

Note

Happiness Metrics in Federal Rulemaking

Anthony Vitarelli[†]

This Note examines the neoclassical economic framework that pervades contemporary benefit-cost analysis and considers how the fields of behavioral economics and hedonic adaptation may offer superior tools for assessing how regulations impact human behavior. These new hedonic metrics attempt to quantify happiness—rather than monetize utility—and measure how outcomes influence well-being and affect. Through the evaluation of three case studies, this Note considers the flaws of the current approach and how hedonic metrics can supplement prevailing techniques to address these shortcomings. Finally, this Note assesses the legal regimes that govern how courts review agency decisionmaking and suggests that the failure to incorporate hedonic metrics may render agency actions vulnerable to challenge under the Administrative Procedure Act.

Introduction	116
I. Economic Impact Analyses of Proposed Federal Regulations	117
A. <i>The Development of Executive Order 12,866 and Circular A-4</i>	117
B. <i>Theoretical Justifications of Benefit-Cost Analysis</i>	123
1. Welfare Economics	123
2. Microeconomics.....	124
C. <i>The Contemporary Practice of Benefit-Cost Analysis</i>	125
II. Incorporating the Insights of Behavioral Economics and Hedonic Adaptation into Regulatory Analysis.....	127
A. <i>The Behavioral Approach and the Movement from Neoclassicism</i>	127
B. <i>The New Hedonic Metrics</i>	130
C. <i>Happiness Metrics in Benefit-Cost Analysis</i>	133
III. An Examination of Contemporary Practice and Recommendations for Change	135

[†] J.D. Yale Law School, 2009; A.B. Duke University, 2005. The author thanks Ian Ayres, Michael Coenen, David Hoffman, Zac Hudson, Jami Johnson, Jerry Mashaw, Dina Mishra, David Morrell, William Rinner, and David Super for helpful comments on early drafts. Christine Jolls inspired and guided this project from the outset.

A.	<i>EPA Mobile Source Air Toxins Regulation</i>	135
B.	<i>HUD Lead Paint Regulation</i>	139
C.	<i>DHS Aircraft and Vessels Pre-Departure Manifest Transmission Regulation</i>	144
IV.	The Agency Rulemaking Process and Judicial Review	148
A.	<i>Contemporary Rulemaking Procedures</i>	149
B.	<i>Review of Agency Rulemaking</i>	150
C.	<i>Hedonic Metrics in Arbitrary and Capricious Analysis</i>	152
	Conclusion	157

Introduction

Federal agencies possess vast delegated power from Congress to craft rules to govern human behavior and firm activity. Since the 1980s, the Office of Information and Regulatory Affairs (OIRA) within the Office of Management and Budget (OMB) has coordinated agencies' rulemaking activities to ensure consistency across the executive branch. Empowered by a series of executive orders that centralized regulatory control within the White House, OIRA reviews the benefit-cost analyses (BCAs)—known as regulatory impact assessments (RIAs)—that agencies conduct for their proposed rules. If the analysis does not meet OIRA standards, the agency cannot continue through the rulemaking process. This concentration of power places a premium on creating BCAs in accordance with OIRA's best practices. With each passing administration, more power has accrued to OMB away from the agencies, and the trend does not appear to be reversing. Indeed, upon taking office, President Barack Obama issued a statement declaring that "centralized review is both legitimate and appropriate as a means of promoting regulatory goals."¹

This Note considers whether the existing OMB best practices for BCAs actually capture the full impact of regulation on human behavior. Contemporary regulatory analysis relies on traditional assumptions of neoclassical economics, which recent research has shown to be at best an incomplete account of how individuals act and at worst a clear misrepresentation. This Note, therefore, draws from the burgeoning literature in the fields of behavioral economics and hedonic adaptation to suggest that new metrics—measures of subjective well-being and moment-to-moment affect—might provide a more holistic account of how individuals realize costs and benefits.

¹ Regulatory Review: Memorandum for the Heads of Executive Departments and Agencies, 74 Fed. Reg. 5977 (Feb. 3, 2009).

This Note proceeds in four parts. Part I examines how the United States developed a system in which a small staff of analysts in OIRA determines whether agencies may continue to regulate in accordance with their assessments of social need. It considers the theoretical justifications for BCA and reviews the accepted best practices. Part II diverges from the traditional neoclassical framework and considers how the understandings of behavioral economics and the development of hedonic metrics can inform BCA. Part III presents three original case studies of significant federal regulations, which were justified by neoclassical RIAs, and considers how the new metrics may provide a more complete understanding of the regulations' effects. Part IV considers how the development of hedonic metrics may influence the review of agency rulemakings under the Administrative Procedure Act's arbitrary and capricious standard. The Note concludes with recommendations for agencies and courts relating to the incorporation of hedonic metrics into regulatory analyses.

I. Economic Impact Analyses of Proposed Federal Regulations

Before any agency enacts a regulation, it must propose its rule to the public for comments and to OMB for intra-government approval. OMB requires each agency to construct benefit-cost analyses to justify their proposed regulations, and OIRA evaluates these analyses. Section I.A considers the evolution of centralized White House control over agency rulemaking through a series of executive orders beginning in the Reagan Administration and culminating in the promulgation of OMB *Circular A-4*. Section I.B reviews the theoretical justification for benefit-cost analysis. Section I.C examines the details of current best practices.

A. *The Development of Executive Order 12,866 and Circular A-4*

Centralized review of executive branch rulemaking by OMB is "not a recent innovation."² The earliest version of the contemporary rule-making review regime appeared in President Richard Nixon's 1971 "Quality of Life Review," in which he required agencies to transmit proposed "significant" regulations to other agencies for comment.³ President Gerald Ford built upon this regulation in 1974 by ordering OMB to analyze the inflationary impact of all federal rules.⁴ As the scope of executive branch rulemaking

² JEFFREY S. LUBBERS, A GUIDE TO FEDERAL AGENCY RULEMAKING 21 (4th ed. 2006). See generally Symposium, *Presidential Management of Agency Rulemaking*, 57 GEO. WASH. L. REV. 533 (1989).

³ Memorandum from George P. Schultz, Dir., Office of Mgmt. & Budget, to Heads of Departments and Agencies (Oct. 5, 1971), available at <http://www.thecre.com/ombpapers/QualityofLife1.htm>.

⁴ See Exec. Order No. 11,821, 39 Fed. Reg. 41,501 (Nov. 29, 1974).

increased, President Jimmy Carter sought to increase centralized oversight.⁵ His 1978 Executive Order (E.O.) 12,044⁶ required that agencies draft a “regulatory analysis” for any rule with a probable economic impact exceeding \$100 million.⁷ Carter also created the Regulatory Analysis Review Group,⁸ which evaluated proposed rules, and the Regulatory Council, which sought to harmonize executive branch action “to screen proposed rules and guard against duplication.”⁹ Though these early efforts began to rein in uncoordinated government action, truly centralized control of executive branch rulemaking did not begin in earnest until the election of President Ronald Reagan.¹⁰

In the 1980 Paperwork Reduction Act, Congress created OIRA within OMB, directly preceding Reagan’s election.¹¹ Though it would ultimately become the primary organ of centralized review, Congress granted OIRA a limited mandate: to “oversee the review and approval of [agency] information collection requests.”¹² The Act mandated that OIRA examine all agency proposals to ensure that they were “necessary”¹³ and did not create superfluous paperwork for the regulated entity.¹⁴ Nothing in the Act’s legislative history indicates that Congress intended OIRA to assume the sweeping authorities it would acquire throughout the subsequent two decades. Despite the ostensible lack of congressional intent, OIRA’s authority began to accrue almost immediately.

Quickly upon his arrival in office, President Reagan sought to expand OIRA’s role and powers. In early 1981, he issued E.O. 12,291, which empowered OIRA to review all “major” agency proposals and analyses.¹⁵ Reagan’s primary intent behind E.O. 12,291 was “to minimize duplication and conflict [among] regulations and to ensure well-reasoned regulations.”¹⁶ The E.O. also imposed numerous requirements upon agencies engaged in the rulemaking process and mandated that the

5 See, e.g., W. Kip Viscuzi, *Monetizing the Benefits of Risk and Environmental Regulation*, 33 *FORDHAM URB. L.J.* 1003, 1035-36 (2006).

6 Exec. Order No. 12,044, 43 *Fed. Reg.* 12,661 (Mar. 23, 1978).

7 See *id.* § 3; Robert V. Percival, *Presidential Management of the Administrative State: The Not-So-Unitary Executive*, 51 *DUKE L.J.* 963, 987 (2001).

8 See 43 *Fed. Reg.* at 12,668.

9 Alfred C. Aman, Jr., *Administrative Law in a Global Era: Progress, Deregulatory Change, and the Rise of the Administrative Presidency*, 73 *CORNELL L. REV.* 1101, 1197 n.453 (1988).

10 See, e.g., Jennifer Nou, Note, *Regulating the Rulemakers: A Proposal for Deliberative Cost-Benefit Analysis*, 26 *YALE L. & POL’Y REV.* 601, 613 (2008).

11 Pub. L. No. 96-511, 94 *Stat.* 2812 (codified as re-enacted at 44 *U.S.C.* §§ 3501-20 (2000)).

12 44 *U.S.C.* § 3504(a) (2000).

13 *Id.* § 3504(c)(2).

14 *Id.* § 3501.

15 Exec. Order No. 12,291, § 3, 3 *C.F.R.* 127, 128-29 (1981), *revoked by* Exec. Order No. 12,866, § 11, 3 *C.F.R.* 638, 649 (1993), *reprinted in* 5 *U.S.C.* §§ 603-04 (2000).

16 Paul R. Verkuil, *A Critical Guide to the Regulatory Flexibility Act*, 1982 *DUKE L.J.* 213, 253.

agencies conduct benefit-cost analyses of their proposals.¹⁷ Specifically, “to the extent permitted by law,” E.O. 12,291 empowered OIRA to review every executive branch rule and determine whether it provided “any beneficial effects that cannot be quantified in monetary terms.”¹⁸ As Elena Kagan has noted, “the order effectively gave OMB a form of substantive control over rulemaking: under the order, OMB had authority to determine the adequacy of an impact analysis and to prevent publication of a proposed or final rule, even indefinitely, until the completion of the review process.”¹⁹ E.O. 12,291 signified a dramatic break with past practice, shifting power away from cabinet departments and independent agencies toward OMB.²⁰ Agencies exercised dramatically curtailed authority to promulgate their desired regulations, and OIRA served as the clearinghouse for all executive branch regulatory activity.

After his reelection, President Reagan acted to increase OMB’s role not only in reviewing executive branch rulemakings but also in proactively coordinating the Administration’s regulatory agenda. Reagan’s E.O. 12,498 required agency leaders to submit an annual plan of proposed rulemakings to ensure “consistency with the goals of the Administration.”²¹ As a natural consequence of E.O. 12,498, OMB became involved in agency rulemaking at the pre-proposal stage, rather than only after rules had been proposed and benefit-cost analyses conducted.²² By the conclusion of his second term, Reagan had issued three additional executive orders concerning how regulations impacted federalism interests, family rights, and individual property rights; agency RIAs were to include assessments of how their proposed rules would affect each of these rights. President George H.W. Bush did not deviate substantially from the Reagan blueprint. Due to heated congressional criticism of OIRA, however, President Bush deputized Vice President Dan Quayle to lead a “Council on

17 For a thorough discussion of these requirements, see Steven Croley, *White House Review of Federal Agency Rulemaking: An Empirical Investigation*, 70 U. CHI. L. REV. 821, 824-26 (2003).

18 Exec. Order No. 12,291, § 3; see also David J. Barron, *From Takeover to Merger: Reforming Administrative Law in an Age of Agency Politicization*, 76 GEO. WASH. L. REV. 1095, 1108-09 (2008) (discussing E.O. 12,291’s substantive requirements and their implications).

19 Elena Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245, 2278 (2001).

20 The Office of Legal Counsel sanctioned this transfer of authority as being justified under the “take care” clause of the Constitution. See Wendy L. Gramm, *Additional Procedures Concerning OIRA Reviews Under Executive Order Nos. 12291 and 12498 [Revised]*, Memorandum to Heads of Departments and Agencies (June 13, 1986), reprinted in OFFICE OF MGMT. & BUDGET, THE REGULATORY PROGRAM OF THE UNITED STATES GOVERNMENT app. III (1988).

21 Exec. Order No. 12,498, 3 C.F.R. 323 (1985), *revoked by* Exec. Order No. 12,866, 3 C.F.R. 638 (1993), reprinted in 5 U.S.C. § 601 (2000).

22 Cf. Richard H. Pildes & Cass R. Sunstein, *Reinventing the Regulatory State*, 62 U. CHI. L. REV. 1, 3 (1995) (observing that Executive Orders 12,291 and 12,498 “placed OIRA in the center of regulatory planning”).

Competitiveness,” which exercised concurrent authority with OIRA on several rulemakings.²³

Unlike President Bush, who largely stayed the course, President Bill Clinton sought quickly to streamline and to clarify the executive branch’s regime of regulatory coordination, evaluation, and approval.²⁴ Within ten months of his inauguration, he issued E.O. 12,866 on September 30, 1993.²⁵ While maintaining the “general framework of presidential review of rulemaking,” the new E.O. formally revoked Executive Orders 12,291 and 12,498 and would ultimately become the primary vehicle of regulatory approval through the current day.²⁶ Like the former planning requirements of E.O. 12,497, E.O. 12,866 still required agencies to submit regulatory plans to OMB,²⁷ but “for the first time *independent regulatory agencies* [were] specifically directed to comply with the planning” process.²⁸ In addition, E.O. 12,866 limited OIRA review of agency analyses only to “significant regulatory actions.”²⁹ Scholars have estimated that this shift reduced by approximately 75% the total number of regulations reviewed by OIRA each year.³⁰ Most significantly for purposes of this Note, the order acknowledged the potential shortfalls of traditional, quantified benefit-cost analysis and required the submission of “qualitative measures of costs and benefits.”³¹

By the end of his second term, Clinton—much like Reagan—promulgated a number of regulatory executive orders on a host of issues

23 See Peter M. Shane, *Political Accountability in a System of Checks and Balances: The Case of Presidential Review of Rulemaking*, 48 ARK. L. REV. 161, 168 (1995) (“OIRA lacked an advice-and-consent appointee to wield its authority over executive agencies . . . [and] the Council on Competitiveness stepped in to fill the political void.”).

24 See Sally Katzen, *A Reality Check on an Empirical Study: Comments on “Inside the Administrative State,”* 105 MICH. L. REV. 1497, 1506 n.24 (2007); Paul R. Noe & John D. Graham, *Due Process and Management for Guidance Documents: Good Governance Long Overdue*, 25 YALE J. ON REG. 103, 104 n.8 (2008) (“[U]nder E.O. 12,291, OIRA reviewed 2637 rules in 1982 (79 were economically significant) and in 1990 reviewed 2137 (82 were economically significant). By contrast, under E.O. 12,866, OIRA reviewed 831 rules in 1994 (134 were economically significant) and in 2002 reviewed 669 rules (100 were economically significant).”).

25 Exec. Order No. 12,866, 3 C.F.R. 638 (1993), reprinted in 5 U.S.C. § 601 (2006).

26 Curtis W. Copeland, *The Role of the Office of Information and Regulatory Affairs in Federal Rulemaking*, 33 FORDHAM URB. L.J. 1257, 1270 (2006).

27 See Exec. Order No. 12,866, § 4(c).

28 LUBBERS, *supra* note 2, at 30.

29 Exec. Order No. 12,866, § 6(b)(1). The order defines a “significant regulatory action” as “any regulatory action that is likely to result in a rule that may: (1) Have an annual effect on the economy of \$100 million or more . . . (2) Create a serious [regulatory] inconsistency . . . (3) Materially alter the budgetary impact of entitlements, . . . or (4) Raise novel legal or policy issues . . .” *Id.* § (3)(f).

30 See, e.g., CURTIS W. COPELAND, CRS REPORT FOR CONGRESS: CHANGES TO THE OMB REGULATORY REVIEW PROCESS BY EXECUTIVE ORDER 13422, at 2 (2007), available at <http://www.fas.org/sgp/crs/misc/RL33862.pdf>.

31 Exec. Order No. 12,866, § 1(a); see also STEPHEN G. BREYER ET AL., ADMINISTRATIVE LAW AND REGULATORY POLICY: PROBLEMS, TEXT, AND CASES 125-27 (5th ed. 2002) (describing the order and its qualitative requirements).

Happiness Metrics in Federal Rulemaking

spanning civil justice reform, environmental justice, and consultation with Indian tribes.³² Likewise, President George W. Bush maintained 12,866's framework for most of his Administration, though after six years he changed course slightly by issuing E.O. 13,422.³³ The order requires agencies to be even more explicit about the specific market failure they intend to remedy through regulation,³⁴ and "[s]everal amendments formally recognize the existence and legitimacy of 'guidance documents.'"³⁵

In 1994, after President Clinton issued Executive Order 12,866, his OMB convened a group of regulatory experts to develop "best practices" to govern agency regulatory impact analyses.³⁶ After an "exhaustive two-year effort," the group issued a report entitled *Economic Analysis of Federal Regulations Under Executive Order 12866*, which provided a technical guide for regulators seeking to present benefit-cost analyses to OMB.³⁷ Five years later, despite the change in administration, President Bush's OMB reaffirmed this guidance in 2001.³⁸ Finally, in 2003, the Bush Administration promulgated OMB *Circular A-4*—a significant departure from the previous, vague guidelines—which continues to establish the "best practices" followed by agencies today.³⁹ *Circular A-4* was "developed through a multi-year process that included a collaboration of analysts at OMB and the Council of Economic Advisors, public comment, expert peer review, and formal interagency review."⁴⁰

At its core, *Circular A-4* attempts to communicate to agency officials how the OMB prefers executive branch offices to construct their regulatory analyses.⁴¹ Every analysis should contain three central elements: "(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—

32 For a description of these orders, see LUBBERS, *supra* note 2, at 32-33.

33 Exec. Order No. 13,422, 3 C.F.R. 191 (2008).

34 *Id.* § 1(a).

35 Roger G. Noll, *The Economic Significance of Executive Order 13,422*, 25 YALE J. ON REG. 113, 114 (2008).

36 See OFFICE OF MGMT. & BUDGET, ECONOMIC ANALYSIS OF FEDERAL REGULATIONS UNDER EXECUTIVE ORDER 12866 pmb. (1996), available at <http://www.whitehouse.gov/omb/inforeg/riaguide.html>.

37 *Id.*

38 See Memorandum from Mitchell E. Daniels, Jr., Dir., Office of Info. & Regulatory Affairs, to the Heads of Executive Departments and Agencies (June 19, 2001), available at <http://www.whitehouse.gov/omb/memoranda/m01-23.html>.

39 OFFICE OF MGMT. & BUDGET, CIRCULAR NO. A-4, REGULATORY ANALYSIS 24 (2003) [hereinafter OMB CIRCULAR A-4], available at <http://www.whitehouse.gov/OMB/circulars/a004/a-4.pdf>.

40 John D. Graham, *Valuing the Future: OMB's Refined Position*, 74 U. CHI. L. REV. 51, 51 (2007).

41 For the most comprehensive scholarly overview of *Circular A-4*'s requirements, see Edward Sherwin, *The Cost-Benefit Analysis of Financial Regulation: Lessons from the SEC's Stalled Mutual Fund Reform Effort*, 12 STAN. J.L. BUS. & FIN. 1, 12-17 (2006).

quantitative and qualitative—of the proposed action and the main alternatives.”⁴² This Note focuses primarily on *Circular A-4*’s third requirement and the manner in which OMB recommends that agencies conduct such evaluations. Specifically, OMB requires agencies to explicate their benefit methodology, identify the relevant baseline, and predict expected side effects.⁴³ *Circular A-4* also urges agencies to acknowledge benefits and costs that the regulator cannot quantify or easily monetize.⁴⁴ Once the analysis is complete, OMB will compare the proposed net benefits to non-quantified costs and benefits.⁴⁵

At a macro level, OMB outlines two broad approaches: benefit-cost analysis and cost-effectiveness analysis (CEA).⁴⁶ BCA aims to determine a single number—the net social benefit of a regulation—by monetizing and aggregating all quantifiable costs and benefits of the regulation.⁴⁷ In contrast, CEA compares the net impact of multiple regulatory options that achieve the same policy deliverable.⁴⁸ *Circular A-4* suggests that, when possible, agencies employ both techniques, though CEA is particularly recommended for regulations affecting health and safety because the associated benefits are typically challenging to monetize in a meaningful way.⁴⁹ OMB provides detail concerning the computation of benefits and costs and the “best practices” regarding the valuation of uncertain outcomes. Simply put, *Circular A-4*’s guidance is premised upon an opportunity-cost model, employing willingness-to-pay and willingness-to-accept values to calculate opportunity costs.⁵⁰

Though *Circular A-4* provides best practices and an introduction to BCA, it provides neither a sense of the rich theoretical foundations of BCA nor exhaustive detail on the techniques that comprise traditional benefit-cost methodology. The following sections provide a more complete account of both those topics.

42 OMB CIRCULAR A-4, *supra* note 39, at 2.

43 *Id.* at 2-3.

44 *Id.* at 3 (“A complete regulatory analysis includes a discussion of non-quantified as well as quantified benefits and costs. A non-quantified outcome is a benefit or cost that has not been quantified or monetized in the analysis. When there are important non-monetary values at stake, you should also identify them in your analysis so policymakers can compare them with the monetary benefits and costs.”).

45 *Id.*; see John D. Graham, *Saving Lives Through Administrative Law and Economics*, 157 U. PA. L. REV. 395, 524 (2008).

46 OMB CIRCULAR A-4, *supra* note 39, at 9.

47 For an expansive treatment of the prominent methodologies of all forms of BCA, see E.J. MISHAN, *COST-BENEFIT ANALYSIS: AN INFORMAL INTRODUCTION* (4th ed. 1988).

48 For a similarly thorough discussion of CEA, see *COST-EFFECTIVENESS IN HEALTH AND MEDICINE* (Marthe R. Gold et al. eds., 1996).

49 See OMB CIRCULAR A-4, *supra* note 39, at 9-10; Matthew D. Adler, *QALYS and Policy Evaluation: A New Perspective*, 6 YALE J. HEALTH POL’Y L. & ETHICS 1 (2006).

50 See OMB CIRCULAR A-4, *supra* note 39, at 18.

B. *Theoretical Justifications of Benefit-Cost Analysis*

Since its earliest prominent use,⁵¹ the government has employed BCA to provide a “pragmatic instrument[]” that would mitigate three problems: “poor priority setting, excessively costly tools, and inattention to the unfortunate side effects of regulation.”⁵² BCA also sought to aggregate preferences, which would ameliorate individuals’ comparatively poor ability to estimate risk and value outcomes.⁵³ Ultimately, BCA provides a tool for the government to make a persuasive case for intervening in the market economy—a principle that animates much of *Circular A-4*. Assuming that, as E.O. 12,866 asserts, there should be a presumption *against* government action, analysts must construct BCAs within a framework that considers markets to be the most efficient allocators of resources, while recognizing the possibility that markets can fail.⁵⁴

As many have argued, there are two principal instances in which the government can overcome its presumption against regulatory action.⁵⁵ First, the government can act to allocate resources where the market fails to allocate those resources in accordance with individuals’ preferences. This problem typically involves inefficiencies created by public goods, externalities, or monopolies.⁵⁶ Second, the government can act to distribute incomes through taxing and spending that may be justified by preexisting social inequalities. Such programs include Social Security, public education, and Medicaid. Depending on one’s philosophical beliefs concerning the role of government, one could endlessly debate the relative quantity of interventions that should occur.⁵⁷ Ideally, however, analysts should employ BCAs to assess whether proposed action of either type is welfare-enhancing. The theories that justify these “objective” assessments stem from two primary schools of thought: welfare economics and microeconomics.

1. Welfare Economics

The welfare economics tradition is rooted in the old maxim, developed by Italian economist Vilfredo Pareto, which suggests that government action is justified if it hurts no one and improves the welfare

51 BCA became prominent during the 1970s with the increased prominence of environmental legislation and regulation. *See* CASS R. SUNSTEIN, *THE COST-BENEFIT STATE* 3-6 (2002).

52 *Id.* at 6.

53 *See id.* at 9.

54 *See* Exec. Order No. 12,866 pmb. (“[P]rivate markets are the best engine for economic growth.”).

55 *See, e.g.*, EDWARD M. GRAMLICH, *A GUIDE TO BENEFIT-COST ANALYSIS* 28 (2d ed. 1999).

56 *See id.*

57 *See id.* at 28-29.

of at least one person.⁵⁸ Contemporary scholars regard the Pareto principle as an ideal formulation that has little practical relevance, as almost any conceivable government action imposes a cost on someone.⁵⁹ Its sustained prominence stems from the hypothetical ability of a policy's beneficiaries (the economic "winners") to compensate those harmed by the policy (the economic "losers") through "side payments" external to the government action. Permitting this modification can result in outcomes that satisfy the Pareto principle.⁶⁰ Given that these "side payments" do not occur in reality, Nicholas Kaldor and John Hicks reformulated the Pareto criteria into the Kaldor-Hicks efficiency principle, which states that policies are socially beneficial if the winners *could* theoretically compensate the losers, such that the policy creates no net losers. In other words, "Adopt only policies that have positive net benefits."⁶¹

Iteration is an implicit presumption that underlies Kaldor-Hicks efficiency. Individuals do not actually receive compensation after the government issues a new rule that harms them. To be equitable, the theory requires a long-term view. Over time, the costs and benefits of regulation will be distributed, making all in society winners and losers at various times.⁶² Iteration should result in increased individual welfare for all members of society after a sufficiently large number of policies have been enacted. Finally, though this welfare economics framework does not explicitly address distributional concerns, if the government engages in many wealth-creating actions, the inefficiency associated with transfers may be less significant as a share of total social welfare.⁶³

2. Microeconomics

The microeconomic framework considers most explicitly the imperfect allocation of resources that results from the market's failure to internalize externalities and to account for parties with market power.⁶⁴ Because markets only account for the aggregated prices that *individuals* perceive, a purely market-based approach results in underconsumption of goods that positively affect non-consumers and overconsumption of goods that impose external costs. Microeconomic theory suggests that such

58 See generally VILFREDO PARETO, *MANUAL OF POLITICAL ECONOMY* (Ann S. Schwier & Alfred N. Page eds., Ann S. Schwier trans., Augustus M. Kelley Publishers 1971) (1906) (presenting the original formulation).

59 See GRAMLICH, *supra* note 55, at 30.

60 See MICHAEL C. MUNGER, *ANALYZING POLICY: CHOICES, CONFLICTS, AND PRACTICES* 355 (2000).

61 ANTHONY E. BOARDMAN ET AL., *COST-BENEFIT ANALYSIS: CONCEPTS AND PRACTICE* 29 (2d ed. 2001).

62 See *id.* at 30.

63 See *id.*

64 See GRAMLICH, *supra* note 55, at 33-36.

examples of market failure justify government intervention to reduce the resultant deadweight loss.⁶⁵ Paul Samuelson first explicated this approach in the 1950s.⁶⁶ Accordingly, the quantity at which the market efficiently internalizes external price information—and, thus, the quantity at which the marginal social cost equals the marginal social benefit—is sometimes known as the Samuelsonian Point.⁶⁷ BCA seeks to quantify the inefficiency of the status quo, as well as the benefits from “internalizing” these externalities, by reaching the Samuelsonian Point and the associated costs of the intervention.⁶⁸

To that end, the welfare economics tradition informs the microeconomic approach, in that Kaldor-Hicks efficiency can serve as the relevant criterion for assessing the value of correcting market failure.⁶⁹ The principal goals of the two camps—welfarist and microeconomic—are not necessarily coextensive, however, as the microeconomic approach does not seek numerous opportunities for Kaldor-Hicks-like welfare creation. Indeed, a pure microeconomic approach would justify government intervention only in situations where information asymmetries, externalities, or market power justify action, rather than whenever there is an opportunity for net social wealth creation.

C. *The Contemporary Practice of Benefit-Cost Analysis*

From the rich theory that spurred its development, BCA has become routinized, as have the methods for culling the relevant data necessary for these calculations. Consensus has formed that the relevant formulation for net social benefit (NSB) comprises the sum of the changes in consumer surplus, producer surplus, and net government revenues.⁷⁰ To simplify a complex literature, economists generally define a consumer surplus as the difference between the buyer’s willingness-to-pay for a resource and the price actually paid.⁷¹ BCAs assume the consumer price paid is zero for government-initiated outcomes, so the consumer surplus category collapses into willingness-to-pay. Regulatory analysts multiply the individual consumer surplus by the number of individuals affected to determine the net consumer surplus. Producer surplus—the excess of price over marginal cost—can be projected by evaluating whether the government action will alter prevailing prices or change the quantities

65 Indeed, *Circular A-4* makes this precise claim. OMB CIRCULAR A-4, *supra* note 39, at 4.

66 Paul A. Samuelson, *The Pure Theory of Public Expenditures*, 36 REV. ECON. & STAT. 387 (1954).

67 See GRAMLICH, *supra* note 55, at 33.

68 BOARDMAN ET AL., *supra* note 61, at 2-3.

69 See *id.*; GRAMLICH, *supra* note 55, at 35-36.

70 See, e.g., BOARDMAN ET AL., *supra* note 61, at 67; see also MUNGER, *supra* note 60, at 356.

71 See RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 16 (7th ed. 2003) (describing the role of consumer surplus in the Kaldor-Hicks system).

transacted in the market.⁷² Evaluating the change in net government revenues requires analysts to consider how the proposal would directly change receipt of tax dollars and how the program will change other habits, such as consumption, that also create revenues.⁷³

Prevailing prices in competitive markets undergird all BCAs. Agencies constructing willingness-to-pay models look to the prices and quantities revealed by the market to assess how a proposed regulation will affect consumer and producer surpluses. Where prices are not easily available, agencies can construct “implicit prices” by extracting narrow cost data from large markets. Where the market does not accurately reflect competitive prices, agencies construct “shadow prices” that remove subsidies, taxes, or other extraneous factors that distort prices.⁷⁴ OMB also notes the possibility of wading into the revealed preferences literature in suggesting that agencies consider relying on extrapolated data from econometric studies.⁷⁵ Data derived from stated preference methods—the asking of hypothetical questions regarding individuals’ preferences for various outcomes—also commonly serve as source materials for regulatory analyses.⁷⁶ Similar surveys that obtain non-monetized data regarding health-utility values are commonly used in CEAs.⁷⁷

Before they can begin assessing costs, benefits, and alternatives, agencies must first—and arguably most importantly—establish the relevant baseline.⁷⁸ As most proposed regulations have ongoing impacts, regulators must consider the future unregulated world when constructing their model’s baseline. OMB encourages agencies to evaluate their proposal under differing baseline assumptions to account for uncertainty. In addition, because benefits and costs accrue over time, OMB has outlined extensive guidelines regarding the discounting of these figures to account for society’s preference for instantaneity and the availability of a market for money (that is, interest rates).⁷⁹

72 See, e.g., MUNGER, *supra* note 60, at 237 n.16.

73 See BOARDMAN ET AL., *supra* note 61, at 97-98.

74 OMB CIRCULAR A-4, *supra* note 39, at 21.

75 See *id.* at 20-21. The revealed preferences literature—in which scholars attempt to ascertain socially optimal choices by observing consumer behavior—is vast. See, e.g., Damien Broussolle, *Internal Consistency of Choice, Sen and the Spirit of Revealed Preferences: A Behaviorist Approach*, 34 J. SOCIO-ECON. 605 (2005); W. Michael Hanemann, *Valuing the Environment Through Contingent Valuation*, J. ECON. PERSP., Fall 2004, at 19; Peter Knez, Vernon L. Smith & Arlington W. Williams, *Individual Rationality, Market Rationality, and Value Estimation*, 75 AM. ECON. REV. 397 (1985); Kevin C. Urama & Ian D. Hodge, *Are Stated Preferences Convergent with Revealed Preferences?*, 59 ECOLOGICAL ECON. 24 (2006).

76 OMB CIRCULAR A-4, *supra* note 39, at 22.

77 See Adler, *supra* note 49, at 5-6.

78 See OMB CIRCULAR A-4, *supra* note 39, at 15-16.

79 See *id.* at 31. An extensive literature exists on discount rates in general and the specific rates recommended by the government. See, e.g., Kenneth J. Arrow, *Discounting, Morality and Gaming*, in DISCOUNTING AND INTERGENERATIONAL EQUITY 13-21 (Paul R. Portney & John P.

Additionally, the government creates BCAs under enormous uncertainty relating to future prices, interest rates, economic growth, preferences, and a host of other factors that complicate the present analysis. To demonstrate the relative weight of uncertain variables to the analysis, OMB encourages agencies to conduct sensitivity analyses to demonstrate the impact on NSB of changes to uncertain variables.⁸⁰ This Note examines how each assumption renders the analysis liable to critique.

II. Incorporating the Insights of Behavioral Economics and Hedonic Adaptation into Regulatory Analysis

As noted above, contemporary regulatory analysis operates under the assumptions of neoclassical economics. Economists, however, have repeatedly and with increased vigor since the 1990s begun to challenge these assumptions as unreflective of actual human behavior. Indeed, the field of behavioral economics has developed to inform traditional economics by refining its assumptions through the incorporation of data from replicable observations of actual behavior. Just as this behavioral approach has advanced economic thought, the same approach has informed the economic analysis of law, which, as Christine Jolls, Cass Sunstein, and Richard Thaler have written, more frequently involves non-market behavior.⁸¹

This field has deep relevance for the study of regulatory policy, and this Part attempts to contextualize its potential applications and consider the benefits of such an approach. Section II.A considers the evolution of this field, its assumptions, and its applicability to the law, as well as its overall qualities and shortcomings. Section II.B considers how new hedonic metrics that have been developed in the behavioral economic tradition to measure subjective well-being and happiness may offer a uniform, consistent, and equitable approach to regulatory analysis. Section II.C examines specifically how the government might apply these hedonic metrics to create benefit-cost analyses that more accurately capture how individuals will experience the impact of proposed regulation.

A. *The Behavioral Approach and the Movement from Neoclassicism*

Behavioral economists design studies to uncover principles of human behavior. Rather than assuming elements of human behavior and then

Weyant eds., 1999); David Weisbach & Cass R. Sunstein, *Climate Change and Discounting the Future: A Guide for the Perplexed*, 27 YALE L. & POL'Y REV. 433 (2009).

⁸⁰ See OMB CIRCULAR A-4, *supra* note 39, at 3.

⁸¹ Christine Jolls, Cass R. Sunstein & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1473 (1998).

theorizing from those assumptions, behavioralists seek to understand actual behavior first and consider then how those findings may inform economic theory and practice. The aggregation of years of such studies has evinced profound weaknesses in the assumptions that undergird traditional economic thought. As first generalized by Thaler, the field primarily diverges from neoclassicism because of the realization that humans exhibit three qualities that defy neoclassical assumptions: bounded rationality, bounded willpower, and bounded self-interest.⁸²

Bounded rationality suggests that human beings are incapable of obtaining and processing the multitude of information necessary to make perfectly rational decisions.⁸³ To put it simply, “cognitive abilities are not infinite.”⁸⁴ This theory also captures individuals’ unwillingness to exert the amount of effort required to make fully rational choices.⁸⁵ Actors will frequently make decisions through heuristics or “mental shortcuts” that may have not accounted for all possible outcomes or may have done so with inaccurate probabilities.⁸⁶ Whereas neoclassical economic thought presumes that individuals will rationally internalize all the costs of an event, behavioral economics suggests that there are significant limitations on human capacity to operate at that level.⁸⁷

Bounded willpower denotes individuals’ propensity to act in a manner discordant with their long-term individual interest.⁸⁸ Examples of drug addiction comprise the most obvious instances of bounded willpower, wherein individuals sacrifice long-term health for short-term psychic or hedonic benefits.⁸⁹ Applying Richard Posner’s original formulation, Russell Korobkin and Thomas Ulen have referred to this behavior as the “multiple-selves problem,” through which they conceive of individual decisionmaking as a composite of future preference sets.⁹⁰

82 Richard H. Thaler, *Doing Economics Without Homo Economicus*, in FOUNDATIONS OF RESEARCH IN ECONOMICS: HOW DO ECONOMISTS DO ECONOMICS? 227 (Steven G. Medema & Warren J. Samuels eds., 1996); see also Christine Jolls, *Behavioral Law and Economics*, in BEHAVIORAL ECONOMICS AND ITS APPLICATIONS 115, 121-26 (Peter Diamond & Hannu Vartiainen eds., 2007) (describing these three elements in greater depth); Jolls et al., *supra* note 81, at 1477-79 (same).

83 See Herbert A. Simon, *Rational Choice and the Structure of the Environment*, in MODELS OF MAN: SOCIAL AND RATIONAL 261, 270-71 (1957); Herbert A. Simon, *Theories of Bounded Rationality*, in 2 MODELS OF BOUNDED RATIONALITY 408, 411 (1982).

84 Jolls et al., *supra* note 81, at 1477-78.

85 See Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CAL. L. REV. 1051, 1075-76 (2000).

86 See Gowri Ramachandran, *Antisubordination, Rights, and Radicalism*, 40 CONN. L. REV. 1045, 1055-57 (2008).

87 For a more expansive discussion of bounded rationality, see CASS R. SUNSTEIN, RISK AND REASON 254-66 (2002).

88 See Jolls et al., *supra* note 81, at 1479.

89 See, e.g., Ole-Jørgen Skog, *Addiction, Choice, and Irrationality*, in LAW AND ECONOMICS OF IRRATIONAL BEHAVIOR 111, 135 (Francesco Parisi & Vernon L. Smith eds., 2005).

90 Korobkin & Ulen, *supra* note 85, at 1119-24; see Richard A. Posner, *Are We One Self or Multiple Selves?: Implications for Law and Public Policy*, 3 LEGAL THEORY 23 (1997).

Behavioralists also attempt to explain criminal behavior as an extreme instance of bounded willpower, wherein criminals engage in “hyperbolic discounting” to justify their actions.⁹¹

Bounded self-interest contravenes the neoclassical assumption that individuals act solely in their own self-interest when making decisions.⁹² Diverging from the traditional assumption that an individual acts solely to maximize her utility function, behavioralists cite voluminous evidence that people generally consider the well-being of others when making decisions. Indeed, individuals are commonly willing to sacrifice personal utility to benefit those they perceive as cooperative,⁹³ and social norms tend to influence behavior far more than neoclassical assumptions would suggest.⁹⁴ This element of behavioralism exceeds pure altruism and suggests that individuals will be both “nicer” and “more spiteful” when social norms so dictate.⁹⁵

Beyond the three principal issues that Thaler originally identified, behavioral economics has additionally challenged some of the other core tenets of neoclassical thought. Behavioralists have focused prominently on challenging the universality of the Coase Theorem by illustrating the pervasive impact of endowment effects in preventing goods from flowing to their most efficient uses.⁹⁶ The endowment effect describes an individual’s propensity to overvalue the retention of a currently owned asset.⁹⁷ A person may be able to sell an asset on the market for more than he is willing to pay for the same item, yet he elects not to sell. This “underweighting of opportunity costs” ensures that goods do not flow to their optimal employment, contravening Coase’s hypothesis that low transaction costs will compel just that outcome.⁹⁸

Beyond the theoretical challenges that the behavioralists pose for neoclassical economic thought, they also expose a significant weakness of prevailing economic metrics—such as neoclassical benefit-cost techniques—that rely on their assumptions. If economists know that traditional metrics like measures of net social welfare are built upon imperfect foundations, the relevance of the existing metric is at least

91 Jolls et al., *supra* note 81, at 1539-41.

92 *See id.* at 1479.

93 *See* Joseph Henrich et al., *In Search of Homo Economicus: Behavioral Experiments in 15 Small-Scale Societies*, 91 AM. ECON. REV. 73 (2001).

94 *See* Tanina Rostain, *Educating Homo Economicus: Cautionary Notes on the New Behavioral Law and Economics Movement*, 34 LAW & SOC’Y REV. 973, 979 (2000).

95 Jolls et al., *supra* note 81, at 1479.

96 *See* Jolls, *supra* note 82, at 117-21. The Coase Theorem suggests that in the absence of transaction costs, bargaining should lead to an efficient allocation of resources irrespective of the initial allocation. *See* R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

97 *See* Daniel Kahneman, Jack L. Knetsch & Richard H. Thaler, *Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias*, J. ECON. PERSP., Winter 1991, at 193, 197-99.

98 Richard Thaler, *Toward a Positive Theory of Consumer Choice*, 1 J. ECON. BEHAV. & ORG. 39, 44 (1980).

questionable. To address this challenge, social scientists have created new “hedonic” metrics that incorporate these behavioral understandings and seek to present a more accurate picture of how exogenous events, public programs, or routine daily activities impact individuals in reality. The next Section examines some of these metrics and explores their virtues and flaws.

B. *The New Hedonic Metrics*

Drawing upon a vast psychology literature, economists have analogized from existing survey data and designed new studies to examine and measure actual behavior through the study of human happiness. These developments have happened in some instances independent from the behavioral economics trend but have been increasingly informed by, and generative with, the new movement in the economics field. Indeed, happiness data are now “being used to tackle important questions in economics.”⁹⁹ This research has sought to describe human behavior by seeking to understand how individuals process information and experience changed circumstances. The results of this research and the metrics the field has developed comprise the content of this Section.¹⁰⁰

Diverging from traditional revealed preference and contingent valuation models, which focus on creating a monetized equivalent for any event’s impact, scholars have developed new metrics that seek to measure various forms of happiness.¹⁰¹ These metrics fall largely into two categories: (1) measures of self-reported subjective well-being;¹⁰² and (2) measures of self-reported moment-to-moment affect.¹⁰³ The former consider more global considerations and are holistic life assessments, whereas the latter consider happiness on a more instantaneous level. The salient differences between these two tools become apparent when considering the contrasting results of studies employing both metrics, which assessed people with children versus those without children. These

99 Rafael Di Tella & Robert MacCulloch, *Some Uses of Happiness Data in Economics*, J. ECON. PERSP., Winter 2006, at 25, 43.

100 See John Bronsteen, Christopher Buccafusco & Jonathan S. Masur, *Hedonic Adaptation and the Settlement of Civil Lawsuits*, 108 COLUM. L. REV. 1516 (2008); Rick Swedloff & Peter H. Huang, *Tort Damages and the New Science of Happiness*, 85 IND. L.J. (forthcoming 2010) (discussing the relevance of adaptation theory to legal analysis), available at <http://ssrn.com/abstract=1354234>.

101 See Matthew D. Adler, *Welfare Polls: A Synthesis*, 81 N.Y.U. L. REV. 1875 (2006).

102 See, e.g., David G. Blanchflower & Andrew J. Oswald, *Well-Being over Time in Britain and the USA*, 88 J. PUB. ECON. 1359 (2004); David A. Schkade & Daniel Kahneman, *Does Living in California Make People Happy? A Focusing Illusion in Judgments of Life Satisfaction*, 9 PSYCHOL. SCI. 340 (1998).

103 See, e.g., Ed Diener & Martin E.P. Seligman, *Very Happy People*, 13 PSYCHOL. SCI. 81 (2002).

studies show that the childless have higher moment-to-moment affect,¹⁰⁴ whereas parents have a higher sense of overall subjective well-being.¹⁰⁵ That is, at any given moment, people with children may feel worse than those without children, but those same people have a greater overall sense of life satisfaction. This result does not indicate that these methods are necessarily flawed. To the contrary, this divergence demonstrates the general principle that events may have high moment-to-moment costs yet impart holistic benefits.

The study of self-reported life satisfaction data originated in psychology, with economists beginning to draw upon several longitudinal, multinational studies that had asked some variant of the following question: “Generally speaking, how satisfied are you with your life as a whole? Would you say that you are very satisfied, fairly satisfied, not very satisfied, or not at all satisfied?”¹⁰⁶ Such life satisfaction data provide a rich source for analysis, particularly given that the data also have been coded with income factors, familial information (such as marital status and whether one has children), and in some cases, health information. This question seeks to ascertain a global report of one’s overall perceived well-being—rather than an assessment of how things are in the immediate instance. Contrasting life satisfaction with moment-to-moment affect, Daniel Kahneman wrote, “Life satisfaction reflects the global circumstances of the individual’s life (marital status, income), but happiness reflects the hedonic value of the activities and social interactions to which she allocates her time.”¹⁰⁷

Reports of life satisfaction have been shown, however, to be susceptible to focusing illusions, such as was reported in a study by David Schkade and Kahneman in which respondents reported higher expected satisfaction in California than the Midwest, despite there being no perceptible difference in reported actual data.¹⁰⁸ Moreover, studies have demonstrated that while increasing an individual’s income increases his happiness, population-wide increases—that is, changes that increase population-wide wealth with no relative increases—do not result in population-wide increased happiness; this outcome suggests that people derive happiness from their relative wealth, not their absolute wealth.¹⁰⁹ Indeed, “the belief that high income is associated with good mood

104 See Alberto Alesina, Rafael Di Tella & Robert MacCulloch, *Inequality and Happiness: Are Europeans and Americans Different?*, 88 J. PUB. ECON. 2009, 2020 (2004).

105 See Luis Angeles, *Children and Life Satisfaction*, J. HAPPINESS STUD., <http://www.springerlink.com/content/a34114m070112044/fulltext.pdf>.

106 Richard A. Easterlin, *Will Raising the Income of All Increase the Happiness of All?*, 27 J. ECON. BEHAV. & ORG. 35, 39 (1995).

107 Daniel Kahneman et al., *The Structure of Well-Being in Two Cities 1* (Aug. 22, 2006) (unpublished manuscript, on file with The Yale Journal on Regulation).

108 Schkade & Kahneman, *supra* note 102.

109 See Easterlin, *supra* note 106, at 35.

is . . . mostly illusory.”¹¹⁰ Other studies indicate that income equality in societies may generally contribute to comparatively lower social happiness, even when controlling for income levels of individuals.¹¹¹ Kahneman and others have cautioned against over-reliance on subjective well-being, as the data are dependent on the proximity of the survey to circumstances that would alter people’s assessments.¹¹² To mitigate this concern, Kahneman has proposed the “U-index,” which will not only account for intensity of dissatisfaction but also for the duration spent in a dissatisfied state.¹¹³

Measures of moment-to-moment affect also spring from the work of Kahneman and his various co-authors. He began this work by drawing a sharp distinction between “decision utility,” by which individuals weigh the impact of a decision, and “experienced utility,” through which individuals derive hedonic value from any action.¹¹⁴ Ed Diener and Martin Seligman refined this work through the construction of several metrics that may be employed to measure happiness—including questioning individuals about how they experience eight specific positive and sixteen specific negative emotions on a daily basis.¹¹⁵ More recently, Kahneman has developed a new tool for assessing affect, the day reconstruction method (DRM), by which individuals “systematically reconstruct their activities . . . with procedures designed to reduce recall biases.”¹¹⁶ Because DRM’s results have been highly correlated with more costly survey methods, DRM presents a promising tool for producing reliable data about moment-to-moment affect.¹¹⁷

Through extensive study, these instruments have also revealed what may be an enormously counterintuitive conclusion: people adapt profoundly to positively- and negatively-changed circumstances. One study famously reported that lottery winners adapt quickly to their new wealth; indeed, they exhibited no additional happiness compared to a control group.¹¹⁸ The same study observed that the happiness of accident victims who have become paraplegics similarly adapts quickly after time

110 Daniel Kahneman et al., *Would You Be Happier If You Were Richer? A Focusing Illusion*, 312 *SCIENCE* 1908 (2006).

111 See Alesina et al., *supra* note 104.

112 See Daniel Kahneman & Alan B. Krueger, *Developments in the Measurement of Subjective Well-Being*, *J. ECON. PERSP.*, Winter 2006, at 3, 8, 14.

113 See *id.* at 18-21.

114 Daniel Kahneman, Peter P. Wakker & Rakesh Sarin, *Back to Bentham? Explorations of Experienced Utility*, 112 *Q.J. ECON.* 375 (1997).

115 See Diener & Seligman, *supra* note 103, at 81.

116 See Daniel Kahneman et al., *A Survey Method for Characterizing Daily Life Experience: The Day Reconstruction Method (DRM)*, 306 *SCIENCE* 1776 (2004).

117 See *id.* at 1776, 1780.

118 Philip Brickman, Dan Coates & Ronnie Janoff-Bulman, *Lottery Winners and Accident Victims: Is Happiness Relative?*, 36 *J. PERSONALITY & SOC. PSYCHOL.* 917 (1978).

has passed since their injuries.¹¹⁹ This “setpoint” understanding of happiness suggests that individual happiness is a constant, and changed circumstances only result in brief deviations from a pre-established level,¹²⁰ leading some to argue that one’s happiness is “primarily a matter of chance.”¹²¹

The data, however, are not uniform on this point. One study reported that though populations generally exhibit a tendency toward adaptation, many individuals who demonstrate particularly significant reactions to events do not ever fully equilibrate.¹²² The study’s authors argue that though significant adaptation undeniably occurs, “life circumstances are necessary” to understand subjective well-being, and “all happiness is not due to [preexisting] temperament.”¹²³ Others have found evidence that life-changing events, like unemployment, alter satisfaction, and that the unemployed do not return to their *ex ante* level of satisfaction even after an individual becomes reemployed.¹²⁴ Divorce results in similar inability to return to one’s supposed setpoint.¹²⁵ Other studies have shown that the severely disabled exhibit significant, though incomplete, adaptation.¹²⁶ Notwithstanding these critiques of perfect adaptation, adaptation undeniably occurs at least partially, and regulators should not design BCAs assuming its absence.

C. *Happiness Metrics in Benefit-Cost Analysis*

Despite the proliferation of these metrics, a core challenge remains—creating a useful translation between the happiness measures and traditional measures of economic cost. If the government can determine that a regulation will cost the United States \$100 million in lost production but increase net social happiness by a certain amount, how should the government determine whether that regulation is worthwhile? Some initial research has sought to monetize happiness results, though work on

119 *See id.*

120 *See* Philip Brickman & Donald T. Campbell, *Hedonic Relativism and Planning the Good Society*, in *ADAPTATION-LEVEL THEORY: A SYMPOSIUM* 287 (M.H. Appley ed., 1971).

121 David Lykken & Auke Tellegen, *Happiness Is a Stochastic Phenomenon*, 7 *PSYCHOL. SCI.* 186, 189 (1996).

122 *See* Richard E. Lucas et al., *Reexamining Adaptation and the Set Point Model of Happiness: Reactions to Changes in Marital Status*, 84 *J. PERSONALITY & SOC. PSYCHOL.* 527, 538 (2003).

123 *Id.*

124 Richard E. Lucas et al., *Unemployment Alters the Set Point for Life Satisfaction*, 15 *PSYCHOL. SCI.* 8, 11 (2004).

125 Richard E. Lucas, *Time Does Not Heal All Wounds: A Longitudinal Study of Reaction and Adaptation to Divorce*, 16 *PSYCHOL. SCI.* 945, 947 (2005).

126 *See* Andrew J. Oswald & Nattavudh Powdthavee, *Does Happiness Adapt? A Longitudinal Study of Disability with Implications for Economists and Judges*, 92 *J. PUB. ECON.* 1061, 1072 (2008).

this front remains dramatically incomplete.¹²⁷ The general approach has been to examine how changes in income similarly affect people's happiness—controlling for wealth levels and other relevant variables—and to extrapolate income adjustments that would create similar levels of happiness.¹²⁸ Just as the assumptions that underlie neoclassical metrics remain susceptible to critique, any attempt to equate happiness units to dollars remains similarly vulnerable. To incorporate these metrics into benefit-cost analysis in a meaningful way will require both addressing these weaknesses and understanding the instances in which these metrics offer a superior tool to existing practice.

An alternative exists to the proposed monetization of happiness. Treating the happiness inquiry as a separate, supplemental investigation to the neoclassical approach might add the most constructive amount of information to the analysis, rather than attempting to equate the two. In so doing, one can imagine that regulators would treat hedonic metrics in precisely the same manner that they currently employ traditional metrics, such as monetized measures of human health. At first, the regulators need to establish the relevant baseline level of happiness in the status quo period. This would require conducting surveys of the covered population to ascertain preexisting levels of happiness. Once the agency has determined the appropriate baseline, they should project how the regulation will affect that baseline. This is, of course, easier said than done. Nevertheless, one can intuit this procedure from how such projections operate currently. Regulators search for naturally occurring or other regulated instances in which the proposed outcome has transpired. Measurements of those affected populations may serve as representative samples for the proposed assessment. Much like current regulatory analysis, regulators can apply discount rates to contextualize future hedonic harms and benefits in future periods.

At their most useful, hedonic metrics should comprise an accompanying set of evaluative tools in addition to existing hedonic approaches. There are both normative and practical reasons for this judgment. First, political actors are likely to still demand monetized estimates of regulatory costs. It is difficult to envision a rapid and wholesale shift from decades of pecuniary valuation to an exclusively hedonic approach. Second, hedonic metrics, like the neoclassical tools, are not perfect and cannot independently capture all effects of regulation. As the case studies of Part III demonstrate, hedonic metrics have difficulty accounting for the regulatory costs imposed on legal entities, like corporations, and on widely diffused groups. In combination with existing

127 See BERNARD M.S. VAN PRAAG & ADA FERRER-I-CARBONELL, *HAPPINESS QUANTIFIED* (2007).

128 See, e.g., *id.* at 233.

tools, however, the utilization of hedonic metrics will help to present the most complete assessment possible of regulatory impacts.

III. An Examination of Contemporary Practice and Recommendations for Change

Contemporary benefit-cost practice admirably captures the explicit and implicit quantifiable effects of regulation. This Note suggests, however, that those effects may only tell part of the story of a regulation's impact because neoclassical assumptions about human behavior may undermine the analysis's conclusion. Moving away from the abstract, this Part considers three case studies of RIA that accompanied regulations with significant economic impact. This Part includes three regulations with diverse impacts and attempts to present a composite of all tools currently employed in regulatory analysis. Section III.A examines a fairly typical Environmental Protection Agency (EPA) regulation intending to reduce air pollution under the Clean Air Act. Section III.B considers a Department of Housing and Urban Development (HUD) rule regarding the inspection, evaluation, and abatement of lead paint in federally subsidized housing. Section III.C evaluates a Department of Homeland Security (DHS) regulation regarding the mandatory transmission of passenger manifests in advance of departure for flights inbound to the United States. This Part concludes by attempting to generalize new government best practices that may result from incorporating hedonic metrics into regulatory analysis.

A. *EPA Mobile Source Air Toxins Regulation*

This Section considers the RIA that the EPA constructed to accompany its 2007 final rule, *Control of Hazardous Air Pollutants From Mobile Sources*.¹²⁹ The EPA enacted this regulation pursuant to three statutory provisions related to the regulation of air pollution: (1) section 202 of the Clean Air Act, which charges the EPA with regulating permissible emission levels from mobile sources and establishing standards for new automobile and engine production;¹³⁰ (2) section 183, which requires the EPA to enumerate all products that contribute at least 80% of the volatile organic compound emissions in specified areas of the United States;¹³¹ and (3) section 1504(b) of the Energy Policy Act of 2005, which charges the EPA to set emissions baselines for refineries to reflect new levels of fuel quality.¹³² The final rule adopted standards for "gasoline, passenger vehicles, and portable fuel containers (primarily gas cans) that

129 72 Fed. Reg. 8428 (Feb. 26, 2007) (to be codified at 40 C.F.R. pts. 59, 80, 85, 86).

130 See 42 U.S.C. § 7521 (2006).

131 See *id.* § 7511d.

132 See Pub. L. No. 109-58, § 1504(b), 119 Stat. 594, 1077 (2005).

will significantly reduce emissions of benzene and other hazardous air pollutants.”¹³³

The EPA estimates that the core components of this regulation will have a total social cost of \$359.4 million in 2020 and \$400 million in 2030.¹³⁴ In this analysis, the EPA relied on traditional market data for determination of these figures, such as the amount that gasoline prices will increase due to higher refining standards, increased engineering costs that firms will incur during product design, and lost consumer surplus due to lower consumption of goods that will result from higher prices.¹³⁵ These calculations were predicated on existing studies of market data and consumer behavior. This RIA sought to account for all potential economic costs of the regulation.¹³⁶

In contrast to its cost analysis, the EPA’s benefit analysis purposely does not quantify many of the regulation’s stated benefits.¹³⁷ Specifically, it accounts for benefits deriving from effects that have well-established avoided cost figures—such as premature mortality, emergency room visits, lost productivity, and asthma exacerbations—but does not quantify benefits resulting from outcomes that have less clear economic costs—such as regional visibility improvements and odor abatement.¹³⁸ With a 7% discount rate, they assess the program will have benefits of \$3 billion + *B* in 2020 and \$5.7 billion + *B* in 2030, where *B* represents the value of the unquantified benefits.¹³⁹ Approximately 90% of the monetized benefits stem from reductions in mortality risk; the remaining benefits arise from reduced chronic illness and hospital admissions.¹⁴⁰ Naturally, the EPA asserts that the impact of the unquantified benefits on the final analysis depends on their magnitudes but notes that their omission “lends a downward bias” to the benefits presented.¹⁴¹

Incorporating hedonic metrics into this analysis would add detail and probative value to the EPA’s assessment of benefits. This is not to suggest that the EPA shirked its responsibilities for complying with existing

133 72 Fed. Reg. at 8428.

134 U.S. ENVTL. PROT. AGENCY, CONTROL OF HAZARDOUS AIR POLLUTANTS FROM MOBILE SOURCES: REGULATORY IMPACT ANALYSIS, at ES-11 tbl.14 (2007) [hereinafter EPA RIA].

135 *Id.* at 9-1.

136 *Id.*

137 Leaving all or most of a regulation’s benefits unquantified is common. *See, e.g.*, DEP’T OF HOMELAND SEC., REGULATORY ASSESSMENT: CHEMICAL FACILITY ANTI-TERRORISM STANDARDS INTERIM FINAL RULE 89 (2007) (calculating only the costs of heightened chemical plant safety standards); TRANS. SAFETY ADMIN., REGULATORY EVALUATION—FINAL RULE: SECURE FLIGHT (49 C.F.R. § 1560), at 8 (2007) (monetizing none of the benefits associated with an airline security rule and then conducting a needed-risk-reduction analysis based upon the Department of Transportation’s statistical value of a life of \$5.7 million).

138 EPA RIA, *supra* note 134, at 12-6 to 12-8 tbl.12.1-2.

139 *Id.* at 12-21 tbl.12.4-2.

140 *Id.* at 12-22.

141 *Id.* at 12-23.

procedures. To the contrary, this analysis was approved by OIRA and follows all existing best practices in contemporary benefit-cost procedures.¹⁴² Nevertheless, one only need consider the inclusion of the amorphous variable *B* as a central component of the EPA's benefit calculus to recognize that additional considerations—namely, of how the reduced effects of pollution affect well-being—might result in a more complete account of the regulation's impact. What follows presumes the existence of data that has not been collected and merely suggests a path that the EPA might take in the future if it were conducting a similar exercise.

First, because chronic conditions have been shown to have a significant hedonic impact,¹⁴³ their reduction or elimination may provide significant gains in happiness that could increasingly buttress the argument for regulation. A rule such as the EPA's that seeks to mitigate chronic conditions would likely have a far more "beneficial" impact if it included hedonic measurements in addition to its existing economic calculus. In other words, the existing economic account only captures the quantifiable costs of chronic conditions—medication, lost productivity, and hospital visitation—whereas a hedonic account would seek to represent the costs borne by those continually suffering through chronic conditions beyond their out-of-pocket expenses. Additionally, the hedonic account attempts to capture the longevity of continual psychic costs associated with chronic conditions, while the contemporary account assesses only the discrete costs of medical expenses and job-related productivity losses.

Second, because studies have shown that consumers adapt profoundly to changes in income,¹⁴⁴ the use of hedonic metrics may suggest that negative income effects may have small hedonic costs. From the neoclassical perspective, lost consumer surplus undeniably results from facing increased prices for needed goods such as gasoline. Consumers, however, are resilient and adapt quickly to that negative income effect. Although consumer surplus has fallen, hedonic research suggests that consumers will likely equilibrate quickly in budgeting differently given higher prices. This is not at all to suggest that benefit-cost analyses should ignore income effects. Indeed, this very result demonstrates that this is not an acceptable approach to use exclusively. The hedonic data suggest, however, that regulators should contextualize these costs with competing benefits by acknowledging how individuals will actually experience those effects. If income effects purportedly outweigh some benefit, regulators should consider the evidence that

142 Indeed, because of the regulation's overwhelming ratio of benefits to costs, few would consider this exercise an unreasonable use of regulatory authority.

143 See, e.g., Cass R. Sunstein, *Illusory Losses*, 37 J. LEGAL STUD. S157 (2008).

144 See Kahneman et al., *supra* note 110.

suggests that consumers resiliently adapt to changes in income.¹⁴⁵ In fairness, ample research also suggests that individuals adapt to changes in their health as well, though severe changes in health result in less complete adaptation.¹⁴⁶

Third, the relative availability of data pertaining to costs, which will be primarily borne by the regulated industry, may indicate that the EPA has been at least somewhat prone to agency capture in this instance. In contrast, the diffused benefits to individuals were more challenging to quantify because of a lack of readily available data. Incorporating hedonic metrics in analyses affecting large, diffused, heterogeneous populations may provide a way to balance the interests more evenly. The hedonic approach does not represent a substitute for traditional accounting of economic benefits, but it ensures that there is at least some accounting of how individuals will experience the effects of the rule in reality. Although the degree to which an accounting of those hedonic measurements might be balanced against economic costs remains debatable,¹⁴⁷ simply put, more information is superior to less when designing ideal regulatory policy.

Fourth, as a general matter, the EPA might develop baseline levels of subjective well-being for various areas of the country, particularly because of the Clean Air Act's focus on regional effects and the existence of differing ambient air quality standards for different parts of the country. Additionally, beginning to track the hedonic effects of various mortality and morbidity reductions would be relevant for and could be incorporated into almost every RIA prepared by the EPA.

In contrast to the benefit methodology, hedonic metrics likely would not produce many additionally actionable conclusions relating to the EPA's cost methodology. Their analysts constructed a robust analysis of economic factors affected by the regulation—notably the higher production costs faced by firms—that captures the bulk of the regulation's economic costs. The costs of the regulation were immediately clear to the regulators, and extensive data existed to provide useful cost estimates, such that the EPA felt confident in asserting that it had accounted for all potential costs of the rule.

This reality raises a question for the relevance of hedonic measures in assessing firm health. On one hand, a firm might be considered as the composite of its shareholders, who derive wealth and happiness from the firm's revenues, as its employees derive happiness from maintaining their jobs. On the other hand, these benefits may be considered only secondary effects. Firms experience economic costs as a singular entity, and hedonic

145 See, e.g., Brickman et al., *supra* note 118.

146 See Oswald & Powdthavee, *supra* note 126.

147 See *supra* Section II.C.

metrics fail to have relevance when describing how regulations might impact legal entities, rather than human beings as individuals. This challenge persists not only because an enormous portion of the economy appears beyond assessment by these tools, but also because of the difficulty in comparing the results of measures that actually gauge firm-level impacts with hedonic tools that do not. At present, therefore, hedonic metrics seem incapable of providing the sole calculus by which one could assess the impact of a proposed regulation if the importance of impacts to legal entities remains central to the analysis. Still, they remain useful in other regulations in which the primary costs and benefits are borne directly by individuals.

B. HUD Lead Paint Regulation

In 1999, HUD enacted a regulation seeking to ensure that federally funded housing “does not pose lead-based paint hazards to young children.”¹⁴⁸ Congress compelled HUD to regulate pursuant to the Residential Lead-Based Paint Hazard Reduction Act of 1992,¹⁴⁹ which greatly broadened the definition of a “lead-based paint hazard” to include many previously unregulated substances and quantities of lead-based products. The statute explicitly authorized new regulations related to evaluating these hazards, forming risk assessments, and implementing abatement programs.¹⁵⁰ HUD’s final rule applies to all federally supported housing stock built before 1978—the year Congress banned lead paint—and requires system-wide housing inspections, mandates testing of dust for the presence of lead, outlines procedures to be followed during inspections and testing, and details abatement procedures.¹⁵¹

HUD asserts that the regulation will impose \$99.5 million in costs related to evaluations and \$153.7 million in costs related to hazard reduction.¹⁵² HUD obtained cost data from market-based sources (such as the prevailing prices for new windows and lead-free paint) and from estimates arising from a HUD task force on lead abatement (such as estimated values of the labor required to conduct inspections and

148 Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance, 64 Fed. Reg. 50,140 (Sept. 15, 1999) (codified as amended in scattered parts of 24 C.F.R. (2000)) [hereinafter HUD FR].

149 Pub. L. No. 102-550, § 1003, 106 Stat. 3897 (codified as amended at 42 U.S.C. §§ 4851, 4851a, 4851b (2006)).

150 42 U.S.C. § 4851(b).

151 24 C.F.R. §§ 35.106, .110, .125, .140.

152 U.S. DEP’T OF HOUS. & URBAN DEV., ECONOMIC ANALYSIS OF THE FINAL RULE ON LEAD-BASED PAINT, at ES-7 (1999) [hereinafter HUD RIA].

abatements).¹⁵³ The labor values were also informed by an existing HUD lead abatement program that had executed similar tasks.¹⁵⁴

HUD reports that over the life of the regulation, it will produce \$1.143 billion in benefits under a 3% discount rate, which results in \$890 million in net benefits, and \$324 million in benefits under a 7% discount rate, which results in \$71 million in net benefits. Unlike the EPA, HUD has monetized almost all its anticipated benefits from this regulation.¹⁵⁵ The majority of the rule's benefits stem from "[r]eductions in medical costs; [r]eductions in special education costs; and [i]ncreased lifetime earnings associated with higher cognitive abilities."¹⁵⁶ HUD exempts from its quantified benefits a monetization of chronic adult conditions, such as hypertension, because of "considerable scientific debate" about their correlation with childhood lead exposure.¹⁵⁷ HUD relies on Centers for Disease Control and Prevention data and other scholarly sources that correlate IQ loss to lead exposure and then extrapolate a financial cost from research that has correlated IQ level with income level.¹⁵⁸ Medical and special education costs are drawn from existing government data.

The structure of this regulation leads to a common pattern—though unique among the three regulations presented in this Note—whereby the costs of the regulation all are borne in year one, while the benefits accrue for the life of the regulation.¹⁵⁹ The net costs, therefore, are unaffected by the discount rate selected, while the benefits are extremely sensitive to the discount rate. HUD accordingly conducted its analysis and presented results for the OMB-recommended 7% and 3% discount rates.¹⁶⁰ Additionally, because existing lead abatement regulations existed, the HUD analysis appropriately accounts only for the marginal cost of the new rule from the existing regulatory baseline and for the marginal benefits of the heightened standards.¹⁶¹

Hedonic theory counsels that the government should review the method by which it selects the appropriate discount rate for regulatory review.¹⁶² If discount rates are understood to include a composite of the time value of money (the interest rate) and society's preference for

153 See *id.* at 2-22 to 2-34.

154 *Id.* at 2-39 to 2-40.

155 *Id.* at 3-44.

156 *Id.*

157 *Id.* at 3-51.

158 *Id.* at 3-45 to 3-51. To specify, the data suggests that 0.245 points of IQ are lost for each 1 ug/dL increase in blood lead level. That level of IQ loss results in a net present value of \$544 in income loss per child at a discount rate of 7%. *Id.* at 3-45 to 3-46.

159 See *id.* at ES-3.

160 See OMB CIRCULAR A-4, *supra* note 39, at 33.

161 See HUD RIA, *supra* note 152, at 2-25.

162 For a comprehensive review of the general tenets of discounting and hedonic adaptation theory, see Shane Frederick & George Loewenstein, *Hedonic Adaptation*, in *WELL BEING: THE FOUNDATIONS OF HEDONIC PSYCHOLOGY* 303 (Daniel Kahneman et al. eds., 1999).

instantaneity (the reason the discount rate exceeds prevailing interest rates), hedonic adaptation theory suggests this rate may additionally need to be inflated. Though the recent scholarship concerning happiness metrics and benefit-cost analysis does not tackle this topic,¹⁶³ one can envision that the happiness research should counsel in favor of a far higher discount rate. If individuals only experience hedonic gains or losses in the short term because of their ability to adapt, those changes should be mitigated quickly as time progresses in the analysis. One might also consider eliminating entirely changes that accrue slowly because individuals adapt continuously, and thus those gains may have negligible hedonic impact. According to the hedonic account, therefore, OIRA should define a discount rate that is proportional to the speed of adaptation.

Considering the role of the discount rate in the HUD regulation specifically, because such a large portion of the regulation's net benefits occur in the years subsequent to implementation, behavioral research suggests that those benefits may be overstated because of individuals' propensity to adapt to changed circumstances. This research suggests that individuals will adapt at least somewhat to disability and that perhaps accordingly HUD has overstated the net benefit of its regulation. Indeed, because the costs are borne in one period alone, less opportunity for adaptation exists on the cost side because of the regulation's one-time negative wealth effect. Although this kind of contextualization would not likely render this regulation no longer socially beneficial under HUD's 3% discount rate, it may present a more ambiguous case under the 7% discount rate.

But there is something deeply unsettling—and even offensive—about this conclusion. The United States should not regulate less because its citizens will adapt to their lead-paint induced diminished intelligence and earning potential. Surely a regulation that ensures cognitive development and prevents future income loss should not be “penalized” because the affected parties will adapt to their reduced capacities. Scholars might more easily feel comfortable permitting a contextualization of the magnitude of income loss due to the EPA regulation, but recognizing that benefits may be overstated in this regulation follows less intuitively—and appropriately so. Such a realization is another cogent justification for employing a variety of metrics when assessing regulatory impacts due to the inherent flaws in the assumptions of any approach. HUD's regulation produced enormous net social benefit because of its profound positive income effects in the years following the rule's implementation. Although it is worth recognizing that people's subjective assessments of themselves might equilibrate to any such changes, a regulatory structure that

¹⁶³ See, e.g., Matthew Adler & Eric A. Posner, *Happiness Research and Cost-Benefit Analysis*, 37 J. LEGAL STUD. S253 (2008); Sunstein, *supra* note 143.

promotes wealth creation—or, in the alternative, abhors wealth destruction—cannot deny that a more productive populace is socially desirable. Happiness metrics by themselves fail catastrophically in this instance.

This quandary relates profoundly to the “capabilities approach,” which was discussed in the works of such scholars as Martha Nussbaum¹⁶⁴ and Amartya Sen,¹⁶⁵ and was refined specifically in this context by Cass Sunstein.¹⁶⁶ Referring to the human rights context, Sen defined capabilities as “the opportunity to achieve valuable combinations of human functionings: what a person is able to do or be.”¹⁶⁷ Sunstein asserted that losses of such capabilities are “real and significant, even if hedonic metrics are unable to capture [them].”¹⁶⁸ These conclusions are supported by ample data that individuals will willingly sacrifice wealth or years of life to avoid outcomes with little or no hedonic effect.¹⁶⁹ The ability to contribute meaningfully to the economy and society at one’s born intelligence level should qualify as a capability under Sen’s and Sunstein’s framework, indicating that HUD’s regulation not only seeks to maximize future income levels but also to prevent capability loss. Assessing HUD’s regulation through this lens affirms HUD’s initial estimate and diminishes the significance of the hedonic adaptation effect.

In terms of the regulation’s costs, much like the EPA rule, the costs associated with the HUD rule likely would not be colored very differently by employing a hedonic approach. Indeed, the analysts relied on existing market data and the labor cost of undertaking the regulation’s required procedures. One can raise similar questions about the salience of the hedonic methodology regarding impacts to firms, though in the case of HUD, the bulk of the costs are more generalized. In other words, the government, and thus indirectly the taxpayers, bear the cost of financing the inspection and removal of lead in the covered homes.

It may be worth considering how the hedonic approach views matters of taxation and deficit spending, though the HUD regulation likely does not impose per capita social costs sufficient to have a significant impact on human behavior. When considering larger programs or more expensive

164 MARTHA C. NUSSBAUM, *WOMEN AND HUMAN DEVELOPMENT: THE CAPABILITIES APPROACH* (2000).

165 See Amartya Sen, *Elements of a Theory of Human Rights*, 32 *PHIL. & PUB. AFF.* 315, 330 (2004).

166 See Sunstein, *supra* note 143, at S175-77.

167 See Sen, *supra* note 165, at 332.

168 See Sunstein, *supra* note 143, at S176.

169 See *id.* at S177. Sunstein cites the persuasive studies of Loewenstein and Ubel, which demonstrate dialysis patients would sacrifice half their remaining years to have healthy kidneys, and that patients would sacrifice 15% of their remaining years to live without a colostomy. See George Loewenstein & Peter A. Ubel, *Hedonic Adaptation and the Role of Decision and Experience Utility in Public Policy*, 92 *J. PUB. ECON.* 1795 (2008).

regulations, however, for which the cost of regulation is diffuse (that is, financed by deficit spending in the current economy and thus borne by the taxpayers over time through debt service), one can argue that citizens may adapt over the years to this negative income effect. People's aggregated ability to adjust may indicate little hedonic harm to significant deficit spending and corresponding taxation or reduction in other government services.

This argument reveals a core challenge to the adaptation camp, in that the theory may be applied to justify massive changes, as having little hedonic effect, so long as they occur slowly over a long period of time. People's ability to habituate, so the argument might go, will render their happiness relatively unaffected by small tax increases over time because people recover quickly from income changes. Moreover, the research that suggests that only *relative* income effects alter happiness and that only society-wide changes have hedonic impacts would counsel in favor of sweeping regulation that affects all citizens evenly.¹⁷⁰ Indeed, taken to its full extreme, assuming a highly progressive system of taxation, massive government spending that takes more income and wealth from the few could have positive income effects due to its creation of a more economically equal society.¹⁷¹

It is difficult to reconcile this syllogistic reasoning with the economic costs of taxation and government spending. Whether one believes that government programs generally are worthwhile or wasteful, the argument that they have little effect at all—even if only in the hedonic sense—seems difficult to square with how individuals experience government programs and with the amount of resources that the market spends in seeking to shape them. This potential conclusion of the hedonic movement is yet another argument for including multiple metrics to ensure a complete account of a regulation's effects. While hedonics may have less relevance or persuasiveness on matters of taxation or corporate impacts, they have undeniable importance for matters affecting how individuals conduct their affairs on a daily basis.

Accordingly, one can imagine how these regulations can become more complete by the inclusion of additional tools. When evaluating regulations like those of the EPA's that affect chronic conditions, regulators should include happiness measures to account for those harms experienced over time and without discrete costs. When regulations affect capabilities such as HUD's, the government should be sure to include a discussion of the capability loss, in addition to its traditional economic analysis. As the next Section will discuss, the government should also include happiness

170 See Easterlin, *supra* note 106.

171 See Alesina et al., *supra* note 104.

measures when evaluating a program that imposes varying time-sensitive costs on differing classes of individuals.

C. *DHS Aircraft and Vessels Pre-Departure Manifest Transmission Regulation*

In 2007, DHS sought to bolster its 2005 regulation, *Electronic Transmission of Passenger and Crew Manifests for Vessels and Aircraft*, which required that planes and ships transmit passenger manifests before arriving in the United States, with additional requirements.¹⁷² The 2007 DHS regulation, *Advance Electronic Transmission of Passenger and Crew Member Manifests for Commercial Aircraft and Vessels*, implements a heightened statutory requirement that passenger manifests be transmitted before the plane or vessel departs from its origin, rather than solely in advance of its arrival.¹⁷³ The final rule outlines three potential conduits through which travel providers may transmit their manifests to DHS: (1) through an interactive system that DHS established in the prior regulation, which accepts one “batch” transmission of all passenger information; (2) through DHS’s interactive system that can accept individual passenger information at the time of check-in; or (3) through a non-interactive system with the added requirement that the data arrive at least thirty minutes prior to the securing of cabin doors.¹⁷⁴

DHS estimates that the costs of this regulation stem primarily from additional time costs imposed on passengers, airlines, and their employees.¹⁷⁵ At a 7% discount rate, their assessment indicates that the program will impose costs in the range of \$612 million to \$1.903 billion.¹⁷⁶ To arrive at these figures, DHS created two parallel cost models, which accounted for the possibility of a low-cost outcome—in which all carriers use the interactive system during passenger check-in—and a high-cost outcome—in which all carriers submit data using their existing systems and do so thirty minutes prior to departure.¹⁷⁷ After estimating the total additional hours that the regulation would require in terms of traveler and airline time, DHS employed existing Federal Aviation Administration

172 See 8 C.F.R. pts. 217, 231, 251 (2005); 19 C.F.R. pts. 4, 122, 178 (2007).

173 See Intelligence Reform and Terrorism Prevention Act of 2004, Pub. L. No. 108-458, 118 Stat. 3638 (codified at 18 U.S.C. § 2339B (2006)).

174 See Advance Electronic Transmission of Passenger and Crew Member Manifests for Commercial Aircraft and Vessels, 72 Fed. Reg. 48,320, 48,320 (Aug. 23, 2007) (codified at 19 C.F.R. pts. 4, 122 (2007)) [hereinafter DHS FR].

175 DEP’T OF HOMELAND SEC., REGULATORY ASSESSMENT: PASSENGER MANIFESTS FOR COMMERCIAL AIRCRAFT ARRIVING IN AND DEPARTING FROM THE UNITED STATES 4 (2006) [hereinafter DHS RIA].

176 *Id.* at 16.

177 *Id.* at 8-9, 12, 26.

(FAA) assessments¹⁷⁸ to arrive at a cost of \$28.60 for each additional hour of traveler time imposed¹⁷⁹ and a cost of \$18.29 for each additional hour of airline employee work created.¹⁸⁰

DHS recognizes the difficulty of quantifying the benefits of a regulation, the primary benefits of which are “to enhance security and prevent dangerous individuals with nefarious intentions from successfully carrying out attacks against the United States.”¹⁸¹ Despite this challenge, DHS presents monetized estimates of many of the costs avoided by the rule: conducting interviews with identified individuals, deporting individuals, delaying aircrafts, and rerouting aircrafts.¹⁸² Each of these benefits remains the same under DHS’s low- or high-cost model and results in quantified benefits with a present value of \$103 million under a 7% discount rate.¹⁸³ DHS asserts, however, that the bulk of the benefits stems from avoided attacks and notes the difficulty in assessing (1) the reduced probability of an attack; and (2) individuals’ willingness-to pay for that risk reduction.¹⁸⁴ Because of this difficulty, DHS conducted a break-even analysis, whereby the costs of the regulation become warranted for a given percentage of risk reduction, under six possible scenarios. These included three terrorist outcomes—(1) loss of life only; (2) loss of life and aircraft; and (3) catastrophic loss of life and property—each modeled with the value of a statistical life (VSL) set at \$3 million and \$6 million. Necessary risk reduction for a break-even outcome ranged from 0.2% for the catastrophic scenario with a VSL of \$6 million to 44.2% for the loss of life scenario with a VSL of \$3 million.¹⁸⁵

This regulation demonstrates how tremendously sensitive government benefit-cost assessments can be to their assumptions. It may be fair to suggest that the DHS regulations risk reduction falls between the 0.2% and 44.2% bounds that the analysis establishes, but what is the use of such a large range? A 0.2% increase in safety appears marginal, whereas asserting that the improvements of the 2007 rule over the 2005 rule would have a 44.2% risk reduction does not appear credible. Accordingly, if an OIRA desk officer felt that a 30% risk reduction would be reasonable for the CEA, is it fair for the DHS analyst to respond that the OIRA official should view the analysis under a \$6 million VSL framework (with only a

178 See FED. AVIATION ADMIN., ECONOMIC VALUES FOR FAA INVESTMENT AND REGULATORY DECISIONS: A GUIDE (2004), available at http://www.faa.gov/regulations_policies/policy_guidance/benefit_cost/media/050404%20Critical%20Values%20Dec%2031%20Report%2007Jan05.pdf.

179 See DHS RIA, *supra* note 175, at 9.

180 See *id.* at 10.

181 See *id.* at 17.

182 See *id.* at 19-22.

183 *Id.* at 22.

184 See DHS FR, *supra* note 174, at 48,339.

185 See *id.*

22.1% risk reduction needed under scenario (1)) rather than the \$3 million VSL estimate that produced a needed 44.2% risk reduction?¹⁸⁶

This difficulty exposes the challenge in having variable VSL levels across different offices of the government. Building upon work begun by Justice Stephen Breyer, Cass Sunstein has helpfully outlined the ranging VSL levels employed by all government agencies, which range from \$1.5 million for the Department of Transportation to \$6.1 million for the EPA.¹⁸⁷ Hedonic metrics do not solve this challenge—one might imagine OIRA solving this problem by announcing a unified standard—though they help to provide a more standardized tool for assessing how regulations impact daily life. Hedonic data might be created to demonstrate how consumers truly experience delayed wait times in airports or the feeling of being more secure while traveling.

Despite the VSL concern, the \$28.60 figure for the hourly cost of delay may be this regulation's key flaw, in that it is a product of a 2003 FAA analysis, which is no longer publicly available. Many government agencies since 2003 have continued to employ this figure to account for costs of delay,¹⁸⁸ though the original figure's origins remain unclear. This cost likely stems from the average hourly wage of a typical international traveler and thus falls squarely into Kahneman's critique of measures that do not account for the duration or intensity of dissatisfaction.¹⁸⁹ According to the DHS analysis, the first hour of delay imposes as much cost as the seventh hour of delay. Kahneman's work suggests that the more one is delayed, the more hedonic harm one experiences as a result during each successive hour.¹⁹⁰

This hedonic reality would require a restructuring of the DHS analysis. A more complete account would disaggregate the total hours delayed into separate "hours-delayed" categories. The "first hour" would have the highest quantity but impose the lowest cost. Each subsequent hour would impose an increasing amount of harm but would comprise a decreasing portion of the total hours delayed. To be precise, the DHS analysis currently accounts for 1,420,448 hours of delay imposed in the regulation's first year, but a more productive account would include how many of those hours were an individual's "first hour" delayed and how many represented subsequent hours. Analogizing from Kahneman's work, those subsequent hours would likely impose greater hedonic costs along

186 See *id.*

187 See SUNSTEIN, *supra* note 51, at 78-79.

188 See, e.g., DEP'T OF HOMELAND SEC., REGULATORY ASSESSMENT: THE WESTERN HEMISPHERE TRAVEL INITIATIVE IMPLEMENTED IN THE AIR AND SEA ENVIRONMENTS 2-23 (2006); DEP'T OF HOMELAND SEC., REGULATORY EVALUATION: FINAL RULEMAKING 6 CFR PART 37 (2008).

189 See Kahneman & Krueger, *supra* note 112.

190 Under Kahneman's framework, one could envision the cumulative hedonic harm as the integral of an increasing function.

his “U-index” and could render the regulation increasingly costly. The creation of the data to bring this new approach to life could involve a DRM-like approach, through which individual travelers are asked to assess their affect at differing times during a delayed trip. Aggregating that data and applying it to the new composite of “hours-delayed” would render a more complete picture of the regulation’s effects on individuals.

Accounting more completely for those costs, however, does not remedy the shortcomings of the benefit-side of this regulatory assessment. Whenever an agency constructs its analysis in the form of a CEA or break-even analysis, they effectively delegate authority to OIRA to make a quasi-legal determination of whether their break-even level satisfies the statutory requirements in a sufficiently efficient manner. John Graham, a former OIRA Administrator, has defined this as the BCA “soft test,” in which OIRA must assess whether a proposal’s benefits “justify” its costs, rather than determining that the benefits necessarily *exceed* the costs (the “hard test”).¹⁹¹ The key task then for regulators is to provide OIRA with as representative a picture of the regulations’ impacts as possible. Although it is responsible to recognize that all benefits are not easily monetized, agencies should strive to include a holistic account of how the regulation benefits or imposes costs on society, rather than solely relying on traditional neoclassical analysis which only captures easily monetized effects along one dimension: dollars.

Specifically regarding the DHS regulation, the government might consider tracking travelers’ reported happiness in periods of varying restrictions on travel. For an individual who travels frequently by air, there may be significant changes in reported subjective well-being given the awareness of varying levels of air security. Of course, this data would have been most usefully collected before 9/11 and shortly after 9/11 for useful baselines and then reassessed with each marginal regulation. Without that historical data, the DHS might poll frequent international travelers for their reported assessments of hedonic well-being when traveling into and out of countries with more lax travel restrictions. If the regulation were implemented in stages or through a trial program, gathering data from those exercises could provide actionable data for assessing the final rule nationwide.

Accordingly, providing such additional hedonic information would equip OIRA with a more complete account of the DHS regulation’s impacts (positive and negative), which would be at least helpful for OIRA to make the determination of whether the unquantified benefits warrant regulation. In particular, for analyses involving break-even arguments, the provision of a parallel set of materials that describes how the benefits might affect individuals’ happiness could also provide more useful indicia

191 Graham, *supra* note 45, at 431-34.

of how people's affect might influence their travel propensities. This analysis might reveal that individuals have a net positive hedonic appreciation for their added safety, even when accounting for the negative hedonic effects of added airport delays and potentially missed flights.

On this front, market data can reliably demonstrate some elements of passenger behavior—whether more tickets were purchased after the regulation when controlling for other variables and the productive value lost from delays. As with other instances of evaluating market behavior, however, this one-dimensional metric does not demonstrate intensity of harm and fails to account for the increasing costs borne by those who experience the harm over time. In addition, by being overly sensitive to significant assumptions, the DHS account, like the EPA's mobile sources regulatory assessment, provides little in the form of a bottom-line assessment for OIRA to evaluate.

* * *

The composite of these three regulations demonstrates that the current neoclassical approach to regulatory assessment not only fails to provide the exhaustive account of a rule's impact but also evinces that the hedonic approach may offer a parallel track for regulators to provide compelling arguments for or against regulation. At present, agencies operate under no requirement to engage in this form of analysis, and there has yet to emerge a political call for such additional analysis. Moreover, as this Note addresses in the next Part, courts have not imposed any requirements relating to these metrics when assessing the thoroughness of an agency's rulemaking procedures. Nevertheless, as these metrics become increasingly common, their absence in a regulatory analysis may render a regulation suspect to challenge on the basis of being arbitrary and capricious, which is the focus of Part IV.

IV. The Agency Rulemaking Process and Judicial Review

The Administrative Procedure Act (APA) governs the procedures through which agencies promulgate rules and through which courts may review those decisions.¹⁹² Section IV.A discusses the existing conditions under which agencies create rules. Section IV.B considers the standards under which courts review challenges to agency rulemakings and specifically examines the APA's arbitrary and capricious standard. Section IV.C considers how the existence of new hedonic metrics may inform and complicate review of agency rulemakings.

192 See 5 U.S.C. §§ 551-59, 701-06 (2006).

A. *Contemporary Rulemaking Procedures*

According to APA section 553, agencies must execute three steps prior to issuing a new rule: (1) issuance of a notification of proposed rulemaking (NPRM); (2) solicitation and consideration of public comments; and (3) issuance of a final rule that addresses the public comments and clarifies the rule's purpose.¹⁹³ At the NPRM stage, agencies publish in the *Federal Register* what they understand to be the problem that they hope to address and, typically, a menu of potential policy options (that is, potential rules) that would address the problem. The APA then requires a waiting period, during which the public—most commonly, the regulated industry and other interested parties—may submit public comments to inform the agency decision making process. The agency must then review the comments and demonstrate that it has considered the public feedback before issuing a final rule. Agencies also publish their final rules in the *Federal Register* in advance of codification in the *Code of Federal Regulations*.

In addition to the procedural requirements of the APA, OMB also requires that agencies participate in OIRA review before a proposed rule becomes a final rule.¹⁹⁴ At that stage, the agency will have received all public comments and ideally will have modified its rule to the extent that the comments warrant change. Once the rule is in its near-final form, OMB will review it and the agency's accompanying benefit-cost analysis to ensure that not only has the agency responded adequately to the public comments but also that the rule does not unnecessarily impose costs on the public.¹⁹⁵ If OIRA certifies the rule, the agency may proceed to issue a final rule.

Scholars have examined the rulemaking process at length—particularly the degree to which public comments actually influence the transformation from the NPRM stage to the final rule.¹⁹⁶ Although that debate is beyond the scope of this Note, it is needless to say there remains an open question as to whether varying levels of public participation result in rules that improve social welfare or result in rules that are increasingly a product of agency capture. Regardless of the merits of the existing process, courts—when a rule is challenged—become interested in two critical components of the rulemaking history: (1) that the agency followed the *process* outlined by the APA; and (2) that the final rule falls within the permissible realm of intended regulatory effect that Congress envisioned when passing the authorizing statute. Although both these topics are

193 *Id.* § 553.

194 *See* Exec. Order No. 12,866, 3 C.F.R. 644 (1993).

195 *See supra* Part I.

196 *See, e.g.,* Graham, *supra* note 45, at 510.

considered at greater length in the next Section, so long as some statutory provision can be interpreted to grant rulemaking power and there is no compelling evidence to the contrary, courts are likely to recognize agency power to make policy through binding rules.¹⁹⁷

B. *Review of Agency Rulemaking*

Interested parties may “petition [an agency] for the issuance, amendment, or repeal of [any] rule.”¹⁹⁸ Any petition denied by an agency must be accompanied by “a brief statement of the grounds for denial.”¹⁹⁹ Rather than contacting agencies for an explanation, parties may also challenge agency actions directly in court, as the APA provides a cause of action for individuals challenging a federal agency action.²⁰⁰ The APA compels courts sitting in review of the challenged action to “hold unlawful and set aside” actions that are “arbitrary, capricious, [or] an abuse of discretion.”²⁰¹ In cases of challenged agency action, despite the deferential treatment that courts give administrative bodies when adjudicating claims, there exists a strong presumption of judicial review of any agency action at the outset.²⁰²

Since the enactment of the APA, the Supreme Court has held that review under the arbitrary and capricious standard is “deferential.”²⁰³ In *Motor Vehicle Manufacturers Association v. State Farm*, the Court refused to invalidate an agency action unless the record demonstrates that the agency “has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency,” or is so unreasonable that the outcome could not be a result of the agency’s comparative expertise.²⁰⁴ Courts will even leave agency action intact if it is “of less than ideal clarity [so long as] the agency’s path may reasonably be discerned.”²⁰⁵

The above standards apply to informal or “notice-and-comment” rulemaking—the overwhelmingly predominant form of rulemaking—but the standards differ slightly if the agency has engaged in formal rulemaking under APA sections 556 and 557. If the agency rule results from formal rulemaking or an agency hearing process, it must not only

197 See *Nat’l Petroleum Refiners Ass’n v. FTC*, 482 F.2d 672 (D.C. Cir. 1973).

198 5 U.S.C. § 553(e) (2006).

199 *Id.* § 555(e).

200 *Id.* § 706.

201 *Id.* § 706(2).

202 See *Abbott Labs. v. Gardner*, 387 U.S. 136 (1967).

203 *Nat’l Ass’n of Home Builders v. Defenders of Wildlife*, 551 U.S. 644, 658 (2007).

204 463 U.S. 29, 43 (1983).

205 *Bowman Transp., Inc. v. Arkansas-Best Freight Sys., Inc.*, 419 U.S. 281, 286 (1974).

satisfy the arbitrary and capricious standard but also be supported by “substantial evidence.”²⁰⁶ Additionally, many organic statutes contain provisions asserting that agency findings of fact shall be “conclusive” only if they are “supported by substantial evidence.”²⁰⁷ Courts, therefore, have developed a body of law governing the review of agency determinations of fact under the substantial evidence standard.

Since passage of the APA, courts have required that substantial evidence be “more than a mere scintilla. It means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.”²⁰⁸ In *Universal Camera Corp. v. NLRB*, for instance, the Court described “substantial evidence” as being similar to the review that appellate courts afford jury determinations of fact.²⁰⁹ Additionally, courts will only reverse the agency action “when the record is so compelling that no reasonable fact-finder could fail to find to the contrary.”²¹⁰ To say the least, this review is not a “rubber-stamp[],” as Justice Breyer, writing for the Court in *Dickinson v. Zurko*, noted.²¹¹ Though the APA does not require the same trial-like record creation for informal rulemaking as for formal rulemaking,²¹² agencies still must produce evidence such that courts can evaluate the adequacy of their decisionmaking procedures. Martin Shapiro, for instance, has characterized these requirements of the APA as a “giving reasons” requirement, insofar as the agency must give reasons for its action to facilitate the APA’s judicial review process.²¹³ Despite no explicit statutory requirement of “reason-giving,” the agencies still must furnish evidence to avoid having their determinations overruled as arbitrary and capricious.²¹⁴ As decisions relating to benefit-cost assessments would be considered determinations of fact, courts could review many of this Note’s relevant claims under their substantial evidence standard.

Although a litigant may challenge almost any agency action in court, the scope of review under the APA is “narrow,”²¹⁵ which permits agencies “wide latitude” in electing their course of action.²¹⁶ A court is to take the record as presented and is not “to substitute its own judgment for that of

206 5 U.S.C. § 706(2)(E) (2006).

207 See, e.g., 16 U.S.C. § 825(b) (2006) (Federal Energy Regulatory Commission); 49 U.S.C. § 46,110(c) (2006) (FAA).

208 *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938).

209 340 U.S. 474, 477 (1951).

210 *Highlands Hosp. Corp. v. NLRB*, 508 F.3d 28, 31 (D.C. Cir. 2007) (quoting *Palace Sports & Entm’t, Inc. v. NLRB*, 411 F.3d 212, 220 (D.C. Cir. 2005)).

211 527 U.S. 150, 162 (1999) (internal quotation marks omitted).

212 See 5 U.S.C. § 706(2)(E) (2006).

213 See Martin Shapiro, *The Giving Reasons Requirement*, 1992 U. CHI. LEGAL F. 179, 184-85.

214 See Kevin M. Stack, *The Constitutional Foundations of Chenery*, 116 YALE L.J. 952, 972-73 (2007).

215 *Motor Vehicles Mfrs. Ass’n v. State Farm Mut. Auto. Ins.*, 463 U.S. 29, 43 (1983).

216 *U.S. Postal Serv. v. Gregory*, 534 U.S. 1, 7 (2001).

the [agency].”²¹⁷ To that end, courts generally uphold agency actions if the agency “engaged in reasoned decisionmaking, and the decision is adequately explained and supported by the record.”²¹⁸ Evaluations of a rule’s costs and benefits comprise an essential component of the record that courts review when assessing a rule’s validity and thus are central to both the arbitrary and capricious analysis and the “substantial evidence” inquiry.

Courts therefore review two aspects of rulemakings: (1) the procedures through which the agency created the rule; and (2) the substance of the rule promulgated. First, when reviewing the procedures that undergird the development of a rule, litigants may raise challenges under the protections guaranteed by the Due Process Clause. The Supreme Court, however, famously held in *Bi-Metallic Investment Co. v. State Board of Equalization* that few procedural protections were required for rulemakings because the political process should safeguard the public from abuse.²¹⁹ Courts have, accordingly, consistently afforded minimal due process protections to parties affected by rulemakings,²²⁰ and courts have consistently refused to require any additional procedural requirements than those mandated by the APA.²²¹

Second, after a determination that a rule is not arbitrary and capricious, courts review whether the rule is substantively consistent with the authorizing statute. With an organic statute that provides broad latitude for agency rulemaking discretion, the review of the substance of final agency rulemakings under the arbitrary and capricious standard “overlaps analytically”²²² with the review that accompanies analysis under *Chevron v. Natural Resources Defense Council*.²²³ Though this Note will focus primarily on arbitrary and capricious analysis, it is worth noting that there are conceivable scenarios in which an agency action might be judged as surpassing the bar set by arbitrary and capricious analysis yet fail upon substantive review under *Chevron*’s reasonableness test.

C. Hedonic Metrics in Arbitrary and Capricious Analysis

Because the consideration of hedonic metrics is currently absent in most regulatory analysis, this Note focuses on the second prong of the

217 *Id.*

218 *Consol. Rail Corp. v. Interstate Commerce Comm’n*, 29 F.3d 706, 710 (D.C. Cir. 1994).

219 239 U.S. 441 (1915).

220 *See, e.g.,* *Curlott v. Campbell*, 598 F.2d 1175, 1179 (9th Cir. 1979).

221 *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council*, 435 U.S. 519 (1978); *see* *Pension Benefit Guar. Corp. v. LTV Corp.*, 496 U.S. 633 (1990).

222 *S. Coast Air Quality Mgmt. Dist. v. EPA*, 554 F.3d 1076, 1080 (D.C. Cir. 2009); *see also* *Shays v. Fed. Election Comm’n*, 414 F.3d 76, 96-97 (D.C. Cir. 2005) (collecting cases for this proposition).

223 467 U.S. 837 (1984).

State Farm arbitrary and capricious test in depth: whether an agency has properly considered an essential element or consequence of its action. As the D.C. Circuit has often noted in expounding upon this *State Farm* standard, if an agency does not sufficiently consider a “relevant and significant aspect” of a problem during the rulemaking process, that absence may render its decision arbitrary and capricious.²²⁴ A central inquiry of this Note is whether hedonic impacts of federal regulations are “relevant and significant” aspects of a proposed regulation. If that proves true, courts could determine that by not evaluating hedonic effects, the agency “entirely failed to consider an important aspect of the problem.”²²⁵

Courts have been willing to hold agency action arbitrary and capricious due to flaws in benefit-cost analyses. In 2008, for example, the Ninth Circuit held that the National Highway Traffic Safety Administration’s failure to monetize benefits rendered its regulation arbitrary and capricious.²²⁶ The agency could not, according to the court, “put a thumb on the scale” by manipulating the manner in which it presented the rule’s benefits and costs.²²⁷ The Court of Federal Claims similarly found a benefit-cost analysis relating to a bid protest to be “flawed” because it did not consider secondary costs to the agency’s procurement system.²²⁸ Courts could, therefore, construe the inclusion of only traditional neoclassical data in contemporary benefit-cost analyses as a “thumb on the scale” in favor of their desired outcomes if a litigant argues compellingly that the presentation of hedonic data might tilt the scales in the opposite direction. Courts do not appreciate data manipulation toward the agency’s desired outcome, and arbitrary and capricious challenges may be viable if hedonic metrics would result in an outcome opposed to the agency’s desired rule.

Courts will additionally fault agencies for not including explanations for important steps of their regulatory analyses. After reviewing an agency’s regulatory impact analysis, the D.C. Circuit concluded that the “complete lack of explanation for an important step in the agency’s

224 See *Am. Farm Bureau Fed’n v. EPA*, 559 F.3d 512 (D.C. Cir. 2009); *Chamber of Commerce v. SEC*, 412 F.3d 133, 140 (D.C. Cir. 2005); see also Kathryn A. Watts, *Proposing a Place for Politics in Arbitrary and Capricious Review*, 119 *YALE L.J.* 2, 7 (2009) (describing the D.C. Circuit’s review as ensuring that the decisionmaking is “technocratic” and “expert-driven”).

225 *Motor Vehicles Mfrs. Ass’n v. State Farm Mut. Auto. Ins.*, 463 U.S. 29, 43 (1983).

226 *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1198-1203 (9th Cir. 2008).

227 *Id.* at 1198.

228 *E-Management Consultants, Inc. v. United States*, 84 Fed. Cl. 1 (Fed. Cl. 2008); see also *Serco Inc. v. United States*, 81 Fed. Cl. 463, 496 (Fed. Cl. 2008) (“[A] court must accord considerable deference to an agency’s best-value decision in trading off price with other factors.”); *Superior Helicopter LLC v. United States*, 78 Fed. Cl. 181, 193 (Fed. Cl. 2007) (holding that because a “decision did not rely on the quantitative costs . . . the fact that the [agency’s] findings lacked quantitative calculations of costs is not itself problematic”).

analysis was arbitrary and capricious.”²²⁹ Moreover, a separate D.C. Circuit case found that though an agency asserting its rule would reduce a kind of risk, “the [agency] cite[d] no *evidence* that the final rule would achieve that goal.”²³⁰ Consequently, the rule was held arbitrary and capricious.²³¹ If courts review agency RIAs for explanations of their benefit-cost calculus and the evidence relied upon, agencies may become similarly vulnerable for leaving unaccounted an entire class of impacts and potentially available evidence. Although an agency may be able to dispense with this requirement with a cogent explanation of why it did not include hedonic costs and benefits, that determination will be similarly reviewable, and litigants will have an opportunity to argue that evidence of hedonic impacts was available.

Importantly, courts have also been willing to find rules arbitrary and capricious, even if the agency asserts that data that would be necessary to conduct a more thorough benefit-cost analysis is unavailable or unobtainable. In *Public Citizen v. Federal Motor Carrier Safety Administration*, the D.C. Circuit held a Federal Motor Carrier Safety Administration rule to be arbitrary and capricious because it did not adequately consider the costs of the regulation on a subset of drivers, even though the agency asserted that it “did not have sufficient data on the magnitude of such effects.”²³² This holding suggests that courts may be willing to force agencies to find new data that the courts find compelling. In other words, if courts begin to require hedonic data, agencies may be precluded from claiming that they do not have the capability to obtain that information or that reliable benchmarks are unavailable. Although beginning the process of collecting and evaluating this data may be costly, a strong signal from the courts would likely compel agencies to ensure that their subsequent RIAs contain this kind of analysis.

Courts, however, remain deferential to agencies, particularly when evaluating their benefit-cost assessments. Indeed, the D.C. Circuit has noted repeatedly that “cost-benefit analyses epitomize the types of decisions that are most appropriately entrusted to the expertise of an agency.”²³³ For instance, after considering the components of an FAA

229 *Owner-Operator Indep. Drivers Ass’n v. Fed. Motor Carrier Safety Admin.*, 494 F.3d 188, 204 (D.C. Cir. 2007); *see also* *U.S. Air Tour Ass’n v. FAA*, 298 F.3d 997, 1008 (D.C. Cir. 2002) (“When an agency uses a computer model, it must ‘explain the assumptions and methodology used in preparing the model.’” (quoting *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 535 (D.C. Cir. 1983))).

230 *Advocates for Highway and Auto Safety v. Fed. Motor Carrier Safety Admin.*, 429 F.3d 1136, 1146 (D.C. Cir. 2005) (emphasis added).

231 *Id.*

232 374 F.3d 1209, 1218 (D.C. Cir. 2004).

233 *Charter Commc’ns, Inc. v. FCC*, 460 F.3d 31, 43 (D.C. Cir. 2006) (internal quotation marks omitted); *see also* *Idaho Rivers United v. Fed. Energy Regulatory Comm’n*, 189 Fed. App’x 629, 637 (9th Cir. 2006) (“Under the arbitrary and capricious standard, when a dispute implicates

benefit-cost assessment, which found a benefit-to-cost ratio of 6.2:1, the D.C. Circuit in 2008 held that an FAA plan to permit cities to impose “Passenger Facility Charges” on travelers was not arbitrary and capricious.²³⁴ The Eleventh Circuit has also refused to hear claims relating to flawed benefit-cost analyses if the parties did not file public comments relating to the proposed analysis during the open comment period.²³⁵ In instances in which a statute mandates an outcome that does not result in the highest net social benefit, the D.C. Circuit has found omissions in benefit-cost methodology to be harmless error.²³⁶

These cases show that, despite instances in which courts have been willing to delve into agency RIAs, the overall evaluative heuristic remains highly deferential, particularly given the fact-bound circumstances that drive benefit-cost assessments. Unsurprisingly, no recorded cases could be found in which litigants challenged agency action under the arbitrary and capricious standard for the agency’s failure to account for hedonic costs, and there appear to be no indications from the judiciary that such challenges would be well-received. Regardless, three conclusions may still follow: (1) agencies can only improve their chances of not being reversed by including considerations of the hedonic impacts of their regulations; (2) it is conceivable that with hedonic metrics gaining increased salience in the legal community, a judge could consider hedonic harms “an important aspect of the problem” under *State Farm*;²³⁷ and (3) courts should include improving happiness as an important regulatory goal that agencies should consider when conducting regulatory analysis.

On the first point, if agencies are regulating to advance social welfare, they only stand to gain by including a more complete account of their proposed regulation’s effects in their RIAs. Although the possibility exists that the consideration of hedonic metrics could run contrary to regulatory objectives, the inclusion of that information might lead the agency to alter their final regulation, which could result in a more socially beneficial outcome. Additionally, if an agency’s objective is to avoid judicial reversal, the agency may prefer to regulate with a smaller scope—that can demonstrate positive or less negative hedonic effects than their ideal regulation—but with a higher certainty of regulatory finality. Thus, the desire to avoid the cost of undertaking the rulemaking process a second time may compel agencies to include these metrics.

substantial agency expertise and involves primary issues of fact, courts must defer to the informed discretion of the responsible federal agencies.”) (internal quotation marks omitted).

234 *St. John’s United Church of Christ v. FAA*, 550 F.3d 1168 (D.C. Cir. 2008).

235 *Miami-Dade County v. EPA*, 529 F.3d 1049, 1058 n.8 (11th Cir. 2008).

236 *City of Portland v. EPA*, 507 F.3d 706, 716 (D.C. Cir. 2007). The Second Circuit held similarly in *Riverkeeper, Inc. v. EPA* that benefit-cost considerations do not trump congressional mandates. 475 F.3d 83 (2d Cir. 2007).

237 *Motor Vehicles Mfrs. Ass’n v. State Farm Mut. Auto. Ins.*, 463 U.S. 29, 43 (1983).

The second conclusion involves the inherently subjective judicial determination of what is an “important” element of the regulated harm. At present, no evidence exists to suggest that courts are inclined to include improvement of happiness as an important regulatory goal, but the growing tide of happiness scholarship may indicate an increased awareness that individuals experience the effects of regulation and social harms in ways that traditional neoclassical analysis cannot capture. As this evidence becomes increasingly developed, courts may become more aware of these tools and more likely to credit litigants’ claims that agencies acted in an arbitrary and capricious manner by not assessing them. Only the passage of time, increased scholarship on this subject, and heightened prominence in the legal community, however, will persuade courts to consider social happiness as a “relevant and significant aspect” of a regulated problem.²³⁸

Finally, even though courts may not be considering these metrics currently as a descriptive matter, from a normative perspective, courts should hold agencies accountable for considering these measures in their analyses. The behavioral research indicates unambiguously that the assumptions that undergird neoclassical economics are at least incomplete and potentially highly flawed. That federal agencies rely exclusively on those assumptions in quantifying how their proposed regulations will impact society renders their analysis incomplete. Although arbitrary and capricious is a standard designed to facilitate agency discretion, agencies still have the responsibility to justify the costs their actions may impose. Because courts have been willing to reverse agency action when they have not fully justified all costs, they should similarly consider reversing agency action that imposes hedonic costs that the agency does not assess.

Critics of this proposal should raise institutional competency concerns, specifically noting that agencies are better suited than judges to determine the manner in which they should structure their regulatory assessments.²³⁹ Although agencies undeniably have greater expertise in constructing BCAs, they similarly have greater skills in crafting analyses that may avoid accounting for critical regulatory costs. Litigants, therefore, bear the initial burden of challenging these analyses and making the compelling case to courts that *existing* standards of administrative law can facilitate the reversal of incomplete analyses. Judges do not exceed their institutional competence when applying established legal principles to evaluating whether agencies have acted in a manner consistent with their statutory obligations. Under the APA, judges routinely assess whether agencies have manipulated computer models or statistical analyses that may have been initially thought to be beyond judges’ institutional

238 Am. Farm Bureau Fed’n v. EPA, 559 F.3d 512 (D.C. Cir. 2009).

239 See Charter Commc’ns, Inc. v. FCC, 460 F.3d 31, 44 (D.C. Cir. 2006).

Happiness Metrics in Federal Rulemaking

competence.²⁴⁰ Diligent litigants raised these claims in a manner that compelled judges to realize that the agency action, in light of their flawed models, was arbitrary and capricious. This too can be the case with hedonic metrics.

* * *

The economics scholarship has reached near consensus on the point that the neoclassical account of pure rationality and self-interest does not perfectly represent actual human behavior. If the government wishes to regulate to improve human welfare, its regulatory assessments should be informed by the behavioral scholarship that observes and draws conclusions from actual human behavior. Judges thus should not hesitate to require agencies to provide analyses that measure elements of human happiness. Only by providing hedonic metrics in combination with existing regulatory tools can regulators account for the entirety of a rule's impacts and thus not act in a manner contrary to the APA's arbitrary and capricious requirement. Although there does not appear to be any judicial movement on this front at present, change may come in proportion to the speed with which this scholarship becomes more mainstream.²⁴¹ As litigants become increasingly aware of the multifarious hedonic impacts of regulation, judges should become increasingly willing to credit their claims that an agency acted arbitrarily in not considering happiness as "an important aspect of the problem."²⁴²

Conclusion

This Note has intended to demonstrate a series of five tiered claims. First, and most basically, the existing BCA regime, which is guided by OIRA's reliance on neoclassical economics, insufficiently captures the effects of regulation. Volumes of research by behavioral economists have demonstrated that neoclassical assumptions result in inaccurate conclusions, and those conclusions should not guide federal regulatory policy. Second, additional metrics exist—measures of subjective well-being and moment-to-moment affect—that have the potential, in conjunction with existing tools, to provide a more complete assessment of how regulations affect individuals.

Third, irrespective of how courts may perceive their actions, regulators should begin to incorporate these new tools in their forthcoming regulatory assessments because it will result in better public

240 See *U.S. Air Tour Ass'n v. FAA*, 298 F.3d 997, 1008 (D.C. Cir. 2002).

241 For the most recent "mainstream" effort on this front, see RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* (2008).

242 *State Farm*, 463 U.S. at 43.

policy. Considering a more holistic account of outcomes will result in superior regulations, despite the possibility that their inclusion will result in analyses with conclusions different from regulator objectives. Fourth, though courts currently have shown no indication that they would be willing to find a regulation to be arbitrary and capricious for the agency's failure to include hedonic metrics, they may do so in the future. The determination of what is an "important aspect" of the regulated problem is an inherently subjective evaluation, which should evolve with the increased salience of this field. As litigants become more capable with these arguments, courts may become increasingly likely to credit those arguments. This descriptive account of how courts may evolve alters the incentives for agencies. If an agency wants to avoid reversal for arbitrary and capricious action, they should include these metrics as, at the very least, a precautionary measure.

Finally, this Note has argued that courts need not wait for a more complete consensus on the value of hedonic metrics in BCA to begin holding agencies responsible for their use. Under prevailing jurisprudential standards, courts can find that failure to employ hedonic metrics renders a regulation arbitrary and capricious. Courts have been willing to delve into agencies' BCA methodologies and to require them to obtain data previously considered unavailable. These standards analogously suggest that the existing administrative law framework permits judges to find agency rulemakings invalid under the APA for not assessing hedonic costs and benefits. This step will provide the optimal incentive for agencies to craft the best policies and render courts' approaches to these cases consonant with their treatment of other BCA-related claims.