confidentiality or lower consumer prices are examples of consumer welfare benefits.
    - <u>Market Efficiency</u>: Present if the benefit language is not tied explicitly or implicitly to one of the benefits identified above, but still indicates that the efficiency of the market will improve. This does not refer to any form of increased market efficiency, but specifically refers to concerns about overregulating the market to the point of inefficiency. This will often be identified if a regulation includes a safe-harbor, exemption, or de minimis threshold regulations.
  - Each of these benefits should be scored along the following rubric, as stated in the evaluation template:
    - **0 = Not mentioned or implied**: The benefit in no way appears or is alluded to in the rulemaking.
    - **1 = Implied, but not mentioned**: The benefit is implied based on the structure of the benefits portion of the economic analysis. However, it is never explicitly mentioned. For example, if a regulation limits the occurrence of foreclosures, that would imply that the externalities that result from foreclosures (*i.e.,* the consequences for the community) will also be limited by the regulation.
    - **2 = Mentioned as a benefit**: The benefit is cited as a reason for regulating. The benefit does not have to be explicitly named (*i.e.,* "market power" does not need to appear). However, the benefit must be explicitly referred to.
    - **3 = Discussed in detail**: The benefit is discussed with some depth in the economic analysis as a reason for regulating. Some substantive foundation for asserting the benefit must be proffered.
    - **4 = Key benefit discussed**: The benefit is the primary reason for the regulation, even if other benefits are also cited as contributing factors. Not all regulations will have a key benefit as several benefits may have roughly equal prominence. There may be more than one key benefit.
    - **5 = Only benefit cited**: The benefit is the only benefit cited by the regulators to motivate regulation.
  - **<u>Note</u>**: In some cases, regulatory materials may make reference to a market failure identified above but not make an explicit (or implicit) claim that the regulation in question will correct that market failure. In such instances, *please add an asterisk to the scoring.*
- **Section II. CBA Dashboard: Quantification of Efforts**
  - For each separate provision or section of the rulemaking that is identified the rulemakings cost benefit analysis, create a new row in the chart. Name the provision and briefly describe it.
    - Factor in the Regulatory Flexibility Analysis and the Paperwork Reduction Act Analysis, as appropriate.
  - In the second column, please list all benefits identified (whether implied, mentioned, discussed) in connection with the specific provision.
  - For each provision or section, score the benefits and costs along the rubric provided. If any of the provisions are scored above a 1, briefly explain the agency's efforts to quantify that provision.

  - The cost and benefit quantification for each provision should be scored along the rubric provided in the evaluation template:
    - **0 = Qualitative, No explanation for why not quantified**
    - **1 = Qualitative, Explanation for why not quantified**
    - **2 = Quantitative Data, Impact not quantified**: Numbers are provided, but there is no calculation to quantify the total impact of costs or benefits.
    - **3 = Impact Quantified, not Monetized**: There is a calculation that addresses impact (e.g., number of people affected), but the impact is not monetized.
    - **4 = Some Monetization**: The impact is partially monetized, but the entire monetary impact of the regulation is not given.
    - **5 = Fully Monetized**
- **Section III. CBA Dashboard: Methods of Quantification**
  - Score each regulation according to the method of quantification used, if any.
  - The various types of methods are listed below. Note the first two methods – Top Down Estimates and Bottom Up Estimates – represent on dimension of analysis, whereas the remaining four methodologies for collecting information represent another.
    - **Top-Down Estimate**: This may take the aggregate size of the economy or an industry and apply estimates to quantify impact. For example, 100,000 loans were made last year and models show that roughly .3% of these loans will be impacted by this regulation. Therefore, 300 loans will be affected. This approach relies mostly on estimates or models.
    - **Bottom-Up Summation**: This method sums up impact through a series of individual factors added together. For example, eight market participants will be subject to additional examinations. A typical examination costs $50/hour for 50 hours. Therefore, the total cost of implementing the provision will be approximately $20,000. This approach often relies on data from other government agencies (*e.g.,* the Bureau of Labor Statistics).
    - **Focus Groups/Interviews**: Note if an agency used focus groups or interviews to ascertain the impact of a regulation. Quantitative surveys should not be noted here, as they are separated below.
    - **Quantitative Surveys**: Note if the agency used survey data to ascertain the impact of the regulation.
    - **Lab Experiments**: Note if an agency used laboratory experiments (including behavioral testing) to ascertain the impact of a regulation.
    - **Other:** Any other method you may find for quantifying or monetizing the impact of a regulation should be briefly explained here and scored according to the rubric.
    - <u>Note</u>: Bottom-Up and Top-Down methods may be used together to quantify impacts.
  - The scoring rubric is as follows:
    - **0 = None**: The methodology was not found in the economic analysis.
    - **1 = Some Utilization**: The methodology was cited at least once, but it was not extensively used in quantification efforts.
    - **2 = Extensively Used**: The methodology was used in order to calculate impact, but another methodology was more central to the overall calculation.
    - **3 = Primary Method Used**: The methodology was the primary method used to calculate impact.
- **Section IV. CBA Dashboard: Sources of Data**

  - As you identify relevant sources of data, maintain a tally of where the information is coming from and whether or not it was identified as produced or generated for the notice and comment process.
  - Sources of information should be tallied and classified into six categories:
    - **Agency Generated Materials**: Any materials generated by the agency, whether or not for the rulemaking at issue. This would typically include field research (both focus groups/interviews and quantitative surveys).
    - **Independent Academic Research**: Any research conducted by academics from outside the agency, whether or not commissioned by the agency.
    - **Government Studies**: Studies published by governmental agencies other than the agency issuing the rule.
    - **Industry Sources**: Information provided by the industry to which the rulemaking will apply. May be denoted in the rulemaking as received in a comment letter.
    - **Consumer Groups**: Information provided by consumer advocacy groups. May be denoted in the rulemaking as received in a comment letter.
    - **Other**: Data sources cited by the agency in the cost-benefit analysis, for which there is no clear source.
  - For the second row of the chart, please categorize each of the data sources the agency references in the relevant sections of the rulemaking and tally the sources accordingly.
  - In the third row, please count the subset of sources identified as produced or generated for the purposes of the specific notice and comment process at issue.
- **Section V. CBA Dashboard: Rulemaking Indicators**
  - In the first box, please state whether or not there is a Regulatory Flexibility Analysis in the rulemaking. If the rulemaking has a heading for "Regulatory Flexibility Analysis," but the text states that the agency did not conduct an analysis, you should answer "No."
  - In the second row of boxes, please estimate the number of words from the *economic analysis (12,866)* section of the rulemaking that address (a) benefits, (b) costs, (c) neither.

Evaluation Documents – Text

The evaluation documents are intended to include the relevant language of a rulemaking, such that – standing alone – the information included in the document can provide a reader with the information needed to "score" a CBA. Section VII should provide all of the text necessary to understand the "score" in the first four dashboards. Section VIII should provide a complete explanation in your own words of the score you awarded in the first dashboard. That is, Sections VII and VIII should fully substantiate the scores awarded in Section I.

- **Section VI. Summary of the Rule**
  - This section has the "Summary" of the rule, as it appears in the Federal Register with a footnote citation to the Federal Register.
  - This is intended to give the reader a brief synopsis of the rule's purpose.
- **Section VII. CBA: General Commentary**
  - Note: Throughout this section, please use footnotes to cite to relevant studies. This should include all studies noted and tallied for the purposes of Sections III and IV.
  - Note: In-text source citations should be made to note the page in the Federal Register from which each quoted statement originate.

- ***Required Economic Analysis***: States whether (1) the agency has to abide by a statutory CBA mandate, (2) the agency is subject to the Executive Order/OIRA CBA process, or (3) the agency is not required to conduct economic analysis.
  - This information can usually be found in the background section of the rulemaking.
- ***Mandatory/ Discretionary***: States whether the rule was mandatory (one the agency must complete because of a statutory mandate) or discretionary (derivative of the agency's general rulemaking power).
  - Code this section as "mandatory" if the rulemaking is pursuant to any statutory provision apart from the agency's grant of general rulemaking authority.
  - Generally, regulations addressing self-executing provisions will be thought to be mandatory by their nature.
  - This information is usually discussed in the "background" section of the rulemaking, wherein regulators provide their statutory authority for promulgating the rule.
- ***Discussion of internal guidelines:*** States whether the rulemaking refers to internal agency guidelines for cost-benefit analysis. Significant mentions of Circular A-4 or other OIRA/OMB guidelines should be identified.
- ***Background for Regulation***: Includes quotes describing the compelling factors motivating the rulemaking, including the problems that the agency is aiming to remedy.
- ***Extent and Detail of Cost-Benefit Analysis:*** States the page count (Federal Register PDF pages) of the cost-benefit analysis and states whether the rulemaking is overall more quantitative or qualitative. Quote relevant sections of the regulation that do not directly bear on costs and benefits, but serve to frame the agency's thinking. Some common areas of discussion include:
  - <u>Quantification</u>: Statements the agency has made about efforts to quantify and difficulties with quantification.
  - <u>Baseline</u>: Quotes regarding what the agency considers its baseline. Particularly interesting are statements regarding whether the baseline is prestatutory or "no action" (*i.e.,* existing regulations continue, absent the new rulemaking).
  - <u>Response to Comments</u>: General statements the agency has made regarding the comment letters it received and how it has taken the comments into account.
  - <u>Exemptions</u>: If the agency has exempted certain actors from the rule, it is helpful to note in this section.
- ***Benefits:*** As the agency lists the benefits of its new regulations for the purpose of an economic analysis, it is helpful to denominate them in the evaluation by using the benefits articulated in Section I of the template. Please flag these before quoted text using bold, underline and asterisks, as seen in the example.. [Note: Not all provisions of rulemakings will have specific benefits associated with them and some identified benefits may reflect the expected impact of a combination of regulatory provisions; your summary of benefits should reflect the characterization of benefits that the agency utilized in its economic analysis.]
  - Quote statements from the rulemaking citing the proposed benefits of a regulation and *group them together* based on the justification the benefit represents.
  - When empirical evidence is used in order to support a purported benefit, create a footnote with the proper citation.

  - ***Costs***: The agency will also name a number of costs it anticipates as a result of the rulemaking.
    - Quote statements from the rulemakings regarding the costs, and categorize based on similar categories of costs (e.g., reduction in revenue, increased recordkeeping, reduction in access to credit)
    - When quantification efforts are made, capture the relevant methodology and numbers to provide the reader of the evaluation a lens into the agency's approach to quantification.
  - ***Consideration of Alternatives***: The agencies may discuss alternative approaches to regulating and why they were not chosen. To the extent this discussion compares the costs or benefits of a proposed approach with the chosen approach, include the quotes that illustrate this comparison.
  - ***Paperwork Reduction Act Analysis:*** Add this section, if relevant; summarize the appropriate provisions of the PRA analysis.
  - ***Regulatory Flexibility Act Analysis***: Add this section, if relevant; summarize the appropriate provisions of the RFA analysis.
    - Pay special attention to comments regarding the effect on smaller entities.
- **Section VIII. CBA: Identified Benefits**
  - For each of the benefits provide 1-5 sentences of *your own commentary* discussing how the rulemaking addresses the benefit.
  - If additional benefits came up in the course of the evaluation (*i.e.,* Clarity; Reducing Litigation, Consumer Welfare, Market Efficiency, Increased Compliance/Self-Regulation, Creation of Public Information, International Coordination) add this as a category, and provide 1-2 sentences of your own commentary synthesizing how the rulemaking addresses the benefit.

Dropbox

All of the relevant documents are stored in a community dropbox entitled "CFPB CBA - Spring 2014." If you are having trouble accessing the dropbox, please email komara@jd14.law.harvard.edu for assistance. This dropbox contains a subfolder for each evaluated regulation. **Please do not change or save over any of the documents in this dropbox.**

You will also be invited to an individual dropbox where you can save your deliverables such that they are viewable only to you and the authors of this memo. Please group the documents in subfolders by regulation, using consistent nomenclature [Agency – Date of regulation (YYYYMMDD) – Short Name of Regulation]. Please follow the nomenclature that is currently used and save all of your deliverables in your personal file as [Date of regulation (YYYYMMDD) Short name of regulation v.Your Name]

There are several sections of the community dropbox to navigate:

- Background Materials: These documents may be helpful to you as you prepare to evaluate rulemakings. You may also want to refer to the HBR Letter to the CFPB Director or the longer JEP article as you conduct your evaluations; the details regarding justifications are tremendously helpful. You can also access the central assignment worksheet in this file.

- Templates for Evaluation: For each regulation to be assessed, a blank template is available for you to fill out. You can save your own version of these templatess in your personal dropbox after you have scored the rulemakings. Also, be sure to add your name and the date at the top of the documents.

- Rulemaking PDFs: Each of the evaluated rulemakings has been saved in PDF form in the community dropbox. Please save your marked version of these PDFs in your personal dropbox.

Process and Deliverables

Initial Process

Two research assistants (RAs) will evaluate each regulation, using the following process.

1. Each RA should mark-up a version of the relevant sections of the regulation.
2. Each RA should add his or her name to the top of the evaluation template and fill out the template in accordance with the instructions of this memo.. Please work in word. Please include page citations for all quotes in line with the text in Section VII.
3. Each RA should fill out Section VIII, summarizing how each benefit is treated in the rulemaking.
4. Each RA should independently fill out the scoring dashboards using the rubrics provided, aligning the scores with the analysis completed in Sections VII and VIII.
5. RA pairings should meet to discuss the changes to the textual analysis and the scores. The goal of this meeting is not to compromise on scores, but to highlight genuine areas of disagreement. Only change your scoring if your partner has convinced you to change your thinking, and not as a means to achieve the same score.
6. Both RAs should post final versions of their evaluations in the relevant folder of their personal dropbox.
7. The “primary RA,” should then write a brief memo (send by email) to Professor Jackson and Kelley explaining the conversation. The memo should touch on disagreements in scoring or differences of opinion, as well as areas of confusion. The primary RA should email this to Professor Jackson and save it to his or her personal dropbox. Often times, the items you flag will belong in Section VIII of the template.
8. After the conversation, the primary RA should memorialize the markings from both RA’s PDF versions into one electronic PDF document. Please use the “highlight” and “comment” functions of Adobe PDF. The primary RA should save a final copy of the marked PDF in the relevant subfolder of his or her personal dropbox.
    a. Highlight all areas of text that discuss the costs and benefits of the regulation
    b. Use the comment function to indicate which benefit is being identified in a given portion of the text.
    c. Use the comment function to identify sources that are being counted for the purposes of Dashboard IV.
9. After the conversation, the primary RA should reconcile both evaluations feedback received in order to create one synthesized evaluation document that includes both RAs’ initial changes. Continue to keep all edits in track changes.
    a. Put the primary RAs name first in the first page header, then the secondary RA,
    b. Where there are disagreements in scoring or word-counts, put both scores/word-counts in the designated box, separated by a semicolon. The Primary RA’s score/estimation should come first. With respect to word counts, do not worry if there are differences between RA word counts and don’t spend time attempting to reconcile differences.

Where changes to the text of the template conflict, the primary RA should use discretion, informed by feedback, to make additional edits to the final document.

Whenever the RAs have arrived at different scores in Section I, Section VIII should be updated in order to explain the difference

Appendix Three: Additional Background on Exemplars

Information Failures

Fiduciary Requirements for Disclosure in Participant-Directed Individual Account Plans (Department of Labor)[246]

In 75 Fed. Reg. 64909,[247] the Department of Labor (DOL) promulgated a final rule that requires the disclosure of certain plan and investment-related information to all participants and beneficiaries in 401(k)-type plans ("participant-directed individual account plans") (64910). The primary goal of the rule is to ensure that plan participants have the information they need to make informed decisions (64910). The benefit of the requirement to provide this information is monetized by the value of reductions in plan participant search time.

Sources. DOL relied on several sources in its analysis:

(1) Department of Labor, Form 5500 Data, 2007

(2) Employee Benefit Research Institute (EBRI), "The Retirement System in Transition: The 2007 Retirement Confidence Survey," Issue Brief #304, April 2007

(3) Census Bureau, Survey of Income Program Participation (SIPP), Panel Wave 04, 2004

(4) Bureau of Labor Statistics, unidentified wage growth data for private-sector workers participating in pension plans with individual accounts

Background.[248] The rule establishes a uniform, basic disclosure regime for participant-directed individual account plans. Two categories of information must be disclosed: plan-related information and investment-related information (64913-63917). Plan-related information consists of information about the investment alternatives offered, administrative expense

[246] Scores: Information Failure = 4, Quantification Effort = 5.
[247] Fiduciary Requirements for Disclosure in Participant-Directed Individual Account Plans, 75 Fed. Reg. 64909 (Oct. 20, 2010) (29 C.F.R. Part 2550).
[248] *See also* http://www.dol.gov/ebsa/newsroom/fsparticipantfeerule.html.

information (fees charged to all accounts under the plan, e.g., for general plan administrative services), and individual expense information (fees charged to individual accounts, e.g., for sales or investment advice). This information must be disclosed initially and annually. Furthermore, participants must receive statements, at least quarterly, showing the dollar amount of the administrative or individual plan-related fees and expenses actually charged to or deducted from their individual accounts, along with a description of the services for which the charge or deduction was made. Investment-related information includes performance data (e.g., historical investment performance), benchmark information (the return on an appropriate index, for options that do not have a fixed rate of return), and fee and expense information. Investment-related information must also be furnished to participants or beneficiaries on or before the date they can first direct their investments, and then again annually thereafter. The information must be furnished in a chart or similar format designed to facilitate a comparison of each investment option available under the plan.

Value of reductions in participant search time. DOL used its own 2007 Form 5500 Data to obtain an estimate of how many people participated in individual investment accounts (72 million) and thus would be affected by the rule. DOL then estimated how many of these 72 million participants would benefit from easier access to information, taking into account that some participants might already be receiving the required disclosures and would benefit less than others.[249] Specifically, drawing on EBRI's Retirement Confidence Survey for the percentage of workers that use "written materials received at work as a source of information" for investing decisions (73%, plus or minus 3%), DOL calculated that 50 to 55 million participants would

[249] "To some extent, disclosure of such [additional] information already is required by plans that elect to comply with the requirements of ERISA section 404(c)…. However, compliance with section 404(c)'s disclosure requirements is voluntary and does not extend to participants and beneficiaries in all participant-directed individual account plans" (64910).

receive some benefit from the rule (64929). DOL acknowledged the assumption implicit in this estimate, i.e., that participants who "read materials provided to them most likely will experience time savings" (64929). Further, using the 2007 Form 5500 Data, DOL computed the share of participants in participant-directed individual account plans that might already be receiving the required disclosures.[250] Participants already receiving the required disclosures were assumed to save one hour while the others were assumed to save 90 minutes.[251]

To monetize the time saved, DOL then posited "an average wage of $37 for private sector workers participating in a pension plan" in order to estimate "how much the average participants would value the time saved" (64929). This wage figure was based on data from Panel 4 of the 2004 wave from the Survey of Income Program Participation (SIPP), along with wage growth data for private-sector workers that participate in a pension plan with individual accounts from the Bureau of Labor Statistics. DOL multiplied each of these time savings figures by the number of participants expected to benefit (50 to 55 million) and the $37 average wage figure, and then created a wider range by halving the figure at the low end and doubling the figure at the high end. This yielded an interval of 26 to 112 million hours saved, valued at $1.0 to $4.0 billion in 2012 dollars. Lastly, using a 7% discount rate, DOL estimated the total present value of the benefit to be $7.2 to $29.9 billion.

Unquantified benefits. In addition to search time savings, participants would also benefit from a reduction in investment fees and costs. However, DOL admitted that it "has no basis on which to quantify" such a reduction because "the available research provides an insufficient

[250] Table 2 (64929) reports that about 58 million of the 72 million participants in participant-directed individual account plans (81 percent) are in plans that reported compliance with ERISA 404(c).
[251] "[T]he Department assumes that participants who are not receiving ERISA section 404(c) compliant disclosures, on average, will save one-and- a-half hours, while participants receiving such disclosures will save one hour on average" (64929).

basis to confidently determine whether or to what degree participants pay inefficiently high investment prices" (64930-31).

Enhancing Airline Passenger Protections (Department of Transportation)[252]

In 76 Fed. Reg. 23109,[253] the Department of Transportation (DOT) promulgated a final rule that requires airline contingency plans, disclosures, and customer refunds in order to improve "the air travel environment for consumers" (23110). In particular, the rule aims to "ensure that passengers have accurate and adequate information to make informed decisions when selecting flights" through full-fare advertising and a prohibition on opt-out provisions (23110). The benefit of the requirement on full-fare advertising is monetized by the value of time saved by consumers who would now be able to shop at fewer travel websites prior to purchasing airline tickets.

Sources. DOT relied on several of its own sources in its analysis:

(1) Department of Transportation and Econometrica, Inc., Final Regulatory Analysis (FRA) for "Enhancing Airline Passenger Protections II," Final Rule, April 2011

(2) Bureau of Transportation Statistics (BTS), Department of Transportation, T-100 Segment database, 2009

(3) Federal Aviation Administration (FAA), Department of Transportation, Aerospace Forecast Fiscal Years 2010–2030

(4) Department of Transportation, "Revised Departmental Guidance Valuation of Travel Time in Economic Analysis," 2003

In addition, DOT relied on two government or industry sources:

[252] Scores: Information Failure = 3, Quantification Effort = 4.
[253] Enhancing Airline Passenger Protections, 76 Fed. Reg. 23109 (April 25, 2011) (14 C.F.R. Parts 244, 250, 253, 259, and 399).

(5) Air Transport Association (ATA), comments submitted on the "Notice of Proposed Rulemaking on Enhancing Airline Passenger Protections II," citing ATA survey of 2008

(6) Office of Management and Budget, "Circular A-4," 2003

Background. The Department's price advertising rule, 14 C.F.R. Part 399.84, states that any advertised price for air transportation must be the entire price to be paid by the customer for that transportation (23166). However, the Department's enforcement policy permitted sellers of air transportation to state separately from the advertised price government-imposed taxes and fees, under certain conditions. The Department proposed enforcing the price advertising rule as it is written and finalized the change as proposed. The Department also explicitly applied the advertising rule to ticket agents and codified its enforcement policy on "each-way" advertising (23142-44).[254] Finally, the rule prohibits opt-out provisions for any ancillary fee for an optional service such as seat selection, seat upgrades, pre-boarding, travel insurance, rental cars, and transfers to and from the airport.[255] Under the rule, an optional service can be added to the total airfare only if the consumer affirmatively agrees to pay a fee for such service (23144-45).

Value of time saved.[256] DOT began its analysis by estimating the total tickets for domestic airline carriers in 2012 (340,845,677 tickets) and the period 2012-2021 using the FAA's estimated airline growth rates (FRA A-4) and BTS's 2009 airline and passenger data (FRA 15). DOT multiplied these estimates by 52%, which according to the ATA represents the percentage of passengers that use the internet to purchase airline tickets (FRA A-12). This calculation yielded estimates of 177,239,752 tickets purchased on websites in 2012 and

[254] Under this policy, advertisement of an each-way airfare that is contingent on a round-trip purchase is an unfair and deceptive practice unless the airfare is advertised as ''each way'' and the round-trip purchase requirement is clearly and conspicuously disclosed in a location that is prominent and proximate to the advertised fare amount (23143-44).

[255] "The most common charges added on this basis are for travel insurance and preferred seating assignments" (FRA 55).

[256] The analysis is summarized in Table 30 (page 58) of the FRA.

2,396,529,316 tickets from 2012-2021 (FRA 58). DOT then drew on the ATA again for its estimate that the average travel trip party size is 1.4 (FRA A-12). Dividing this figure by the prior website ticket estimates yielded 126,599,823 purchasers of tickets on websites in 2012 and 1,711,806,655 purchasers from 2012-2021.

With these estimates in hand, DOT assumed that the percent of online purchasers who shop on multiple travel websites without the full fares displayed was 2% (FRA 58). This appears to represent the joint outcome of being a consumer who visits multiple travel websites and encountering websites that do not display full fares. The agency acknowledges not having data on the number of purchasers who examine multiple websites and take time to find prices that include all taxes and fees (FRA 57). However, the agency did review advertised prices on web sites and found that only one of eight carrier websites displayed full-fare prices at the flight selection stage (FRA 54). This is the basis for the statement that the 2% estimate is "conservative" (FRA 57). Multiplying 2% by the previous ticket purchasers estimates yielded 2,531,996 purchasers who would benefit from "up-front posting of full-fare" in 2012 and 34,236,133 purchasers from 2012-2021 (FRA 58). DOT then assumed that these purchasers would save, on average, 3 minutes (or .05 hours) of "search and estimation time if all fares displayed on websites included all required government taxes and fees up front" (FRA 57). Although DOT did not include a formal citation, it did state that the assumption was based on "a series of user time trials" (FRA 57 n. 49).

DOT then drew on its own study for the "monetized value of time for airline passengers" while not traveling (FRA A-4). According to DOT, this value ($24.15 for the average personal passenger) was calculated using earnings estimates data (FRA A-4). DOT multiplied $24.15 by .05 hours to yield $1.21 as the value of average time saved per purchaser. DOT then multiplied $1.21 by the previously derived estimates for purchasers of tickets on websites to produce "the total value of time saved from reduction in search cost": $3,057,386 in 2012 and $41,340,131 from 2012-2021 (FRA 58). Finally, DOT followed OMB's Circular A-4 guidelines in discounting the latter figure by 7%, yielding $28.97 million in benefits from 2012-2021.

Other benefits. DOT discusses other benefits from the advertising and opt-out requirements. One is the reduction in deadweight loss that occurs if passengers purchase tickets they otherwise would not have if the first fare they had seen displayed the full fare. DOT estimated the benefit from eliminating this misallocation of resources to be $27 million over 10 years (FRA B-2). Industry commenters strongly disagreed with the assumption that people may "anchor" onto the first price they see; this analysis appears only in Appendix 2 to the FRA. Another benefit of this provision was the "time saved for those consumers beginning a ticket purchase that is later abandoned once the full fare is known" (FRA 56). DOT acknowledged that this benefit could not be quantified due to a lack of adequate data regarding the "number of consumers and the average amount of time lost" (FRA 56).

Tire Fuel Efficiency Consumer Information Program (Department of Transportation)[257]

In 75 Fed. Reg. 15893,[258] the National Highway Traffic Safety Administration (NHTSA), an agency housed within the Department of Transportation, promulgated a final rule pursuant to the Energy Independence and Security Act of 2007 (EISA). EISA required the NHTSA to establish a new consumer information program about the comparative performance of replacement passenger car tires in terms of fuel efficiency, safety, and durability (15895). The rule contributes to the implementation of this program by defining test procedures for tire ratings and requiring manufacturers to submit these ratings to NHTSA. The primary goal of this rule is

[257] Scores: Information Failure = 4, Quantification Effort = 4.
[258] Tire Fuel Efficiency Consumer Information Program, 75 Fed. Reg. 15893 (March 30, 2010) (49 C.F.R. Part 575).

to address information failures in the consumer tire market due to a lack of easy access to this comparative information. The benefit of the consumer information program is monetized by the value of both the fuel saved and the reduction in greenhouse gas emissions.

Sources. NHTSA relied on several of its own sources in its analysis:

(1) National Highway Traffic Safety Administration, Department of Transportation, "Vehicle Survivability and Travel Mileage Schedules," Technical Report, January 2006

(2) National Highway Traffic Safety Administration, Department of Transportation, MY 2012-2016 CAFÉ PRIA, 2009

(3) National Highway Traffic Safety Administration, Department of Transportation, Final Regulatory Impact Analysis for the Tire Fuel Efficiency Consumer Information Program (FRIA), March 2010

(4) National Highway Traffic Safety Administration, Department of Transportation, Notice of Proposed Rulemaking for the Tire Fuel Efficiency Consumer Information Program, June 2009

In addition, NHTSA relied on several other sources:

(5) Transportation Research Board, National Research Council of the National Academies, "Tires and Passenger Vehicle Fuel Economy: Informing Consumers, Improving Performance," Special Report 286, 2006

(6) Energy Information Administration, Department of Energy, "Annual Energy Outlook 2008," June 2008

(7) Office of Management and Budget, Circular A-94 Revised, October 1992

Background. Tires affect an automobile's fuel efficiency (via rolling resistance) and safety (via wet traction); tire durability (measured by treadwear) directly affects an automobile's operating costs. At the request of Congress, the National Academy of Sciences undertook research on reducing rolling resistance in replacement tires and the potential impact on safety and other factors (15904). The 2006 report "concluded that reduction of average rolling resistance of replacement tires by 10 percent was technically and economically feasible, and that such a reduction would increase the fuel economy of passenger vehicles by 1 to 2 percent, saving about 1 to 2 billion gallons of fuel per year nationwide" (15904).[259] The report noted, however, that consumers had little practical way of assessing how tire choices can affect vehicle fuel economy (15904). Consumers also value tire safety and durability but have little practical way of assessing these performance factors or examining tradeoffs (15895). The tire consumer information program will provide information on all three measures of performance.[260]

Value of fuel saved and reduction in greenhouse gas emissions. The rule requires tire manufacturers to submit ratings for tire fuel efficiency, safety, and durability.[261] NHTSA acknowledged lacking information about "likely consumer behavior in response to this [consumer information] program, and as a result of that, likely manufacturer reaction" (15933). However, assuming improved information causes a given number of additional tires to be purchased with a given reduction in rolling resistance, it is possible to use information about the resulting increase in fuel economy per-mile and the number of miles a consumer drives to estimate fuel savings and emission reductions. Thus, "if we assume 1 percent of targeted tires (1.4 million tires) are improved and that the average reduction in rolling resistance is 5 percent, then…the proposal is estimated to save 3.0 million gallons of fuel and prevent the emission of

[259] Transportation Research Board Special Report 286, Tires and Passenger Vehicle Fuel Economy: Informing Consumers and Improving Performance, National Research Council of the National Academies (2006).
[260] NHTSA conducted consumer research to determine whether consumers might sacrifice safety for improved fuel efficiency. NHTSA concluded that the results mitigate this concern but that it would be important "to not emphasize the fuel efficiency rating above the traction rating" when finalizing the consumer information and consumer education program (15921).
[261] The final rule specifies test procedures by which NHTSA will evaluate the accuracy of ratings assigned by tire manufacturers. The tire manufacturers themselves are not required to use those test procedures (15912-13).

29,000 metric tons of CO_2 annually" (15933). NHTSA then relied on EIA fuel price forecasts and a $20 per metric ton (in 2007 dollars) figure for the cost of emitting carbon dioxide (based on its MY 2012-2016 CAFE PRIA report) in order to generate its annualized monetary estimates of fuel saved and greenhouse gases prevented. Finally, relying on OMB-Circular A-94's suggested discount rates of 3% and 7%, NHTSA discounted these monetary estimates to the year the tire in question was produced. At a 3% discount rate, the average annual benefit through 2050 is $11.6 million. This is the figure reported in the main analysis of benefits and costs (15933) and in Table 1 (15902).

The NHTSA analysis assumes that better information about fuel efficiency, safety and durability would lead a number of consumers to purchase tires with greater fuel efficiency. To provide some foundation for this assumption, the agency conducted a consumer survey.[262] Based on the survey, the agency states that "buyers would pay between $4 and $5 more per tire for improved fuel efficiency" (15935). In contrast, based on its costs analysis, the agency states that it costs just $3 more per tire to improve rolling resistance by 5 percent. The agency essentially concludes that, with better information, more consumers would identify and purchase tires that they prefer, and that these tires would have improved fuel efficiency with little or no reduction in safety or durability (15935).

Unquantified benefits. In addition to fuel savings, consumers may be enabled by the rule to choose tires with increased safety ratings and/or durability. However, even more so than in the fuel savings context, estimates here require a host of assumptions. For instance, as NHTSA acknowledges, "it is not as straight forward as it is for a fuel efficiency rating to develop a rule of thumb for the safety rating scale such as 'each difference of X on the safety rating scale equates

[262] "NHTSA conducted additional consumer research after the notice of proposed rulemaking (NPRM) was issued to improve understanding of the typical tire purchaser and the tire purchasing process for the average consumer. *See* NHTSA Rolling Resistance Survey (Aug. 19, 2009)" (15921).

to Y percent fewer crashes and Z dollars less in resultant economic damages'" (15933-34). A similar argument can be made against the easy estimation of durability benefits. As NHTSA points out, several assumptions are needed in order to claim that "each difference of X on the durability rating scale equates to a reduction of $Y in tire purchases over the lifetime of the vehicle," since such a relationship is complicated by "driving habits, tire maintenance," and other factors (15934). Accordingly, NHTSA declined to quantify either safety or durability benefits in the rulemaking.

Externalities

Refrigerator Standards (Department of Energy)[263]

In 76 Fed. Reg. 57515,[264] the Department of Energy (DOE) promulgated a final rule that "prescribes energy conservation standards for various consumer products and commercial and industrial equipment" (57516). The rule projects "significant environmental benefits" due to an anticipated reduction in greenhouse gas emissions. The benefit of these standards is monetized by the value of the emissions reductions.

Sources. DOE generated three of its own models or sources for its analysis:

(5) Department of Energy, National Impact Analysis (NIA) spreadsheet model

(6) Department of Energy, NEMS-BT, a modeling system adapted for DOE purposes from the Energy Information Administration's National Energy Modeling System

(7) Department of Energy, Technical Support Document to "Energy Conservation Program: Energy Conservation Standards for Residential Refrigerators, Refrigerator-Freezers, and Freezers," Final Rule, September 2011

DOE also relied on several government sources:

[263] Scores: Externalities = 4, Quantification Effort = 4 and 5.
[264] Energy Conservation Program: Energy Conservation Standards for Residential Refrigerators, Refrigerator-Freezers, and Freezers, 76 Fed. Reg. 57515 (Sept. 15, 2011) (10 C.F.R. Part 430).

(8) Energy Information Administration (EIA), "Annual Energy Outlook 2010" (AEO2010)

(9) Office of Management and Budget (OMB), "Circular A-4," September 2003

(10) Interagency Working Group on Social Cost of Carbon, Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis, FUND, DICE, and PAGE models

Value of emissions reductions. DOE used its National Impact Analysis (NIA) spreadsheet model to assess the total consumer costs and savings as well as the national energy savings that would result from the refrigerator standards. This model uses a range of engineering and market inputs.[265] These include an estimate of refrigerator shipments that takes into account the impact of the refrigerator standards on manufacturing costs, consumer prices and consumer demand.[266]

With the various inputs in hand, DOE forecasted "energy savings beginning in 2014, the year that manufacturers would be required to comply" with the new standards, and ending in 2043 for a 30-year forecast period (57532). The NIA spreadsheet model quantified energy savings as "the difference in energy consumption between the standards case and the base case," where the base case "represents the forecast of energy consumption in the absence of amended mandatory efficiency standards" (57532). With all inputs factored in, the model produced an estimate of "4.84 quads of cumulative energy" saved over 30 years, i.e., "three times the total energy used annually for refrigeration products in the U.S." (57532). DOE also forecasted

[265] See Table IV.6 (57552-57553). The inputs into the NIA are (a) Estimated shipments of refrigeration products, (b) Compliance Date of Standard Base-Case Forecasted Efficiencies (2014), (c) Annual Energy Consumption per Unit, (d) Total Installed Cost per Unit, (e) Energy Cost per Unit, (f) Repair and Maintenance Cost per Unit, (g) Escalation of Energy Prices, (h) Energy Site-to-Source Conversion Factor, (i) Discount Rate, and (j) Present Year (future expenses discounted to 2010). DOE's Technical Support Document accompanying the rule explains how the model combines these inputs to generate the output savings figure.

[266] DOE's "engineering analysis" provides estimates of the impact of the product standards on manufacturing costs; its "markups analysis" coverts these cost estimates into estimates of the impact on consumer prices; and its "shipments analysis" converts these price estimates into estimates of the impact on product shipments using estimates of the price elasticity of demand.

cumulative national net present value of total consumer costs and savings, economic impacts on individual consumers (using a product life-cycle cost model), and industry net present value based on industry cash flows.

DOE used this national energy savings estimate as the main input for its NEMS-BT computer model, which calculates "the reduction in power sector emissions of carbon dioxide" (57558) and other gases, yielding "cumulative greenhouse gas emission reductions of 344 million metric tons…of carbon dioxide…in 2014-2043" (57518). DOE then obtained the most recent values for the social cost of carbon (SCC) by relying on an interagency group's FUND, DICE, and PAGE models.[267] Each of these models accepts three input parameters to calculate a value for the SCC: "climate sensitivity, socio-economic and emissions trajectories, and discount rates" (57560). These models yielded, at four different discount rates and in 2009 dollars, figures of \$4.9, \$22.1, \$36.3, and \$67.1 per metric ton avoided. DOE then multiplied these figures by the NEMS-BT output figure mentioned above (\$344 million metric tons), arriving at a range of \$2.8 and \$27.5 billion per year, in 2009 dollars (57518). This range represents the monetary value of the reduction in carbon dioxide emissions.

Emergency Homeowners' Loan Program (Department of Housing and Urban Development)[268]

In 76 Fed. Reg. 11946,[269] the Department of Housing and Urban Development (HUD) promulgated a final rule that reinstates a framework for providing emergency relief to financially distressed and underemployed homeowners who are temporarily unable to make their mortgage payments (11946). One of the benefits of the loan program is the reduction of externalities

[267] *See* http://www.epa.gov/oms/climate/regulations/scc-tsd.pdf; updated at http://www.whitehouse.gov/sites/default/files/omb/assets/inforeg/technical-update-social-cost-of-carbon-for-regulator-impact-analysis.pdf.

[268] Scores: Externalities = 2, Quantification Effort = 4 and 5.

[269] Emergency Homeowners' Loan Program, 76 Fed. Reg. 11946 (Mar. 4, 2011) (24 C.F.R. Chapter XV).

associated with foreclosures, such as lower tax revenues and depressed property values. There are large transfers associated with the program as well. The benefit of the program is monetized by the value of foreclosures avoided.

Sources. HUD referenced two of its own sources in its analysis:

(1) Federal Housing Administration, Department of Housing and Urban Development, Home Affordable Modification Program (HAMP), canceled loan data, 2010

(2) Department of Housing and Urban Development, "Regulatory Impact Analysis for Emergency Homeowners' Loan Program," Interim Rule, March 2011

HUD also relied on several government and industry sources:

(3) Moreno, Anne, "Cost-Effectiveness of Mortgage Foreclosure Prevention," report prepared for the Family Housing Fund, 1995

(4) Bureau of Labor Statistics, Department of Labor, Consumer Price Index

(5) Apgar, William C., and Duda, Mark, "Collateral Damage: The Municipal Impact of Today's Mortgage Foreclosure Boom," report prepared for the Homeownership Preservation Foundation, May 2005

(6) Immergluck, Daniel, and Smith, Geoff, "The External Costs of Foreclosure: The Impact of Single Family Mortgage Foreclosures on Property Values," *Housing Policy Debate* 17 (1): 57-80 (2006)

(7) National Association of Realtors, unspecified data for home sale prices

(8) Standard & Poor's, "The Anatomy of Loss Severity Assumptions in U.S. Subprime RMBS," 2008

(9) Harding, John, Miceli, Thomas, and Sirmans, C.F., "Do Owners Take Better Care of Their Housing Than Renters?" *Real Estate Economics* 28: 663-681 (2000)

Background. The Emergency Homeowners' Loan Program (EHLP) allows the U.S. Department of Housing and Urban Development to provide a maximum of $50,000 for five years at zero interest to eligible homeowners. Homeowners must be at least 90 days delinquent on their mortgages due to a reduction of household income and face the threat of foreclosure. Reasons for the reduction of income are limited to involuntary unemployment, involuntary under-employment, and medical conditions. Current household income must be less than 85% of the household's previous income and previous income must have been no more than 120 percent of Area Median Income (AMI). Homeowner's must also meet certain conditions to demonstrate that they have a reasonable likelihood of resuming full monthly mortgage payments and repaying the loan.

Value of foreclosures avoided. HUD began the analysis by estimating a range for the number of homeowners who would receive loans under the program. For the lower bound, HUD assumed that homeowners with cancelled HAMP loans were likely facing foreclosure. It then used the mortgage and income data available for these homeowners to estimate that 22,546 met the other program criteria. This provided a lower bound on the number of homeowners who could receive loans. HUD then calculated that the average loan amount to these homeowners would be $26,148. With $901 million available for loans and assuming $26,148 would be the average loan amount to all eligible homeowners, HUD concluded the program could support 34,474 homeowners. This provided an upper bound on the number of homeowners who could receive loans. The subsequent analysis assumes that all homeowners who could receive loans actually participate in the program.

HUD then estimates the benefits per foreclosure prevented to four groups: homeowners, local governments, lenders, and neighbors. Regarding costs to homeowners, HUD referenced the Family Housing Fund report for its estimate that "the total cost to homeowners related to foreclosure" was $7,200 per household in 1995 dollars (RIA 2). HUD then adjusted this estimate for inflation using the Consumer Price Index, yielding $10,339 per household in 2010 dollars of avoided loss to homeowners per foreclosure. Regarding costs to local governments, HUD relied on Agpar and Duda's study for the estimate of $6,200 as the average direct cost per foreclosure to local governments.

Regarding costs to neighbors, HUD borrowed from Immergluck and Smith's study the estimate that, on average, a foreclosure reduces the values of surrounding properties within one-eighth of a mile by 0.9 percent (RIA 4). HUD assumed that a "reasonable density" of 3 units per acre in order to estimate that a foreclosure affects 94 properties in a one-eighth mile (31.4 acre) radius (RIA 4). Relying on the National Association of Realtors for the median price of existing homes ($171,100) sold in October 2010, HUD then calculated that the "aggregate externality" of a foreclosure would be, on average, $144,750 (0.9 percent multiplied by 94 properties by $171,100) (RIA 4).

Regarding lender costs, HUD focused on calculating two measures of loss to society: transactions costs due to a foreclosure and structural loss surrounding a foreclosure. Regarding the former, HUD began with Standard and Poor's estimate that "the avoided lender costs of foreclosure totals $68,423 per house" (RIA 3). HUD then claimed that only legal fees (2% of the loan balance) and brokers' fees (6% of the housing price) should count as "deadweight loss," i.e., a loss, if avoided, would benefit society and not just the lender (RIA 3). Using those measures, HUD estimated that relevant transaction costs avoided per foreclosure totaled $10,063. For structural costs due to foreclosure, HUD first referenced Harding *et al.* for its 19% estimate of the "stress discount" due to foreclosure, i.e., "the reduction in property value from being forced to sell a home because it is foreclosed upon" (RIA 3). However, HUD claimed that taking this stress discount in full would overestimate the benefit to society, as at least some of it would benefit an "investor who may gain from the opportunity to purchase at a lower price" (RIA 3). To deal with this issue, HUD assumed structural loss to be half of the stress discount (Harding's 19%), i.e., 9.5%. HUD then multiplied 9.5% by Standard and Poor's estimate of the "average unpaid principle" of relevant households, $152,052, to obtain $14,445. Combining the two measures of loss to society, HUD estimated that total avoided loss to lenders was $24,508 per foreclosure.

With estimates of costs to homeowners, local governments, neighbors, and lenders in hand, HUD added them together to obtain the total economic benefit per foreclosure avoided: $54,906. Recognizing that some households would default despite EHLP assistance, HUD created two sets of estimates based on 15% and 25% foreclosure rates, yielding $46,670 and $41,180, respectively. HUD then multiplied those figures by its estimated range of households eligible for EHLP assistance, yielding $1.0 to $1.6 billion at a 15% foreclosure rate and $0.9 to $1.4 billion at a 25% foreclosure rate.

Mine Safety Examinations (Department of Labor)[270]

In 77 Fed. Reg. 20700,[271] the Mine Safety and Health Administration (MSHA), an agency housed within the Department of Labor, promulgated a final rule that revises the requirements for mine operators' examinations of underground coal mines and identification of health and safety violations. One of the "primary goals" of this rule is to reduce externalities associated with mining operations, such as "accidents, injuries, and illnesses" (20700). The benefit of these examinations is monetized by the value of reductions in fatalities and injuries.

[270] Scores: Externalities = 4, Quantification Effort = 5.
[271] Examinations of Work Areas in Underground Coal Mines for Violations of Mandatory Health or Safety Standards, 77 Fed. Reg. 20700 (Apr. 6, 2012) (30 C.F.R. Part 75).

Sources. The MSHA relied on some of its own materials in this analysis:

(1) Mine Safety and Health Administration, Department of Labor, twelve Reports of Investigation involving preventable fatalities, 2005-2009

In addition, the MSHA relied on several government and academic sources:

(2) Bureau of Economic Analysis (BEA), "National Income and Product Accounts Table: Table 1.1.9. Implicit Price Deflators for Gross Domestic Product," 2010

(3) Office of Management and Budget (OMB), Circular A-4, 2003

(4) Viscusi, W. & Aldy, J., "The Value of a Statistical Life: A Critical Review of Market Estimates Throughout the World," *Journal of Risk and Uncertainty* 27: 5-76 (2003)

(5) Hintermann, B., Alberini, A., and Markandya, A., "Estimating the Value of Safety with Labor Market Data: Are the Results Trustworthy?" *Applied Economics*, 1085-1100 (2008).

(6) Sunstein, C., "Valuing Life: A Plea for Disaggregation," *Duke Law Journal* 54: 385-445 (2004)

Value of reductions in fatalities and injuries. The MSHA began its analysis by estimating the number of fatalities and injuries that would be prevented by the final rule. Reviewing its investigation reports from 2005-2009 for accidents involving violations of relevant standards, the MSHA determined that "the final rule could have prevented…up to 12 fatalities or 2.4 fatalities per year" (20707). The MSHA also determined that "the final rule could have prevented 32 nonfatal injuries or approximately 6.4 nonfatal injuries per year" (20707). Central to these determinations were accident investigation reports from 2005 through 2009 that the MSHA analyzed to determine if inadequate examination of the underground work area, or violation of one or more of the nine standards that are the subject of examinations required by the final rule, contributed to the accident. The MSHA's calculations assume that the new rule would prevent these violations and the deaths and injuries attributable to them.[272]

The MSHA then applied a willingness-to-pay approach to monetize these estimates. The MSHA used values from Viscusi and Aldy's 2003 analysis for an avoided fatality and lost work-day injury: approximately $7 million and $50,000, respectively, in 2000 dollars. Using the BEA's GDP deflation table, the MSHA then adjusted those values to $8.7 million and $62,000, in 2009 dollars. The MSHA noted that "this value of a statistical life [$8.7 million] is within the range of the substantial majority of such estimates in the literature…as discussed in OMB Circular A-4" (20707). However, the MSHA also acknowledged potential problems with its values due to difficulties in estimating wage differentials (Hintermann *et al.*) and adapting the general willingness-to-pay approach to a specific field such as coal mining (Sunstein). The MSHA then calculated the final rule's annualized benefits to be $21.3 million (2.4 fatalities/year avoided multiplied by $8.7 million, plus 6.4 nonfatal injuries avoided multiplied by $62,000).[273]

Unquantified benefits. The MSHA acknowledged that it was unable to quantify the final rule's reduction of dust exposure and black lung disease due to a lack of data (20707).

Market Power

Medical Loss Ratio Requirements Under the Affordable Care Act (Department of Health and Human Services)[274]

In 75 Fed. Reg. 74863,[275] the Department of Health and Human Services (HHS) promulgated a final rule that implements "medical loss ratio (MLR) requirements for health

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[272] In addition to the examinations, the rule requires quarterly reviews between mine operators and mine examiners of certain citations and orders. § 75.362(e). "This provision will promote a culture of safety, resulting in a continual improvement in the quality and effectiveness of mine examinations. This will ultimately lead to an overall improvement in compliance with health and safety standards at the mine...." (20707).
[273] The MSHA acknowledged that it was unable to quantify the final rule's reduction of dust exposure and black lung disease "due to a "lack of data" (20707).
[274] Scores: Market Power = 4, Quantification Effort = 4.

insurance issuers" (74864).[276] In particular, the rule provides "an annual rebate to enrollees…if the issuer's MLR fails to meet minimum requirements" (74865). The thresholds are generally 85 percent in the large group market and 80 percent in the small group or individual market (74865). HHS intended this provision to compensate enrollees for the "lack of transparency in pricing" health insurance plans, which "may prevent adequate competition based on the value of the product" (74895). HHS states "we are unable to quantify benefits" (74893) but provides an estimate of the rebates from issuers to consumers.

Sources. HHS relied on one of its own sources in its analysis:

(1) Department of Health and Human Services, Regulatory Impact Analysis (RIA) to "Health Insurance Issuers Implementing Medical Loss Ratio (MLR) Requirements under the Patient Protection and Affordable Care Act," Final Rule, December 2010

In addition, HHS relied on several industry sources:

(2) National Association of Insurance Commissioners (NAIC), Annual Financial Statements and Policy Experience Exhibits database

(3) America's Health Insurance Plans (AHIP), "State Mandatory Medical Loss Ratio (MLR) Requirements for Comprehensive, Major Medical Coverage: Summary of State Laws and Regulations," April 2010

(4) Unspecified discussions with industry experts

Background. In order to determine which insurers would have to pay rebates due to the rule, HHS created a formula for estimating an insurer's MLR, adjusted for various factors:

[275] Health Insurance Issuers Implementing Medical Loss Ratio (MLR) Requirements Under the Patient Protection and Affordable Care Act, 75 Fed. Reg. 74863 (December 1, 2010) (45 C.F.R. Part 158).
[276] As defined by the rule, MLR is "an accounting statistic that…measures the percentage of total premiums that insurance companies spend on health care and quality initiatives, versus what they spend on administration, marketing and profit" (74895).

> "Adjusted MLR = (c)/(p – t – f) + (b * d) + u, where c = incurred claims, p = earned premiums, t = Federal and State taxes, f = licensing and regulatory fees, b = base credibility adjustment factor, d = deductible credibility adjustment factor, u = low, medium, or high assumptions to account for quality improving activities, unknown behavioral changes and data measurement error" (74901)

The MLR consists of the ratio of claims to premiums (calculated net of taxes and fees) after making "credibility adjustments" and adjustments for quality improving activities, unknown behavioral changes and data measurement error.

Credibility adjustments derive from the statutory requirement "to take into account the special circumstances of smaller plans, different types of plans, and newer plans" (74866). In particular, small plans are disproportionately more likely to have a medical loss ratio that fluctuates around the 80% threshold because of random variation in large claims. By adding additional percentage points to the ratio of costs to premiums, credibility adjustments make it less likely that a small issuer will be required to pay a rebate due to random variation in large claims (74880-81).

Estimate of rebates. HHS first estimated the number of health insurance issuers affected by the rule by drawing on the National Association of Insurance Commissioners (NAIC) database. This database revealed that "618 insurers offering comprehensive major medical (CMM) coverage filed annual financial statements in 2009" (74896). These insurers accounted for approximately 99 percent of all premiums earned in the CMM market (RIA 2-3). HHS then excluded 176 of these insurers in recognition of the NAIC database's limitations and the relatively "small portion" (i.e., "3 percent of life years and 2 percent of earned premiums") of the relevant market that these insurers represented, leaving 442 insurers for further analysis (74896).

The NAIC database also serves as the source for all of the parameters in the MLR formula except for "u," the adjustment factor for quality improving activities, unknown behavioral changes and data measurement error. This factor takes the value "low, medium, high" and was derived from discussions with industry experts (74900-01). This adjustment factors is intended to account for certain limitations in the NAIC database. For instance, spending on quality improving activities would not be adequately accounted for in "c," incurred claims, when estimated with NAIC data. HHS dealt with this limitation by consulting industry experts. These discussions suggested an average of "3 percent of premium" for such activities (74900). Due to uncertainty, HHS provided a range of estimates for this parameter, from low rebates (+7% to MLR for factors not accounted for by NAIC data) to high rebates (only +1% to MLR).

HHS then calculated that the "average MLR in the individual market in 2011 will be 86.5 percent, with a low-range…of 87.2 percent, and a high-range rebate estimate of 84.2 percent" (74904). Although the basis for this calculation is unspecified, presumably HHS used the formula described above in conjunction with NAIC data for the formula's inputs.

HHS then created a formula to calculate "rebates for a company whose adjusted MLR value in a State falls below the minimum MLR standard in a given market":

> "[(m – a) * (p – t – f)], where m = minimum MLR standard for a particular market, a = adjusted State MLR for that market" (74,901)

HHS did not state explicitly where it obtained the adjusted State MLR standards, but it seems likely that AHIP data provided these standards given HHS's reference to this data in a discussion of state MLR guidelines elsewhere in the rule (74899).

Using its rebate formula, HHS calculated a range of annualized rebate amounts for 2011 to 2013.[277] For instance, at a 7% discount rate, HHS gave a low estimate of $633.1 million, mid-

[277] The period covered by the RIA is only 2011-2013 because of significant changes expected in the marketplace in 2014 (74893).

range estimate of $930.8 million, and a high estimate of $1541.8 million, all in 2010 dollars. These estimates represent potential savings for enrollees due to the implementation of the MLR rebate provision.

Unquantified benefits. Due to data limitations, HHS discussed but did not quantify several benefits of the rule (74895). First, the rule could "help policyholders to select higher value coverage" by increasing "transparency relating to portion of premium spent on benefits" (74894). Second, the rule might result in "increased quality of medical care as a result of increased spending on quality-improving activities by issuers" (74894). Lastly, the rule might yield "improved health as a result of increased spending on medical care by issuers" (74894).

Public Goods

Patient Safety Organizations (Department of Health and Human Services)[278]

In 73 Fed. Reg. 70732,[279] the Agency for Healthcare Research and Quality (AHRQ), an agency housed within the Department of Health and Human Services, promulgated a final rule that "establishes a framework by which…health care providers may voluntarily report information to Patient Safety Organizations (PSOs)…for the aggregation and analysis of patient safety events" (70732). The creation of this public good—a database of patient safety events—was expected to generate "better patient outcomes and possible economic savings" by reducing the occurrence of such safety events (Notice of Proposed Rulemaking 8169). The benefit of the information reported to PSOs is monetized by the possible savings from a reduction in preventable health incidents.

Sources. AHRQ referred to its Notice of Proposed Rulemaking (NOPR) that preceded the final rule for the details of its cost-benefit analysis:

278 Scores: Public Goods = 4, Quantification Effort = 4.
279 Patient Safety and Quality Improvement, 73 Fed. Reg. 70732 (Nov. 21, 2008) (42 C.F.R. Part 3).

(1) Agency for Healthcare Research and Quality, Department of Health and Human Services, "Patient Safety and Quality Improvement," Notice of Proposed Rulemaking (NOPR), February 2008

In addition, AHRQ relied on one independent source:

(2) Corrigan, J. M., Donaldson, M. S., Kohn, L. T., McKay, T., and Pike, K. C., Committee on Quality of Health Care in America, Institute of Medicine, "To Err Is Human: Building a Safer Health System," 2000

Savings from reduction in preventable health incidents. AHRQ prefaced its discussion with the disclaimer that the benefits were contingent on "the [health care] providers themselves to bring about the changes that will result in a reduction in adverse events," given the voluntary nature of the rule (NOPR 8169). AHRQ began its analysis by citing the Institute of Medicine report for its $17 to $29 billion estimate of the "total national costs of preventable adverse events" (NOPR 8169). Within this range, the Institute of Medicine report carved out a smaller range—$8.5 to $14.5 billion—for "direct health care costs" that presumably were within a health care provider's ability to control (NOPR 8169). AHRQ then assumed that PSOs would be capable of reducing such events by "one percent to three percent within their first five years of operation" (NOPR 8169). With this assumption in hand, AHRQ multiplied the 1% to 3% range by the $8.5 to $14.5 billion range, yielding estimated savings of $85 to $145 million at the 1% level and $255 to $435 million at the 3% level.

AHRQ then projected these savings for the next five years, assuming both an increasing hospital penetration rate (starting at 10% in Year 1 and plateauing at 85% in Year 5) and percent reduction (starting at 1% in Year 1 and plateauing at 3% in Year 5) (NOPR 8170). AHRQ stated that it was "applying a median figure from the Institute of Medicine range to PSOs" (NOPR

8169). Multiplying for each year the Institute of Medicine's $8.5 to $14.5 billion range by the assumed hospital penetration rate and percent reduction, AHRQ arrived at its final estimates, which ranged from $11.5 million saved in Year 1 to $293.25 million saved in Year 5.

Principal-Agent Issues

Mortgage Servicing Rules (Consumer Financial Protection Bureau)[280]

In 78 Fed. Reg. 10695,[281] the Consumer Financial Protection Bureau (CFPB) promulgated a final rule that implements "provisions of the Dodd-Frank Wall Street Reform and Protection Act regarding mortgage loan servicing" (10696). In particular, the rule prohibits mortgage servicers "from charging borrowers for force-placed insurance coverage unless the servicer has a reasonable basis to believe the borrower has failed to maintain hazard insurance" (10697). One of the benefits of this rule is the correction of misaligned incentives on servicers that occur when different parties own and service loans, especially when trustees in a securitization retain servicers on behalf of investors who have the beneficial interest in the loans. The benefit of the requirements regarding force-placed insurance is monetized by the reduction in unnecessary force-placed insurance premiums.

Sources. The CFPB cited several industry sources in its analysis, including informal "discussions with industry during the development of the proposed rule" (10850):

(1) Insurance Information Institute, "Homeowners and Renters Insurance," undated

(2) Assurant, Specialty Property, "Lender-Placed Insurance: Protecting American Homeownership and the Mortgage Process," undated

[280] Scores: Principal-Agent Issues = 3, Quantification Effort = 4.

[281] Mortgage Servicing Rules under the Real Estate Settlement Procedures Act (Regulation X), 78 Fed. Reg. 10695 (Feb. 14, 2013) (12 C.F.R. Part 1024). The CFPB concurrently issued two rules on mortgage loan servicing that together addressed nine major topics (10697-10698). The rules implemented sections of the Dodd-Frank Act amending TILA and RESPA. The rules also implemented requirements beyond those explicit in TILA and RESPA using authorities the CFPB has under those statutes and the Dodd-Frank Act.

(3) Unspecified discussions with industry

Background. Section 1463(a) of the Dodd-Frank Act amended RESPA to establish new servicer duties with respect to servicers' purchase of force-placed insurance.[282] Servicers must, among other requirements, provide two written notices to a borrower over at least 45 days before imposing a charge for force-placed insurance on the borrower. The notices generally warn the borrower that hazard insurance is required, that the servicer needs proof that the borrower has hazard insurance, and that the servicer will obtain hazard insurance at the borrower's expense without this proof. All charges must bear a reasonable relationship to the servicer's cost of providing the service (10762, 10776). Further, for borrowers who have escrow accounts for the payment of hazard insurance, the servicer must advance funds through the escrow account to pay the borrower's homeowner insurance when this would prevent cancellation. The CFPB provides citations to federal complaints and comments at public hearings regarding payments made to servicers and services offered to servicers by providers of force-placed insurance that reduce servicer incentives to notify borrowers about lapsing insurance and drive up the cost of the insurance (10762).

More generally, the rulemaking presents multiple discussions of market failures in the market for mortgage loan servicing (10699-10701, 10718-10722, 10842-10846). Servicers of securitized mortgages purchase mortgage servicing rights and obtain revenue from a servicing fee (a certain number of basis points on unpaid principal balances) and fees that may be levied directly on borrowers. Trustees and investors (and in the case of Fannie Mae and Freddie Mac, guarantors) have a limited practical ability to discipline servicers and borrowers have essentially

[282] "Force-placed insurance" is hazard insurance obtained by a servicer on behalf of the owner or assignee of a mortgage loan that insures the property securing such loan. 12 CFR 1024.37(a).

none. The general conclusion is that servicers may pursue their self-interest to the detriment of both borrowers and investors (10701, 10818, 10853).

Value of reduction in unnecessary premiums. The CFPB began its analysis by presenting the Insurance Information Institute's statistics for the average homeowner's insurance premium ($880) and the average force-placed insurance premium ($1760). Dividing the difference between these two premiums by twelve to obtain a monthly differential ($73), the CFPB calculated that "on average, a homeowner who pays for force-placed insurance for one to six months pays an additional $73 to $440" (10850). The CFPB then estimated that "1.04 million homeowners incur force-placement each year" (10850), based on its estimate that "there are approximately 52 million first liens" and discussions with industry, which provided information indicating that approximately 2% of mortgages incurred force-placement each year (10850).

The CFPB stated that it lacked "representative data with which to quantify the extent to which industry practice currently meets the standards of the force-placed insurance provisions" (10849). The CFPB argued, however, that "even a small reduction in force-placed insurance may provide borrowers with substantial benefits" (10850). To illustrate this claim, the CFPB considered a scenario in which the rule would "reduce the incidence of force-placed insurance by…10 percent" (10850). The CFPB multiplied 10% by the estimated 1.04 million homeowners incurring force-placement each year, yielding 104,000 homeowners who would no longer incur force-placement. Lastly, the CFPB multiplied 104,000 by the estimated range of $73 to $440 additional premium charges per homeowner to yield total annual savings of $7.6 million to $45.8 million.[283]

[283] In a later analysis of the requirements for general servicing policies, procedures, and requirements (12 C.F.R 1024.38), the CFPB used existing research on servicer performance and default to quantify (but not monetize) a reduction in avoidable default from the rule (10853-10854).

Cognitive Biases

Investment Advice (Department of Labor)[284]

In 76 Fed. Reg. 66135,[285] the Department of Labor (DOL) promulgated a final rule that in limited circumstances allows a fiduciary advisor to offer investment advice for a fee to individuals in participant-directed individual account plans. DOL argued that the rule increases the availability of quality investment advice, which would reduce investor "overconfidence, myopia, or simple inertia" (66153). The benefit of this relaxation of the prohibition on fiduciaries from rendering investment advice that provides a fee is monetized by the value of the reduction of investment mistakes. These monetary benefits are shared among the other benefits identified by this rule, including improved financial capabilities and decreased information failures.

Sources. DOL relied on several government and independent sources in its analysis:

(1) Board of Governors of the Federal Reserve System (FRB), Flow of Funds Accounts Statistical Release, September 2014

(2) Employee Benefit Research Institute (EBRI), 2007 Retirement Confidence Survey

(3) Employee Benefit Research Institute, 2008 Retirement Confidence Survey

(4) Aon Hewitt Associates, "Survey Findings: Hot Topics in Retirement," 2007

(5) Profit Sharing/401(k) Council of America (PSCA), "50th Annual Survey of Profit Sharing and 401(k) Plans," 2007

(6) Deloitte Consulting LLP, Annual 401(k) Benchmarking Survey, 2005/2006

Background. Fiduciaries are generally prohibited from rendering investment advice to plan participants and receiving fees. The rule implements two statutory exceptions to this prohibition.

[284] Scores: Cognitive Benefits = 2, Quantification Effort = 5.

[285] Investment Advice—Participants and Beneficiaries, 66 Fed. Reg. 66135 (25 October 2011) (29 C.F.R. Part 2550).

Under the first exception, advice is exempt if it meets a "fee-leveling" requirement. This requirement proscribes the receipt of fees or compensation that varies based on investment options selected (66139). Under the second exception, advice is exempt if it meets a "computer-model" requirement. Under this requirement, the investment advice must be generated by a computer model takes into account historic risks and returns, avoids inappropriately favoring investment options offered by the fiduciary advisor, and meets other conditions (66141).

Value of the reduction in investment mistakes. DOL first created a baseline estimate of how much investment mistakes cost participants prior to the implementation of the rule. Using a wide range of government, academic and industry sources, DOL estimated that approximately $114 billion in 2010 was lost due to investment mistakes while acknowledging that "this estimate is subject to wide uncertainty."[286] DOL then created three levels of estimates—low (14% for defined-contribution (DC) plans, 50% for IRA plans), primary (16%, 67%), and high (17%, 80%)—for the percentage of plan participants that would use the advice made available by the rule.[287] These estimates were based on several independent surveys and related qualitative assumptions. For example, the EBRI's 2007 Retirement Confidence Survey revealed that 19% of surveyed workers were "very likely," and 35% "somewhat likely," to receive investment advice provided by the "company that manages their employer's [DC] plan" (66155). DOL also considered qualitative assumptions, e.g., IRA beneficiaries use investment advice at relatively higher rates as compared to DC beneficiaries (66155 n. 67). Such assumptions were loosely based on the surveys administered by EBRI, AON Hewitt Associates, PSCA, and Deloitte

[286] *See* Table 2, "Existing/Pre-PPA advice only (baseline)," *Id.* at 66152 and fn. 45, which references the 2008 proposed rule. The academic and industry sources are provided in the regulatory impact analysis for the 2008 proposed rule. In that analysis, EBSA estimates that $109 billion in investment losses occur from unnecessary fees and expenses, poor trading strategies, inadequate diversification, inappropriate risk, and excess taxes. *See* 73 Fed. Reg.49896, 49903-49905.

[287] See Table 4, *Id.* at 66155. "Use of advice" in Table 4 means receiving and following the advice ("25 percent of the participants that are offered advice use the offered advice, as outlined in Table 4 below").

Consulting. Using these percentages and information on the number of participants in DC and IRA plans, DOL estimated 9 to 11 million DC plan participants and 25 to 41 million IRA plan participants would use the new investment advice.[288]

DOL then assumed that "advised participants make investment errors at one-half the rate of unadvised participants" (66156). Relying on this assumption, the above information and the FRB's data on retirement assets, DOL estimated that the reduction in investment errors by advised participants would produce a total benefit range of $7 billion to $18 billion annually (66156).

Required Warnings for Cigarette Packages and Advertisements (Department of Health and Human Services)[289]

In 76 Fed. Reg. 36627,[290] the Department of Health and Human Services (HHS) promulgated a final rule that adds "a new requirement for the display of health warnings on cigarette packages and in…advertisements" (36628). According to HHS, the requirement will dissuade smokers who overestimate the pleasure from smoking and/or "underestimate their personal probability of dying within the next 10 years" (36709-10). The benefit of the requirement is monetized by the "amount smokers are willing to pay to participate in cessation programs" as a proxy for the "value of health and other benefits of cessation" (36721). Note that this monetary estimate is not unique to the cognitive biases benefit, as it could also represent a quantification of other benefits associated with this rule.

Sources. HHS relied on a number of academic and government sources in its analysis:

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[288] See Table 5, *Id.* at 66156.
[289] Scores: Cognitive Biases = 3, Quantification Effort = 5.
[290] Required Warnings for Cigarette Packages and Advertisements, 76 Fed. Reg. 36627 (June 22, 2011) (21 C.F.R. Part 1141).

(1) Warner, K.E., Mendez, D., and Smith D.G., "The Financial Implications of Coverage of Smoking Cessation Treatment by Managed Care Organizations,'' *Inquiry* 41; 57–69, Spring 2004

(2) U.S. Department of Commerce, Bureau of Economic Analysis, "National Economic Accounts: Current-dollar and ''real'' GDP," 2010

(3) Health Canada, ''Overview of Historical Data, Wave 1, 1999–2009"

(4) Health Canada, "Long-Term Trends in the Prevalence of Current Smokers," Mimeo, May 2009

(5) National Center for Health Statistics, ''National Health Interview Survey: Questionnaires, Datasets and Related Documentation, 1997 to the Present"

(6) National Center for Health Statistics, "Health, United States, 2005," Table 63, Hyattsville, MD: National Center for Health Statistics, 2005

(7) U.S. Census Bureau, 2005 Interim State Population Projections, File 4: Interim State Projections of Population by Single Year of Age and Sex: July 1, 2004 to 2030

Willingness to pay for smoking cessation. First, HHS extracted from the Warner *et al.* paper the average value of smoking cessation, $1,167.00 (in 2000 dollars), then adjusted this figure for inflation using the Department of Commerce's conversion rates, yielding $1,444.00 (in 2011 dollars) (36721). Second, in order to forecast the rule's reduction of the smoking population, HHS compared smoking rates in the United States and Canada, reasoning that Canada's prior implementation of a similar graphic warning rule would yield differences that could be attributed to the rule. HHS used data from Health Canada and the National Center for Health Statistics to estimate "pre-2001 smoking rate trends" in the two countries (36720). This trend estimate allowed HHS to then "subtract the predicted United States-Canada smoking rate differences from the actual differences" in the observed post-2001 data, resulting in a 0.088 percentage point average difference (36721). Noting that confounding factors had not been accounted for, and that this approach was "rudimentary," HHS then projected on the basis of this difference that the rule would "reduce the United States' smoking population by approximately 213,000 in 2013" (36721).

Lastly, HHS multiplied this estimated reduction in the smoking population by the average value of cessation and then applied 3% and 7% discount rates, yielding net benefits of $307.9 million and $322.4 million, respectively. HHS then performed this calculation for each year from 2014 to 2031, using U.S. Census Bureau data to update the population reduction figure in each calculation to account for the "particular year's newly exposed cohort " (36721). HHS claimed that these calculations likely represent lower bounds of the monetary value of the benefit, for the average cessation value—the price a typical smoker is willing to pay to stop smoking—may itself be affected by the cognitive biases that influence smokers' preferences (36721).

Unquantified benefits. HHS acknowledged that it was unable to quantify "reductions in external effects attributable to passive smoking and the reduction in infant and child morbidity and mortality caused by mothers smoking during pregnancy" due to the lack of "reliable data with which to quantify [these effects] with greater precision than an order-of-magnitude approximation" (36708)

Limited Financial Capabilities

Investment Advisor Performance Compensation (Securities and Exchange Commission)[291]

Overview. In 77 Fed. Reg. 10358,[292] the Securities and Exchange Commission (SEC) promulgated a final rule that revises the conditions under which an investment adviser can

[291] Scores: Limited Financial Capabilities = 4, Quantification Effort = 3.

charge "performance based compensation" to an investor (10358). One of the rule's goals is to protect investors who "may not possess the financial experience…to bear the risks of performance fee arrangements" (10365). The SEC partially quantified the benefit of the revision by estimating the number of investors that would no longer be eligible to enter into performance based compensation arrangements with investment advisors. The SEC also partially quantified costs by estimating how many of these investors might incur costs due to their inability to enter into such arrangements.

Sources. The SEC relied on several sources in its analysis, including two of its own:

(1) Bucks, Brian K., Kennickell, Arthur B., Mach, Traci L., and Moore, Kevin B., Federal Reserve Board, "Changes in U.S. Family Finances from 2004 to 2007: Evidence from the Survey of Consumer Finances" (SCF), *Federal Reserve Bulletin* 95: A1-A55, February 2009

(2) Hung, Angela A. *et al.*, Securities and Exchange Commission and RAND Institute for Civil Justice, "Investor and Industry Perspectives on Investment Advisers and Broker Dealers," 2008

(3) Securities and Exchange Commission, unspecified Form ADV data

For "detailed documentation of the SCF methodology," the Federal Reserve Board directed readers to two of its own articles:

(4) Kennickell, Arthur B., Federal Reserve Board, "Wealth Measurement in the Survey of Consumer Finances: Methodology and Directions for Future Research," May 2000

(5) Kennickell, Arthur B., Federal Reserve Board, "Modeling Wealth with Multiple Observations of Income: Redesign of the Sample for the 2001 Survey of Consumer Finances," October 2001

[292] Investment Adviser Performance Compensation, 77 Fed. Reg. 10358 (February 22, 2012) (17 C.F.R. 275)

Background. The rulemaking amended SEC rule 205-3 regarding "qualified clients." One set of amendments implemented section 418 of the Dodd-Frank Act, which specified inflation adjustments to dollar amount thresholds in the rule. The SEC also amended the net worth test for qualified clients to exclude home equity (i.e., to exclude the market value of the primary residence from assets and certain debt secured by the property from liabilities).[293] The exclusion of home equity from the calculation of net worth reduces the number of investors whose net worth is large enough to allow them to enter into performance fee arrangements with advisors. In explaining the exclusion, the Commission states, "We believe that the value of an individual's primary residence may bear little or no relationship to that person's financial experience or ability to bear the risks of performance fee arrangements. The value of the individual's equity interest in the residence reflects the prevailing market values at the time and can be a function of time in paying down the associated debt rather than a function of deliberate investment decision-making" (10364).[294]

Reduction in the number of qualified clients. The SEC drew on the Federal Reserve Board's 2007 Survey of Consumer Finances (SCF) to determine how many households would meet the rule's "$2 million net worth test" (10365). Regarding the SCF's methodology, the Federal Reserve Board directed readers to two of its own articles (SCF A52 n. 67). According to the Kennickell 2001 article, the Federal Reserve Board and the Internal Revenue Service administer a questionnaire once every three years that focuses on household "assets and liabilities" and "use of financial services" (Kennickell 1). The questionnaire is administered to

[293] The Commission notes that this change is similar to one required by section 413 of the Dodd-Frank Act for "accredited investors." However the change to rule 205-3 regarding qualified clients is not required by the Dodd-Frank Act. *See* 10360.
[294] The Commission adds, "In addition, because of the generally illiquid nature of residential assets, the value of an individual's home equity may not help the investor to bear the risks of loss that are inherent in performance fee arrangements" (10364). *See also* 10361 n. 41.

two different sample populations in order to account for "highly concentrated" U.S. household wealth and the lower response rates of wealthier households (Kennickell 2). The first sample is selected by "the National Opinion Research Center at the University of Chicago" according to a "standard multi-stage national area-probability (AP) design…which provides good coverage of the general population" (Kennickell 2). The second sample is selected by Federal Reserve Board staff "from statistical records derived from tax records" (Kennickell 2). The list of records is "stratified using a 'wealth index'…to predict a rank ordering of people by wealth," which allows the Federal Reserve Board to oversample wealthier households and adjust the sample for nonresponses (Kennickell 2).

The SCF revealed that "approximately 5.5 million households have a net worth of more than $2 million *including* the equity of the primary residence" and that "approximately 4.2 million households have a net worth of more than $2 million *excluding* the equity in the primary residence" (10365). The SEC subtracted 5.5 million from 4.2 million to obtain the estimate that up to "1.3 million households will not meet a $2 million net worth test" and "therefore will now be protected by the performance fee restrictions" of the rule (10365). The SEC acknowledged that 1.3 million might be an overestimate due to its assumption that "none of these households would be grandfathered by the transition provisions of the rule" (10365 n. 81).

Number of investors subject to potential costs. The SEC began its analysis of costs by stating that 325,000 clients or "25 percent of the 1.3 million households would have entered into new advisory contracts that contained performance fee arrangements after the compliance date of the amendments" (10365). The SEC based this result on a 2008 SEC report, which indicated that 20% of investment advisors charge performance fees and that this reflects investor demand for these advisory arrangements" (10365 n. 83). The SEC then estimated that approximately 40% of these 325,000 clients would "separately meet the 'qualified client' definition" under another test provided by the rule, leaving 60%, or 195,000 households, that might be "negatively affected by their inability to enter into performance-based compensation arrangements with investment advisers" (10366). This estimate was based on "data filed by registered investment advisers on Form ADV."

The SEC then estimated that approximately 80% of these 195,000 households, or 156,000, would "enter into non-performance fee arrangements," while the other 20%, or 39,000 households, would "decide not to invest their assets with an adviser" (10366). These estimates were based on the behavioral assumption that a "substantial majority" of investment advisers would "offer alternate compensation arrangements" in order to retain the business of households not meeting the qualified client definition (10366 n. 86). The SEC referenced its Form ADV data for the estimate that "less than one percent of registered investment advisers are compensated solely by performance fees," which presumably implies that most investment advisers are indeed capable of offering alternative compensation arrangements (10366 n. 85).

The SEC did not quantify costs beyond the above estimates of potentially negatively affected investors, stating instead that the rule would be "unlikely to impose a significant net cost on most advisers and clients" (10366). Regarding the estimated 156,000 clients who would enter into non-performance fee arrangements, the SEC "anticipate[d] that [such arrangements] may contain management fees that yield advisers approximately the same amount of fees that clients would have paid under performance fee arrangements" (10366). As for the estimated 39,000 clients who would not decide to invest their assets with an adviser, the SEC stated that "some of these [clients] will likely seek other investment opportunities," while others "may forego professional investment management altogether because of the higher value they place on the alignment of advisers' interests with their own interests" (10366).

High Cost Mortgage and Homeownership Counseling (Consumer Financial Protection Bureau)[295]

Overview. In 78 Fed. Reg. 6856,[296] the Consumer Financial Protection Bureau (CFPB) promulgated a final rule that imposed a pre-loan counseling requirement on mortgages covered by the Home Ownership Equity Protections Act of 1994 (HOEPA). A similar requirement was imposed for negative amortizing loans made to first-time borrowers. The rule also imposed a broad requirement to provide loan applicants with a list of housing counselors (6857). Homeownership counseling may benefit those consumers who "feel confused or overwhelmed by the information and disclosures provided" (6950). One of the goals of this rule is thus to address consumers' limited financial capabilities. Although the CFPB did not quantify the resulting benefits, it did provide several paragraphs of qualitative discussion.

Sources. The CFPB referenced several sources in its qualitative analysis:

(1) Ding, Lei, Quercia, Roberto G., Reid, Carolina K., and White, Alan M., "State Anti-Predator Lending Laws and Neighborhood Foreclosure Rates," *Journal of Urban Affairs* 33: 451–467 (2011)

(2) Bucks, Brian and Pence, Karen, "Do Borrowers Know Their Mortgage Terms?" 64 *Journal of Urban Affairs* 218 (2008)

[295] Scores: Limited Financial Capabilities = 3, Quantification Effort = 1.

[296] High-Cost Mortgage and Homeownership Counseling Amendments to the Truth in Lending Act (Regulation Z) and Homeownership Counseling Amendments to the Real Estate Settlement Procedures Act (Regulation X), 78 Fed. Reg. 6856 (Jan 31, 2013) (12 C.F.R. Parts 1024 and 1026).

(3) Lacko, James M. and Pappalardo, Janis K., Federal Trade Commission (FTC) "Improving Consumer Mortgage Disclosures: An Empirical Assessment of Current and Prototype Disclosure Forms," June 2007

(4) Fannie Mae, "Mortgage Shopping: Are Borrowers Leaving Money on the Table?" November 2012

Background. Sections 1433(e) and 1414 of the Dodd-Frank Act amended the Truth in Lending Act to require creditors to obtain confirmation that a borrower has obtained counseling from a federally approved counselor prior to extending a high-cost mortgage under HOEPA or (in the case of first-time borrowers) a negative amortization loan. The Dodd-Frank Act also amended RESPA to require distribution of a housing counselor list as part of the general mortgage application process (6858).

Qualitative discussion of benefits. The CFPB declined to quantify the benefits of homeownership counseling, stating that "in some instances, there are limited data that are publicly available with which to quantify" such benefits," and that particular benefits such as "the value of homeownership counseling…are extremely difficult to quantify and to measure" (6941). The CFPB did provide several paragraphs of qualitative discussion of the above benefits, with references to various sources.

For example, the CFPB states that "some mortgage consumers appear to have difficulty understanding or at least recalling the details of their mortgage." This claim was supported with citations to a journal article (Bucks and Pence) and two government studies (FTC and Fannie Mae) (6943). Pre-loan counseling (along with new mandated disclosures) would potentially improve applicants' understanding of loan terms. Counseling might also improve the consumer's assessment of his or her ability to meet the scheduled loan payments or make the consumer aware of alternatives such as purchasing a different home or different mortgage product (6949). Counseling might also counteract any tendency among consumers to consider only loan features that are most certain, most easily understood, most immediately relevant, or most clearly highlighted by the creditor (6950). Thus, counseling might cause some consumers to identify preferable alternatives to a high-cost or negative amortizing mortgage and thus reduce the risk of incurring unnecessary costs associated with these mortgages.

The CFPB also compared the current rule to similar state statutes, suggesting that the current rule might have a similarly positive effect. According to an academic article by Ding *et al.*, such statutes "are associated with lower neighborhood-level mortgage default rates." The CFPB notes that this result is consistent with some consumers receiving more beneficial loans as well as with some consumers who are more likely to default being less likely to receive a mortgage. However, the latter interpretation "is arguably more difficult to reconcile with the finding that strong State statutes are estimated to have only a limited effect on the volume of subprime lending" (6944).

Escrow Requirements under the Truth in Lending Act (Regulation Z) (Consumer Financial Protection Bureau)[297]

Overview. In 78 Fed. Reg. 4726,[298] the Consumer Financial Protection Bureau (CFPB) promulgated a final rule that implements the Dodd-Frank Act's escrow-related amendments to the Truth in Lending Act (TILA) (4726). In particular, the rule "lengthens the time for which a mandatory escrow account established for a higher-priced mortgage loan must be maintained" (4726). During this longer period of time, consumers avoid "the burden of tracking whom to

[297] Scores: Limited Financial Capabilities = 3, Quantification Effort = 1.
[298] Escrow Requirements under the Truth in Lending Act (Regulation Z), 78 Fed. Reg. 4726 (Jan. 22, 2013) (12 C.F.R. Part 1026).

pay, how much, and when, across multiple payees," which falls instead on the mortgage servicer (4744). One of the goals of this rule is thus to address consumers' limited financial capabilities. The CFPB partially quantified this benefit by estimating the values associated with the shift in tracking burden and with incremental payments.

Sources. The CFPB referenced three sources in its analysis:

(1) Liu, Hongju, Chintagunta, Pradeep, and Zhu, Ting, "Complementarities and the Demand for Home Broadband Internet Services," *Marketing Science* 29: 701–720 (2010)

(2) Barr, Michael, and Dokko, Jane, Federal Reserve Board, "Paying to Save: Tax Withholding and Asset Allocation Among Low- and Moderate-Income Taxpayers," *Finance and Economics Discussion Series*, 2008

(3) Anderson, Nathan, and Dokko, Jane, Federal Reserve Board, "Liquidity Problems and Early Payment Default Among Subprime Mortgages," *Finance and Economics Discussion Series*, 2011

Background. TILA was enacted in part to "provide meaningful disclosure of credit terms to enable consumers to compare credit terms available in the marketplace more readily" (4726). Sections 1461 and 1462 of the Dodd-Frank Act amended TILA by creating "section 129D, 15 U.S.C. 1639d, which substantially codifies Regulation Z's escrow requirement for higher-priced mortgage loans but lengthens the period for which escrow accounts are required" (4727). This amendment also "adjusts the rate threshold for determining whether escrow accounts are required for 'jumbo loans'…and adds two disclosure requirements" (4727).

Value of longer escrow periods. The CFPB identified three benefits arising from mandatory escrow accounts for consumers: "(1) The convenience of paying one bill instead of several; (2) a budgeting device to enable consumers not to incur a major expense later; and (3) a lower probability of default and possible foreclosure" (4744). Because these benefits "last for as long as the escrow account exists," the rule would "extend the duration of these benefits…from one year to five" (4744). Noting the lack of current research to measure the convenience and budgeting device benefits, the CFPB found an approximation in Liu *et al.*'s study of home Internet services. This study estimated a benefit of "around $20 per month per customer…coming from the value of paying the same bill for phone, cable television, and Internet services" (4745).

The CFPB also identified a benefit arising from the payment structure of mandatory escrow periods. Because a consumer would have to pay "the same fixed amount, sometimes interest-free, throughout the year," she would be "less likely to experience potentially unexpected cost shocks associated with paying a large property tax and/or home insurance bills" and mortgage default risks (4745). The CFPB approximated this benefit by drawing on a Federal Reserve Board study (Barr and Dokko) in an analogous context: taxpayer "over-withholding of personal income taxes through periodic payroll deductions" (4745). Based on this study, the CFPB estimated that the average value of over-withholding due to incremental mortgage payments was "2.65 percent of the yearly amount paid for property taxes and insurance" (4745). The CFPB acknowledged that the mortgage and tax analogy is not exact "because a tax refund can be used for other purposes whereas an escrow account is calibrated to meet only the consumer's insurance and property tax obligation" (4745). However, the CFPB also pointed out that tax refunds would likely be used on "the most pressing needs first," just as escrow surpluses would be used on the pressing need to prevent foreclosure (4745).

Unquantified benefits. The CFPB did not quantify the benefit of a "lower probability of default and possible foreclosure" (4744). In addition, the CFPB drew on another Federal

Reserve Board study (Anderson and Dokko) for the observation that this benefit may be most valuable in year one of the escrow duration, and thus largely not a product of the rule at hand (4745). The CFPB nonetheless claimed that "some further benefit…exists at least for some consumers" (4745)

Unfair Outcomes

Nondiscrimination in Public Accommodations (Department of Justice)[299]

Overview. In 75 Fed. Reg. 56236,[300] the Department of Justice (DOJ) promulgated a final rule that adopts "enforceable accessibility standards under the Americans with Disabilities Act of 1990 (ADA)" (56236). In particular, the rule's water closet clearance standards require that "single-user toilet rooms with in-swinging and out-swinging doors… allow sufficient room for 'side' or 'parallel' methods of transferring from a wheelchair to a toilet" (56242). The benefit of the clearance standards is monetized by the value of the time saved by individuals who use these toilet rooms.

Sources. The DOJ relied on three of its own sources in its analysis:

(1) Department of Justice, 1991 ADA Standards for Accessible Design, 28 C.F.R. Part 36, Revised as of July 1994

(2) Department of Justice and HDR|HLB Decision Economics, Inc. (HDR), Final Regulatory Impact Analysis for Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities (FRIA), Final Rule, July 23, 2010

(3) Department of Justice and HDR|HLB Decision Economics, Inc., Benefits Risk Analysis Process (RAP) Panel of Experts (see FRIA 381, Appendix 7)

In addition, the DOJ relied on several government sources:

[299] Scores: Unfair Outcomes = 4, Quantification Effort = 4.
[300] Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities, 75 Fed. Reg. 56236 (Sept. 15, 2010) (28 C.F.R. 36)

(4) U.S. Census Bureau, 2010 Population Estimates, July 2009

(5) Bureau of Labor Statistics, Department of Labor, Average Hourly Earnings of Production Workers, 2008

(6) Energy Information Administration, "Commercial Buildings Energy Consumption Survey," 2003

Background. Under the existing 1991 Standards for Accessible Design (1991 Standards), the clearance space in single-user toilet rooms between and around the toilet and the lavatory did not necessarily permit side or parallel methods of transferring from a wheelchair to a toilet. Side or parallel transfers are used by large numbers of persons who use wheelchairs and are regularly taught in rehabilitation and occupational therapy. Persons who use side or parallel transfer methods from their wheelchairs were faced with a stark choice at establishments with single user toilet rooms—*i.e.*, patronize the establishment but run the risk of needing assistance when using the restroom, travel with someone who would be able to provide assistance in toileting, or forgo the visit entirely. The revised regulations made single-user toilet rooms accessible to more persons who use wheelchairs but lack the physical strength, balance, and dexterity and the training to use a front transfer method (56241-56242).

Value of time saved (out-swinging doors). The DOJ first assessed the "population of users with disabilities who would likely benefit from this revised standard" by drawing on U.S. Census data as well as the Benefits RAP Panel of Experts convened by the DOJ and HDR, yielding an estimate of 11.9% of Americans ages 15 and older, i.e., 35 million people (56242). Relying further on the RAP Benefits Panel, the DOJ estimated that the time savings per use of a toilet room would be approximately 5 and one-half minutes (56242). The DOJ used a Bureau of Labor Statistics study on average hourly earnings to monetize these time savings at $10 per hour, yielding $0.92 per use of a toilet room. In its Final Regulatory Impact Analysis (FRIA), the DOJ then created various estimates for the number of facility visits of persons with disabilities, accounting for the different types of disabilities, facilities, and income levels (FRIA 46, 299-303). The DOJ concluded that the total net monetary benefits of water clearance standards for toilet rooms with out-swinging doors was "approximately $900 million over the life of these regulations" (56242).

The DOJ states that the monetized costs of these requirements substantially exceed the monetized benefits. However, the DOJ also states that the additional benefits that persons with disabilities will derive from greater safety, enhanced independence, and the avoidance of stigma and humiliation are, in the DOJ's experience and considered judgment, likely to be quite high. People with the relevant disabilities would have to place only a very small monetary value on these quite substantial benefits for the costs and benefits of these water closet clearance standards to break even. The DOJ estimates that the costs of the requirement as applied to toilet rooms with out-swinging doors will exceed the monetized benefits by $454 million, an annualized net cost of approximately $32.6 million. The DOJ estimates that people with the relevant disabilities will use a newly accessible single-user toilet room with an out-swinging door approximately 677 million times per year. Dividing the $32.6 million annual cost by the 677 million annual uses, the DOJ concludes that for the costs and benefits to break even in this context, people with the relevant disabilities will have to value safety, independence, and the avoidance of stigma and humiliation at just under 5 cents per visit (56243).

Value of time saved (in-swinging doors). The DOJ calculated total net monetary benefits of water clearance standards for toilet rooms with in-swinging doors to be 9 minutes instead of 5 and a half minutes (56243). The DOJ then estimated that the net cost of the clearance standards for toilet rooms with in-swinging doors would be $19.14 million per year, while such rooms would be used 8.7 million times per year. The DOJ then divided $19.14 million by 8.7 million to yield $2.20 per visit, which represents the minimum amount "people with relevant disabilities will have to value "safety, independence, and the avoidance of stigma and humiliation" per toilet room visit in order for the provision's benefits to break even with its costs. Based on "its experience" and "informed judgment," the DOJ stated that the $2.20 figure "approximates, and probably understates, the value wheelchair users place" on such benefits (56243).

Prohibiting Discrimination Based on Genetic Information in Health Insurance Coverage and Group Health Plans (Department Health and Human Services)[301]

Overview. In 74 Fed. Reg. 51664,[302] the Departments of Labor, Treasury, and Health and Human Services ("the Departments") promulgated a final rule that prohibits "discrimination based on genetic information in health insurance coverage and group health plans" (51664). In particular, the rule aims to decrease the number of individuals that are denied coverage due to genetic predispositions for diseases (51671). Although the Departments did not quantify the resulting benefits, they did provide several paragraphs of qualitative discussion.

Sources. The Departments refer to one of their own sources in the qualitative discussion:

1) The Departments, Request for Information Regarding Sections 101 Through 104 of the Genetic Information Nondiscrimination Act of 2008 (RFI), 73 FR 60208, October 2008

The Departments also refer to one government source for an estimate of how many individuals would obtain health coverage due to the rule (51671 n. 16):

[301] Scores: Unfair Outcomes = 3, Quantification Effort = 1.
[302] Interim Final Rules Prohibiting Discrimination Based on Genetic Information in Health Insurance Coverage and Group Health Plans, 74 Fed. Reg. 51664 (Oct. 7, 2009) (26 C.F.R. Part 54).

2) Congressional Budget Office, Cost Estimate, H.R. 493 Genetic Information Nondiscrimination Act (GINA) of 2007, April 2007

Qualitative discussion of benefits.[303] The Departments declined to quantify the benefits of the prohibitions in the rule, stating that "relatively few genetic tests and research studies are performed in the private sector and a limited number of genetic tests are available." The absence of such tests suggests that a significant portion of the direct benefits to consumers is in prohibiting expected future discrimination rather than current discrimination. The Departments indicated that such a benefit would be quantifiable if they had "sufficient information to project the trajectory" of the increase in such tests and studies. The Departments also note that when scoring the Genetic Information Nondiscrimination Act (GINA) bill, the Congressional Budget Office estimated that the bill would increase health insurance coverage by about 600 people a year, with most of the increase in the individual market.

One potential benefit associated with GINA is that genetic testing and research may increase if the protections provided under GINA allay the public's concerns that health plans and insurers will use genetic information to discriminate based on the collection and disclosure of such information. Comments received in response to the Departments' Request for Information (RFI) indicate that genetic testing and research currently are being underutilized. A major reason cited for the lack of genetic testing is the public's fear of adverse employment-related or health coverage-related consequences associated with having genetic testing or participating in research studies that examine genetic information. Removing barriers that impede the growth of genetic testing and research has the potential to improve health and save lives by providing patients and physicians with critical knowledge to facilitate early intervention often before disease symptoms

[303] See page 51671 of the final rule.

are manifested. It also could expand the development of scientific research, which could result in the development of new medicines, therapies, and treatments for diseases and disorders. Additional economic benefits may derive directly from the improved clarity provided by the interim final regulations, which will reduce uncertainty and help group health plan sponsors and health insurers comply with GINA's requirements in a cost effective manner. Moreover, the prohibitions enacted in GINA and the interim final regulations should provide a benefit to individuals with genetic predispositions for diseases by decreasing the number of individuals that are denied coverage under a group health plan or priced out of the individual health insurance market.

Consumer Welfare

Electronic Prescriptions for Controlled Substances (Department of Justice)[304]

Overview. In 75 Fed. Reg. 16235,[305] the Drug Enforcement Administration (DEA), an agency housed within the Department of Justice, promulgated a final rule that provides medical practitioners with the "option of writing prescriptions for controlled substances electronically" (16235). One of the benefits of this rule is the "reduction in wait time for patients picking up prescriptions" (16,299). The DEA monetized the benefit of the option to write prescriptions for controlled substances by the value of the potential reduction in wait time.

Sources. The DEA referenced one of its own sources in its analysis:

(1) Drug Enforcement Administration, Department of Justice, "Economic Impact Analysis for Electronic Prescriptions for Controlled Substances (EIA)," Interim Rule, March 2010

The DEA also relied on several government and industry sources:

(2) Drugtopics.com, unspecified survey, 1999

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[304] Scores: Consumer Welfare 3, Quantification Effort = 4.
[305] Electronic Prescriptions for Controlled Substances, 75 Fed. Reg. 16235 (June 1, 2010) (21 C.F.R. Parts 1300, 1304, 1306, and 1311).

(3) IMS Health, "Channel Distribution Dispensed Prescriptions (U.S.)," 2008

(4) Bureau of Labor Statistics (BLS), Department of Labor, "Employer Costs for Employee Compensation—December 2008," Table 2 (all civilian workers), March 2009

Value of Time Saved. The DEA began its analysis by determining the number of original controlled substance prescriptions that could require public wait time. The same number of prescriptions may have reduced public wait time if they were provided electronically. In summary:

Total prescriptions in 2008	3,843,100,000.00
Fraction of prescriptions for controlled substances	0.12
Subtotal	461,172,000.00
Growth rate	0.03
Number of prescriptions for controlled substances in Year 1	475,007,160.00
Original prescriptions	0.75
Subtotal	356,255,370.00
Fraction not faxed or phoned	0.81
Fraction not filled by mail order	0.86
Number of original controlled substance prescriptions that could require public wait time	248,167,490.74

DEA obtained an estimate for the total number of prescriptions for the top 400 drugs in 2008 from IMS Health (www.imshealth.com) (16294). The fraction for controlled substances (12%) came from SDI/Verispan (www.drugtopics.com) (16294). Previous DEA analysis of controlled substances indicated that 75% were for original prescriptions; of those, 19% would be phoned in and 14% filled by mail order and therefore not subject to reduced wait time if filled electronically. In support of the 19% figure, the DEA cited a 1999 Drugtopics.com survey that indicated "36% of all prescriptions were phoned in" (16299). The DEA divided the 36% figure almost in half because "slightly less than half of prescriptions are refills," thus yielding 19%

(16299). In support of the 14% figure, the DEA cited an IMS Health source that categorized the various types of prescription providers and revealed prescription volumes.

The DEA then assumed that the average wait time would be 15 minutes for the relevant prescriptions. Moreover, the DEA assumed that electronic prescriptions would "phase in over 15 years," and provided a chart (Exhibit 6-3) in its Economic Impact Analysis containing estimates of paper prescriptions avoided each year (EIA 6). Multiplying these estimates by the average wait time (15 minutes) and BLS's measure of the "current United States average hourly wage" ($20.49), the DEA obtained estimates of hours-saved and cost-savings for each year, as listed in Exhibit 6-3. The DEA then used 7% and 3% discount rates to calculate the annualized savings over 15 years, yielding $1.08 billion at 7% and $1.1 billion at 3%.

Notwithstanding this analysis, the Department reported its "primary estimate" for reduction in public wait time to be *zero*. This conclusion was based on concerns over whether pharmacies would actually be willing to fill electronic prescription for controlled substances without the patient present. The Department cited research showing that 28 percent of electronic prescriptions transmitted were never picked up by patients; for painkillers, more than 50 percent were never picked up. The Department noted that filling these prescriptions caused the pharmacy to spend time for which it would not be reimbursed. The pharmacy would then spend further time returning the drugs to stock and correcting records. The risk of incurring these costs may be sufficient to deter pharmacies from filling electronic prescriptions for controlled substances prior to the arrival of the patient (16299).

Unquantified benefits. The DEA also identified consumer welfare benefits arising from the elimination of illegible written prescriptions and misunderstood oral prescriptions (16299).

However, the DEA stated that it had "no basis for estimating the scope of the problem or the extent of reduction that will occur and the speed at which it will occur" (16301).

Standards for Health Care Electronic Funds Transfers (Department of Health and Human Service)[306]

Overview. In 77 Fed. Reg. 1555,[307] the Department of Health and Human Services (HHS) promulgated a final rule that requires the adoption of a standard for business-to-business "health care electronic funds transfers" (health care EFT). HHS argued that the adoption of this standard was necessary to promote the growth of health care EFT by plans and providers (1574). The growth of health care EFT would in turn promote the streamlining of health care administrative tasks, including billing and insurance related tasks (BIR tasks), thereby generating cost savings for health plans and time savings for physician practices and hospitals that would ultimately benefit patients (1574, 1581). Although HHS declined to monetize this benefit, it did provide estimates of these cost and time savings and it discussed the potential benefits to patients.

Sources. HHS cited numerous government and industry sources in its analysis:

(1) Association for Financial Professionals, "2010 AFP Electronic Payments: Report of Survey Results," November 2010
(2) U.S. Healthcare Efficiency Index, "National Progress Report on Healthcare Efficiency," 2010
(3) National Committee on Vital and Health Statistics, December 2010 Hearings on EFT
(4) The Center for Medicare & Medicaid Services, "National Health Expenditure Data," 2011

[306] Scores: Consumer Welfare = 2, Quantification Effort = 4.
[307] Administrative Simplification: Adoption of Standards for Health Care Electronic Funds Transfers (EFTs) and Remittance Advice, 77 Fed. Reg. 1555 (Jan. 10, 2012) (45 C.F.R. Parts 160 and 162).

(5) The Center for Medicare & Medicaid Services, Electronic Data Interchange (EDI) Performance Statistics and CROWD data, undated

(6) The Center for Medicare & Medicaid Services, "The 2010 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds," August 2010

(7) American Enterprise Institute for Public Policy Research, "The 2011 Medicare Trustees Report: The Baby Boomer Tsunami," May 2011

(8) The White House, Website on the Affordable Care Act

(9) Federal Reserve Board, "The 2010 Federal Reserve Payments Study: Noncash Payment Trends in the United States: 2006–2009," April 2011

(10) Financial Management Service, U.S. Department of Treasury, "Payment Volume Charts Treasury-Disbursed Agencies" and other unspecified data, undated

(11) DeNavas-Walt, Carmen, Bernadette D. Proctor, and Jessica C. Smith, U.S. Census Bureau, Current Population Reports, P60–238, "Income, Poverty, and Health Insurance Coverage in the United States: 2009," September 2010

(12) Sakowski, J.A., Kahn, J.G., Kronick, R.G., Newman, J.M., & Luft, H.S., "Peering into the Black Box: Billing and Insurance Activities in a Medical Group," *Health Affairs* 28: w544–w554 (2009)

(13) U.S. Bureau of Labor Statistics, Department of Labor, unspecified data

(14) Association of American Medical Colleges, "Physician Shortages to Worsen Without Increases in Residency Training," June 2010

(15) Barbara C. Mayerick, Veterans Health Administration, Department of Veterans Affairs, "E-Payment Cures for Healthcare," presentation, April 2010, and "Comments

from VHA Health Care as Health Care Provider," testimony for National Committee on Vital Health Statistics December 2010 hearing

Background. Section 1104(b)(2)(A) of the Patient Protection and Affordable Care Act amended the Social Security Act by adding electronic funds transfers to the list of electronic health care transactions for which HHS must adopt a standard (1557). In general, electronic fund transfers eliminate the costs of printing, mailing and depositing paper checks; reduce fraud associated with paper checks; and allow for improved cash flow (1560). However, the standard HHS adopted was further intended to automate the re-association of electronic payments with the detailed billing information contained in the "electronic remittance advice" (1560-1561). Currently, electronic funds transfers and the electronic remittance advice are sent in different formats through different networks and eventually re-associated in a time-consuming, manual process (1561-1563). Automating the process of re-association would reduce these costs. Health care EFT standards will help industry overcome the collective action problem that limits the use of health care EFT, limits automation, and causes cost savings to go unrealized (1574).

HHS declined to monetize the benefit to patients from the adoption of health care EFT standards. HHS presented research documenting the time and money spent on BIR tasks: 60 hours of staff time per week per physician and 10 to 14 percent of physician practice revenue. HHS concluded that, overall, "the time and money spent on BIR tasks are increasingly encroaching on the time and money spent on delivering quality health care" (1587).

Cost savings. HHS began its analysis by establishing a baseline of current EFT usage, estimating that "the entire health care industry combined…used EFT for approximately 32 percent of all health care claim payments in 2010" (1574). In order to arrive at this estimate, HHS drew on "numerous health care and other industry studies," e.g., the Association for

Financial Professionals survey results on electronic payments, the National Progress Report on Healthcare Efficiency, and testimony from the National Committee on Vital Health Statistics hearing (1574). HHS then adjusted the baseline for 2013 levels, using data from the Center for Medicare & Medicaid Services and several other sources in order to project numbers of EFT and non-EFT health care claim payments in 2013.

Extrapolating further from this 2013 baseline, HHS estimated that the rule would create a "6 to 8 percent annual increase in the percentage of [EFT] payments per year…from 2014 through 2018 and a 4 to 6 percent increase from 2019 through 2023" (1576). HHS justified these estimates with several arguments, including the argument that health care claims were on an upward trend due to a projected twofold increase in Medicare enrollment between 2011 and 2031 (American Enterprise Institute) and the Affordable Care Act's expected addition of 32 million insured adults in 2014 (White House) (1575). HHS also argued that electronic payments were "expected to become more widespread and acceptable for U.S. businesses," citing the statistic that "ACH payments increased 9.4 percent every year between 2006 and 2009" (Federal Reserve) (1575). Although HHS provided these and other arguments, it did not elaborate on which calculations it used to derive its estimates of EFT percentage increases.

HHS then used data from the Financial Management Service (FMS) in conjunction with its EFT percentage estimates to project the annual increase in EFT transaction volume from 2014 to 2023. These figures are not reproduced here because HHS provided a comprehensive table of annual estimates for both Medicaid and commercial health plans, as well as a further low-high estimate breakdown within each table, based on the 6 to 8 percent (and 4 to 6 percent) annualized range. Lastly, HHS borrowed the FMS's estimate that a health plan would save approximately $0.92 per check upon switching from paper checks to EFT in order to calculate annualized savings for Medicaid and commercial health plans. HHS's total estimate for all health plan savings from 2014 to 2023 was $49.85 million on the low end and $72.04 million on the high end.

Time savings. HHS began its analysis by creating a formula for calculating the "total time dedicated to receiving and posting payments for physician practices":

> [percent of time full time employee is dedicated to BIR (Billing and Insurance Related) tasks per physician] *multiplied by* [total number of physicians in physician practices] *multiplied by* [percent of BIR time spent on payment and posting] (1585-86)

HHS relied on Sakowski *et al.* and the U.S. Bureau of Labor Statistics to create estimates for the formula's variables. For instance, Sakowski *et al.* estimated that the percent of BIR time spent on payment and posting by full time employees was 14% (1585). In order to adjust for growth in the total number of physicians from 2014 to 2023, HHS used "projections of physician supply and demand" by the Association of American Medical Colleges. With these projections in hand, HHS used the above formula to calculate total time dedicated to payments for each year from 2014 to 2023. HHS then multiplied these total time figures by its estimate that the rule would create "a 10 to 15 percent savings in the time spent receiving and posting payments" (1585). In support, HHS cited two Veterans Health Administration (VHA) sources claiming time savings of 64 percent due to the implementation of a "much more comprehensive" E-payment system (1585). HHS did not, however, explain the calculations it used to move from VHA's 64 percent estimate to its own 10 to 15 percent range.

HHS then multiplied each year's time savings by "the average salary of a billing and posting clerk in physician practices" (drawn from the Bureau of Labor Statistics, plus benefits and a 3% annual increase) and an average number of new EFT enrollment per provider (a constant number supplied by HHS) to yield monetized time savings for each year from 2014 to

2023. HHS projected this new EFT enrollment "as spread evenly" over the time period (1586). HHS also assumed that the number of full time employees spending time on BIR tasks would remain constant due to "administrative complexity involved in the projected increase in the number of claims" possibly counterbalancing the administrative efficiencies generated by the rule (1587). HHS's final annual estimates ranged from $1847.47 million (low, 10%) and $281.20 million (high, 15%) in 2014 to $246.17 million (low) and $353.35 million (high) in 2023.

Clarity/Reducing Litigation

Ability to Repay Reg. Z (Consumer Financial Protection Bureau)[308]

Overview. In 78 Fed. Reg. 35,430,[309] the Consumer Financial Protection Bureau (CFPB) promulgated a final rule that creates certain "exemptions, modifications, and clarifications to TILA's [Truth in Lending Act] ability-to-repay requirements" (35430). In particular, the rule grants creditors that meet the new qualified mortgage definition "a conclusive or rebuttable presumption of compliance with the ability-to-repay provisions" (35496). The CFPB quantified the potential reduction in litigation by estimating the percentage of institutions and loans that would enjoy this presumption of compliance.

Sources. The CFPB used what appears to be its own regression analysis and modeling technique in its analysis. In addition, it also relied on several government sources:

(11) Federal Financial Institutions Examinations Council, Home Mortgage Disclosure Act (HMDA), 2011
(12) Federal Deposit Insurance Corporation (FDIC), Consolidated Report of Condition and Income (Call Report), undated
(13) The National Mortgage Licensing System (NMLS), Mortgage Call Report, 2011
(14) The Federal Housing Finance Agency (FHFA), Historical Loan Performance (HLP) dataset, undated

[308] Scores: Clarity/Reducing Litigation = 2; Quantification Effort = 3.
[309] Ability-to-Repay and Qualified Mortgage Standards under the Truth in Lending Act (Regulation Z), 78 Fed. Reg. 35430 (June 12, 2013) (12 C.F.R. Part 1026).

Number of Affected Entities. The CFPB estimated that "roughly 9200 institutions with approximately 450,000 loans on portfolio are likely to be affected by the extension of qualified mortgages for certain small creditors" (35497). In order to arrive at these estimates, the CFPB used data from the HMDA, which contains information about the "counts and properties of mortgages" for entities that report under the HMDA (35496). For entities that do not report under the HMDA, the CFPB compared HMDA data with the FDIC's Call Report data and NMLS's Mortgage Call Report data, projecting estimated loan counts for the non-HMDA entities. To make these projections, the CFPB used "Poisson regressions that estimate loan volumes as a function of an institution's total assets, employment, mortgage holdings, and geographic presence" (34597).

With total estimated institution and loan counts in hand, the CFPB then created a model to predict the debt to income (DTI) ratio of the selected loans. Estimating DTI ratios was crucial to the CFPB's analysis because the rule's standard qualified mortgage definition requires that the consumer have a DTI ratio of 43 percent or less (35439). By matching HMDA data to the FHFA's HLP dataset, the CFPB was able to create a model that predicted a consumer's DTI based on "loan amount, income, and other variables" (35496 n. 180), which in turn enabled it determine how many of the total estimated institutions and loans would actually be affected by the rule (9200 institutions and 450,000 loans).

Unquantified Benefits. The CFPB conceded that it was unable to quantify this benefit for disqualified loans (and associated loan providers) that might nevertheless qualify under the temporary, more generous mortgage definition also provided by the rule (35496). Presumably, a lack of relevant data prevented the CFPB from doing so, but the CFPB declined to state a reason.

Increased Compliance/Self-Regulation

Electronic Prescriptions for Controlled Substances (Department of Justice)[310]

Overview. In 75 Fed. Reg. 16235,[311] the Drug Enforcement Administration (DEA), an agency housed within the Department of Justice, promulgated a final rule that provides medical practitioners with the "option of writing prescriptions for controlled substances electronically" (16235). One of the benefits of this rule is increased compliance with the Controlled Substance Act due to the potential reduction in the "diversion of controlled substances," i.e., forged and altered prescriptions (16300). The DEA partially quantified this benefit by providing estimates of (a) the healthcare costs due to prescription drug misuse and (b) the agency's own legal costs due to diversion cases.

Sources. The DEA referenced one government source in its analysis:

(1) Substance Abuse and Mental Health Services Administration (SAMHSA), Drug Abuse Warning Network (DAWN) data, 2003, 2006

Healthcare costs. The DEA drew on SAMHSA's DAWN data in order to provide upper bound estimates of the healthcare costs that might be reduced by the rule. For instance, DAWN data from 2003 shows that there were "352 deaths from misuse of oxycodone and hydrocodone" (16300). The DEA applied a value per life figure of $5.8 million to this estimate, yielding more than $2 billion in estimated costs of deaths for 2003. The DEA also used DAWN data from 2006 to show that the cost of emergency room visits due to "nonmedical use of pharmaceuticals" exceeded $350 million (16300).

[310] Scores: Increased Compliance/Self-Regulation = 4, Quantification Effort = 4.
[311] Electronic Prescriptions for Controlled Substances, 75 Fed. Reg. 16235 (June 1, 2010) (21 C.F.R. Parts 1300, 1304, 1306, and 1311).

Legal costs. The DEA also reported that the agency had "spent between $2,700 for a small [diversion] case and $147,000 for a large diversion case just for the primary investigators" (16300). The DEA did not indicate the source of these estimates.

Unquantified benefits. The DEA did not provide more specific estimates of the rule's benefits beyond the costs discussed above, stating that it had "no basis for estimating what percentage of these costs could be addressed by the rule" (16300).