

**EMOTIONAL IMPACT ANALYSIS IN FINANCIAL REGULATION: GOING BEYOND  
COST-BENEFIT ANALYSIS\***

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**Abstract:** This Article advocates that financial regulators analyze, measure, and take into account the emotional impacts of their policies and procedures. Examples of emotional impacts are investor confidence, process concerns, and overall market or social mood. Investor confidence or trust in securities markets, process concerns about how much securities regulators actually deliberate over proposed rules, and financial anxiety or investment stress affect and are affected by financial economic variables, such as consumer debt, consumer expenditures, consumer wealth, corporate investment, initial public offerings, and securities market demand, liquidity, prices, supply, and volume. Cost-benefit analysis does not quantitatively consider interdependencies between regulations' emotional impacts and their financial outcomes. Emotional impact analysis does. This Article addresses general conceptual and measurement issues about emotional impact analysis. Because financial regulations affect investors' confidence, process concerns, and social moods, this Article analyzes how financial regulators can quantitatively analyze emotional impacts of their regulations.

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## **Introduction**

Several recent controversies about securities regulations implicate two sets of far-reaching and fundamental positive and normative questions, namely 1) what is and should be the way to evaluate financial and securities regulatory policies,<sup>1</sup> and 2) what is and should be the appropriate role and scope of Cost-Benefit Analysis (CBA) in promulgating financial and securities regulations. CBA has been defined as “a set of procedures for defining and comparing benefits and costs. In this sense it is a way of organizing and analyzing data as an aid to thinking.”<sup>2</sup> A 1972 Nobel Laureate in economics<sup>3</sup> Kenneth J. Arrow stated that “some sense of rational balancing of ends and means must be understood to play a major role in our understanding of ourselves and our social role.”<sup>4</sup> Most economists advocate regulators engage in CBA involving quantitatively estimating monetary costs and benefits.<sup>5</sup> A creative recent application of CBA to corporate governance reform examines costs and benefits to increasing diversity of corporate boards of directors.<sup>6</sup>

The nontrivial question of whether Securities and Exchange Commission (SEC) should routinely engage in more formal CBA is already the subject of another paper.<sup>7</sup> Thus, this Article brackets that question and makes a working hypothesis that such U.S. financial regulators as the SEC can and should benefit from utilizing (or in fact inevitably will utilize, at least implicitly) some form of CBA.<sup>8</sup> This is a reasonable hypothesis because there are several economic, legal, philosophical, and pragmatic arguments

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<sup>1</sup> See generally, BENJAMIN M. FRIEDMAN, *THE MORAL CONSEQUENCES OF ECONOMIC GROWTH* (2005).

<sup>2</sup> RICHARD O. ZERBE, JR. & DWIGHT D. DIVELY, *COST-BENEFIT ANALYSIS IN THEORY AND PRACTICE* 2 (1994).

<sup>3</sup> <http://nobelprize.org/economics/laureates/1972/index.html>.

<sup>4</sup> KENNETH J. ARROW, *THE LIMITS TO ORGANIZATION* 15 (1974).

<sup>5</sup> See e.g. Luigi Zingales, *The Costs and Benefits of Financial Market Regulation*, European Corporate Governance Institute Working Paper Series in Law No. 21/2004, (Apr. 2004), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=536682](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=536682).

<sup>6</sup> Lisa M. Fairfax, *The Bottom Line on Board Diversity: A Cost-Benefit Analysis of the Business Rationales for Diversity on Corporate Boards*, 2005 WIS. L. REV. 795, 837-51.

<sup>7</sup> Edward Sherwin, *Cost-Benefit Analysis of Financial Regulation: Why Dollars Don't Always Make Sense in SEC Rulemaking* 76-83 (Apr. 27, 2005), available at <http://www.law.harvard.edu/faculty/hjackson/projects.php>.

<sup>8</sup> *Id.*, at 14-20. The Securities Regulation Section of the American Association of Law Schools annual meeting chose as its focus: “Cost-Benefit Analysis in Financial Regulation” (January 4, 2006). Background materials available at <http://www.law.harvard.edu/faculty/hjackson/projects.php>.

in favor of informing policy by some type of CBA.<sup>9</sup> But, this is a hypothesis, which could be false either because CBA is too costly or difficult to consistently and successfully implement. In other words, CBA itself might fail a CBA test because its costs may exceed its benefits. Whether CBA would pass a CBA is an open empirical question.<sup>10</sup>

Independent of whether financial regulators can, do, should, or will engage in CBA, this Article advocates that financial regulators look beyond CBA to consider emotional impacts of regulations, an effort that would entail measuring investors' confidence and moods in addition to respecting process concerns.<sup>11</sup> This Article promotes a different and novel way to evaluate regulations, namely Emotional Impact Analysis (EIA). A formal definition of EIA is analysis that includes evaluation and measurement of emotional impacts of policies. This Article utilizes the phrase "emotional impacts" in a general sense to refer to not only emotions, but also affect, feelings, and moods. A widely accepted "circumplex" model of affect proposes that emotional concepts can be organized according to a circular structure, in a two-dimensional plane with the horizontal axis depicting valence ranging from distress to pleasant and the vertical axis indicating the degree of arousal ranging from low to high.<sup>12</sup> So, for example, happiness can be high arousal as with elation and excitement, but happiness can also be low arousal, as with calmness and serenity.

Emotional impacts of public policies include not only emotions in their own right, but also effects of emotions on economic and financial matters. For example, rules prohibiting insider trading,

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<sup>9</sup> See e.g., Kenneth J. Arrow et al., *Is There a Role for Cost-benefit Analysis in Environmental, Health, and Safety Regulation?*, 272 SCI. 221 (1996) (suggesting that CBA can play an important role in helping to inform regulatory decision-making if utilized appropriately); JONATHAN BARON, *JUDGMENT MISGUIDED: INTUITION AND ERROR IN PUBLIC DECISION MAKING* 189-93 (1998) (explaining the advantages of CBA); and CASS R. SUNSTEIN, *THE COST-BENEFIT STATE: THE FUTURE OF REGULATORY PROTECTION* 25-26 (2002) ("[t]he strongest arguments for CBA seem to rest not with neoclassical economics, but with common sense, informed by behavioral economics and cognitive psychology"). But see Amy Sinden, *Cass Sunstein's Cost-Benefit Lite: Economics for Liberals*, 29 COLUM. J. ENVTL. L. 191 (2004) (critiquing Sunstein).

<sup>10</sup> See generally *WHAT'S ECONOMICS WORTH? VALUING POLICY RESEARCH* (Philip G. Pardey & Vincent H. Smith eds., 2004).

<sup>11</sup> Douglas Kysar, *Preferences for Processes: The Process/Product Distinction and the Regulation of Consumer Choice*, 118 HARV. L. REV. 525 (2004).

backdating options issued to executives, or spring loading, the practice of companies granting executives stock options just before announcing good news,<sup>13</sup> have not only emotional impacts, including possibly investors and the non-investing public feeling greater confidence in stock markets and trust in corporate America, but also monetary costs and benefits, including possibly greater stock price informational efficiency. Thus, there are two aspects of emotional impacts. First, there are changes in affect and emotions themselves, which are internal experiences intrinsic to people, in contrast with financial income and monetary wealth, which are variables that are or can easily become publicly or externally observable and verifiable to others. Investors are motivated by not only financial wealth considerations, but also such expressive concerns as equality, equity, fairness, justice, patriotism, status, and social responsibility.<sup>14</sup> Examples of positive affect include awe,<sup>15</sup> exuberance,<sup>16</sup> gratitude,<sup>17</sup> and happiness;<sup>18</sup> negative affect includes envy,<sup>19</sup> guilt,<sup>20</sup> regret,<sup>21</sup> shame,<sup>22</sup> and stress.<sup>23</sup> Second, there are changes in economic and financial behavior resulting from emotional impacts. These changes are measurable in terms of changes in standard economic and financial variables. Changes in positive and negative forms of

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<sup>12</sup> James A. Russell, *A Circumplex Model of Affect*, 29 J. PERSONALITY & SOC. PSYCHOL. 1161 (1980). See also Jonathan Posner et al., *The Circumplex Model of Affect: An Integrative Approach to Affective Neuroscience, Cognitive Development, and Psychopathology*, 17 DEV. & PSYCHOPATHOLOGY. 715 (2005).

<sup>13</sup> Kara Scannell et al., *Can Companies Issue Options, Then Good News?*, WALL ST. J., July 8-9, 2006, at A1 (reporting on controversy over spring loading).

<sup>14</sup> Meir Statman, *What Do Investors Want?*, 30<sup>th</sup> Anniversary J. PORTFOLIO MGMT. 153, 154-59 (2004).

<sup>15</sup> Dacher Keltner & Jonathan Haidt, *Approaching Awe, A Moral, Spiritual, and Aesthetic Emotion*, 17 COGNITION AND EMOTION 297 (2003).

<sup>16</sup> See e.g., Peter H. Huang, *Regulating Irrational Exuberance and Anxiety in Securities Markets*, in THE LAW AND ECONOMICS OF IRRATIONAL BEHAVIOR 501, 520-23 (Francesco Paresi & Vernon Smith eds., 2005).

<sup>17</sup> THE PSYCHOLOGY OF GRATITUDE (Robert A. Emmons & Michael E. McCullough eds., 2004).

<sup>18</sup> See e.g., JONATHAN HAIDT, THE HAPPINESS HYPOTHESIS (2006).

<sup>19</sup> See e.g., Vai-Lam Mui, *The Economics of Envy*, 26 J. ECON. BEHAV. & ORG. 311 (1995).

<sup>20</sup> See e.g., Peter H. Huang, *Trust, Guilt and Securities Regulation*, 151 U. PA. L. REV. 1059 (2001).

<sup>21</sup> See e.g., Chien-Huang Lin et al., *Multiple Reference Points in Investor Regret*, J. ECON. PSYCHOL. (forthcoming).

<sup>22</sup> See e.g., Peter H. Huang & Christopher J. Anderson, *A Psychology of Emotional Legal Decision Making: Revulsion and Saving Face in Legal Theory and Practice*, 90 MINN. L. REV. 1045 (2006) (reviewing MARTHA C. NUSSBAUM, HIDING FROM HUMANITY: DISGUST, SHAME, AND THE LAW (2004)).

<sup>23</sup> See generally J. DOUGLAS BREMER, DOES STRESS DAMAGE THE BRAIN?: UNDERSTANDING TRAUMA-RELATED DISORDERS FROM A MIND-BODY PERSPECTIVE (2002); BRUCE MCEWEN, THE END OF STRESS AS WE KNOW IT (2002); RICHARD O'CONNOR, UNDOING PERPETUAL STRESS: THE MISSING CONNECTION BETWEEN DEPRESSION, ANXIETY, AND 21<sup>ST</sup> CENTURY ILLNESS (2005); HANS SELYE, THE STRESS OF LIFE (rev'd ed. 1984); ROBERT M. SAPOLSKY, WHY ZEBRAS DON'T GET ULCERS (3d ed. 2004); GENE WALLERSTEIN, MIND, STRESS & EMOTIONS: THE NEW SCIENCE OF MOOD (2003); and ALEX J. ZAUTRA, EMOTIONS, STRESS, AND HEALTH (2003).

affect, emotions, feelings, and mood have both direct consequences in terms of people's emotional well-being and indirect consequences for their economic or financial behavior and our economy.

To illustrate how evaluating financial policy raises issues about CBA and EIA, consider several recent controversial securities regulations. The first example of a contentious recent SEC rule involves regulation of mutual funds. A mutual fund pools money from lots of investors, known as shareholders, to purchase diverse assets, such as bonds, money market securities, and stocks.<sup>24</sup> A theoretical rationale for mutual funds was provided in 1952 when Harry M. Markowitz pioneered modern portfolio theory (MPT),<sup>25</sup> for which he shared the 1990 Alfred Nobel Prize in Economic Science with Merton H. Miller and William F. Sharpe.<sup>26</sup> MPT formalized a long-standing intuition that diversification or “not putting all your eggs in one basket” is a reasonable investment strategy to reduce financial risks.<sup>27</sup> Investors today face a plethora of retail mutual funds to help them diversify their financial investments.<sup>28</sup> Over half of U.S. households own shares in mutual funds.<sup>29</sup> Americans participate in stock markets primarily via mutual funds and pension plans.<sup>30</sup> The U.S. mutual fund industry grew from just 73 funds in 1945 to 8,000 funds by 2002.<sup>31</sup> Mutual fund shares of 401(k) assets were merely 9% in 1990, but 44% by 2001.<sup>32</sup> Similarly, 67% of retirement assets were in equity mutual funds by 2004, compared to 9% in 1990.<sup>33</sup>

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<sup>24</sup> *Id.*, at <http://www.mfea.com/GettingStarted/LearningTopics/Basics/TheBasics.asp>. See also E. PHILIP DAVIS & BENN STEIL, INSTITUTIONAL INVESTORS 16-17 (2001) (defining mutual funds).

<sup>25</sup> Harry M. Markowitz, *Portfolio Selection*, 7 J. FIN. 77 (1952). See generally HARRY M. MARKOWITZ, PORTFOLIO SELECTION: EFFICIENT DIVERSIFICATION OF INVESTMENTS (2d ed. 1991).

<sup>26</sup> <http://nobelprize.org/economics/laureates/1990/index.html>.

<sup>27</sup> RICHARD A. BREALEY, STEWART C. MYERS, & FRANKLIN ALLEN, PRINCIPLES OF CORPORATE FINANCE 181 (8th ed. 2006) (explaining Harry Markowitz's pioneering contributions to portfolio diversification); and Burton G. Malkiel, A RANDOM WALK DOWN WALL STREET: THE TIME-TESTED STRATEGY FOR SUCCESSFUL INVESTING 210-14 (8th rev. & updd. ed. 2003) (describing how modern portfolio theory helps investors lower their financial risks).

<sup>28</sup> See e.g., Mutual Fund Investor's Center, available at <http://www.mfea.com/>.

<sup>29</sup> *Id.* See also Carol C. Bertaut & Martha Starr-McCluer, *Household Portfolios in the United States*, in HOUSEHOLD PORTFOLIOS 183-98 (Luigi Guiso et al. eds., 2002) (providing data, trends, and evidence about U.S. household portfolios).

<sup>30</sup> John C. Boogle, *Individual Stockholder*, R.I.P., WALL ST. J., Oct. 3, 2005, at A10.

<sup>31</sup> Investment Company Institute, MUTUAL FUND FACT BOOK (2003).

<sup>32</sup> *Mutual Funds and the U.S. Retirement Market in 2004*, 11 FUNDAMENTALS: INVESTMENT COMPANY INSTITUTE RESEARCH IN BRIEF (2005).

<sup>33</sup> *Mutual Funds and the U.S. Retirement Market in 2004*, 11 FUNDAMENTALS: INVESTMENT COMPANY INSTITUTE RESEARCH IN BRIEF (2005).

## *Emotional Impact Analysis*

U.S. mutual funds managed assets of approximately \$50 billion in 1970.<sup>34</sup> American mutual funds now hold over more than \$7.5 trillion in assets and are continuing to increase significantly in size and importance.<sup>35</sup> Mutual funds offer individuals not only investment vehicles, but also advice, education, and (mis)information.<sup>36</sup> Recent mutual fund scandals led to a number of class action lawsuits, criminal prosecutions, and proposed regulations.<sup>37</sup>

On July 27, 2004, the SEC adopted corporate governance rules that require mutual-fund companies to, among other things, (i) have chairs of their boards who are independent of their fund's management, and (ii) increase the percentage of directors on their boards who are independent of their fund's management from a previously required 50% to 75% (except for three member boards, two are required to be independent).<sup>38</sup> On June 21, 2005, the most important court in federal regulatory law, the U.S. Court of Appeals for the D.C. Circuit, unanimously remanded to the SEC for consideration the costs of the above two requirements,<sup>39</sup> because "the Commission ... "fail[ed] adequately to consider the costs imposed upon funds by the two challenged conditions."<sup>40</sup>

Despite this court decision, without providing for any further public notice or comment, and in a controversial 3-2 vote, the SEC affirmed its July 2004 rule just eight days later.<sup>41</sup> The U.S. Chamber of Commerce, which originally challenged the SEC rule, also challenged the SEC's affirming its rule.<sup>42</sup> The

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<sup>34</sup> Erik R. Sirri & Peter Tufano, *Competition and Change in the Mutual Fund Industry*, in FINANCIAL SERVICES: PERSPECTIVES AND CHALLENGES FOR THE 1990S 181 (Samuel L. Hayes III ed., 1994).

<sup>35</sup> U.S. Chamber of Commerce v. SEC Mutual Fund "Governance" Litigation (Apr. 8, 2005), available at <http://www.uschamber.com/nclc/news/casealerts/ca050408.htm>. See generally ROBERT C. POZEN, THE MUTUAL FUND BUSINESS (2d ed. 2002).

<sup>36</sup> Kenneth L. Fisher & Meir Statman, *Investment Advice from Mutual Fund Companies*, Fall J. PORTFOLIO MGMT. 9 (1997).

<sup>37</sup> Paul G. Mahoney, *Manager-Investor Conflicts in Mutual Funds*, J. ECON. PERSP., Spring 2004, at 161, 176-81.

<sup>38</sup> Investment Company Governance, 69 Fed. Reg. 46,378 (Aug. 2, 2004).

<sup>39</sup> U.S. Chamber of Commerce v. SEC, No. 04-1300 (D.C. Cir. June 21, 2005), available at <http://pacer.cadc.uscourts.gov/docs/common/opinions/200506/04-1300a.pdf>.

<sup>40</sup> *Id.*, at 17.

<sup>41</sup> Michael Schroeder, *SEC Adopts Mutual Fund Rule, Risks New Challenge*, WALL ST. J., June 30, 2005, at C1. This was also just one day before former SEC Chair William Donaldson's resignation took effect. Investment Company Governance, 70 Fed. Reg. 39,390, 39,403 (July 7, 2005) (to be codified at 17 C.F.R. pt. 270), available at <http://www.sec.gov/rules/final/ic-26985fr.pdf>.

<sup>42</sup> U.S. Chamber of Commerce Vows to Continue Fight; SEC Mutual Fund Action to be Challenged in Court (June 29, 2005), available at <http://www.uschamber.com/press/releases/2005/june/05-112.htm>; Chamber Files Motion to Stay SEC Mutual Fund Rule (July 26, 2005), available at <http://www.uschamber.com/press/releases/2005/july/05->

SEC estimated the costs of compliance per mutual fund would be “extremely small relative to the fund assets for which fund boards are responsible, and are also small relative to the expected benefits.”<sup>43</sup> Both of the dissenting Commissioners, eight Senators, former SEC Commissioner Joseph A. Grundfest, and former SEC Chair Harvey Pitt all made pleas for a more deliberative approach.<sup>44</sup>

On April 7, 2006, the U.S. Court of Appeals for the D.C. Circuit unanimously vacated both requirements,<sup>45</sup> holding that the SEC violated the comment requirement of section 553(c) of the Administrative Procedure Act, because the SEC “relied on extra-record material critical to its costs estimates without affording an opportunity for comment to the prejudice of the Chamber.”<sup>46</sup> The court, however, suspended issuance of its mandate for 90 days, giving the SEC an opportunity to “reopen the record for comment on the costs of implementing the two conditions.”<sup>47</sup> On June 13, 2006, the SEC issued a request for additional comments until August 21, 2006 regarding these rules.<sup>48</sup> One can view these comments on-line.<sup>49</sup>

One securities law scholar believes that new mutual fund regulation is likely to have unknowable costs, but few knowable benefits.<sup>50</sup> A recent empirical study finds that strengthened corporate governance controls have no statistically significant impact on mutual fund outflows.<sup>51</sup> Three additional recent empirical studies find that when directors and managers of mutual funds personally own shares in

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[126.htm](#) and U.S. Chamber Files Suit Against New Mutual Fund Rules; Charges SEC Overstepped Authority in Independent Boards (Sept. 2, 2005), available at <http://www.uschamber.com/press/releases/2004/september/04-118.htm>

<sup>43</sup> Investment Company Governance, *supra* note 41, at 39,395.

<sup>44</sup> *Id.*, at 39,408. See also <http://www.sec.gov/rules/final/glassman062905.pdf>; <http://www.sec.gov/rules/final/atkins062905.pdf>; <http://www.sec.gov/rules/final/icgletters/senate062205.pdf>; <http://www.sec.gov/rules/final/icgletters/jagrundfest062305.pdf>; and <http://www.sec.gov/rules/final/icgletters/hpitt062305.pdf>.

<sup>45</sup> U.S. Chamber of Commerce v. SEC, No. 05-1240 (D.C. Cir. April 7, 2006), available at <http://pacer.cadc.uscourts.gov/docs/common/opinions/200604/05-1240a.pdf>.

<sup>46</sup> *Id.*, at 31.

<sup>47</sup> *Id.*, at 33.

<sup>48</sup> SEC Release No. IC-27395, File No. S7-03-04, available at <http://www.sec.gov/rules/proposed/2006/ic-27395.pdf>.

<sup>49</sup> <http://www.sec.gov/rules/proposed/s70304.shtml>.

<sup>50</sup> Larry E. Ribstein, *Do the Mutuals Need More Law?*, Spring REG. 4, 5 (2004).

<sup>51</sup> Stephen Choi & Marcel Kahan, The Market Penalty for Mutual Fund Scandals 25-27 (Jan. 1, 2006). New York University Law School Law and Economics Working Paper 43, available at <http://lsr.nellco.org/nyu/lewp/papers/43/>.

those mutual funds, those mutual funds perform better.<sup>52</sup> These findings provide support for SEC rules that require mutual funds to disclose information regarding mutual fund share ownership by directors,<sup>53</sup> and respectively managers.<sup>54</sup>

Although this particular controversy focuses on regulating mutual fund governance, a number of other recent controversies also involve the proper boundaries of SEC regulation. One controversy arose in response to the SEC's proposal to impose a mandatory two percent redemption fee on mutual fund shareholders who redeem shares within five days of their purchase.<sup>55</sup> A second controversy was the SEC's proposal to amend Rule 22c-1 by adopting a hard 4 p.m. close for mutual fund orders.<sup>56</sup> A third controversy involved an SEC rule that required members of the hedge fund industry to register as investment advisors.<sup>57</sup> Susan Ferris Wyderko, the SEC's director of investor education, testified that the hedge fund industry invests \$1.2 trillion in assets.<sup>58</sup> On June 24, 2006, the U.S. Court of Appeals for the D.C. Circuit unanimously held that the SEC lacks the authority to regulate hedge funds.<sup>59</sup> The SEC's chair responded by stating that the 'court's finding, that despite the Commission's investor protection objective its rule is arbitrary and in violation of law, requires that going forward we reevaluate the

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<sup>52</sup> Martijn Cremers et al., *Does Skin in the Game Matter? Director Incentives and Governance in the Mutual Fund Industry* (Mar. 2005), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=686167](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=686167); Allison L. Evans, *Portfolio Manager Ownership and Mutual Fund Performance* (Jan. 15, 2006), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=893802](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=893802); and Alex Khorana et al., *Portfolio Manager Ownership and Fund Performance* (Mar. 23, 2006), available at <http://www.gsb.stanford.edu/FACSEMINARS/events/finance/Papers/ownperffunds.pdf>.

<sup>53</sup> *Role of Independent Directors of Investment Companies*, Release Nos. 33-7932; 34-43786; IC-24816; File No. S7-23-99, (Jan. 3, 2001), available at <http://www.sec.gov/rules/final/34-43786.htm>.

<sup>54</sup> *Disclosure Regarding Portfolio Managers of Registered Management Investment Companies*, Release Nos. 33-8458; 34-50227; IC-26533; File No. S7-12-04, (Aug. 23, 2004), available at <http://www.sec.gov/rules/final/33-8458.htm>.

<sup>55</sup> *SEC Proposes Mandatory Redemption Fees for Mutual Fund Securities* (Feb. 25, 2004), available at <http://www.sec.gov/news/press/2004-23.htm>.

<sup>56</sup> *Amendments to Rules Governing Pricing of Mutual Fund Shares*, Release No. IC-26288; File No. S7-27-03 (Dec. 11, 2004); Proposed Rule: 68 Fed. Reg. 70,388 (Dec. 17, 2004) (to be codified at 17 C.F.R. pt. 270), available at <http://www.sec.gov/rules/proposed/ic-26288.htm>. See also Deborah Solomon, *New SEC Chief Plans to Enforce Hedge-Fund Rule*, WALL ST. J., Sept. 19, 2005, at A1.

<sup>57</sup> *Registration Under the Advisers Act of Certain Hedge Fund Advisers*, 17 C.F.R. pts. 275 and 279, SEC Release No. IA-2333, File No. S7-30-04, available at <http://www.sec.gov/rules/final/ia-2333.htm>. See also *Implications of the Growth of Hedge Funds*, Report of the Staff of the U.S. Securities and Exchange Commission (Oct. 2, 2003), available at <http://www.sec.gov/news/studies/hedgefunds0903.pdf>.

<sup>58</sup> Ianthe Jeanne Dugan, *Double Trouble Valuing the Hedge-Fund Industry*, WALL ST. J., July 8-9, 2006, at B3 (reporting on confusion over the size of the hedge fund industry).

agency's approach to hedge fund activity.”<sup>60</sup> Legal academics disagree over how much to regulate hedge funds.<sup>61</sup>

Finally, there has been great controversy over Congressional passage of the Sarbanes-Oxley Act of 2002 (SOX),<sup>62</sup> in particular, the internal financial control provisions of Section 404. Four legal scholars discuss and summarize recent evidence from a number of empirical studies of SOX utilizing Cost-Benefit Analysis (CBA),<sup>63</sup> estimating that SOX is likely to have modest benefits which are hard to document, but measurable compliance costs which are already very large.<sup>64</sup> Other corporate law scholars have different views towards SOX.<sup>65</sup> Experimental research provides insights about how trust affects

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<sup>59</sup> Phillip Goldstein, et al. v. SEC No. 04-1434 (D.C. Cir. June 23, 2006), available at <http://pacer.cadc.uscourts.gov/docs/common/opinions/200606/04-1434a.pdf>.

<sup>60</sup> Statement of Chairman Cox Concerning the Decision of the U.S. Court of Appeals in Phillip Goldstein, et al. v. Securities and Exchange Commission, June 23, 2006, available at <http://www.sec.gov/news/press/2006/2006-101.htm>

<sup>61</sup> Dale A. Oesterle, Regulating Hedge Funds, Ohio State Public Law Working Paper No. 71 (June 2006), available at <http://ssrn.com/abstract=913045> (arguing that extensive direct regulation of hedge funds is unnecessary and could harm our trading markets); Robert C. Pozen, *Hedge Funds Today: To Regulate or Not?*, WALL ST. J., June 20, 2005, at A14 (discussing some concerns about hedge funds); and David Skeel, *Behind the Hedge*, LEGAL AFFAIRS, Nov./Dec. 2005 at 28 (providing examples of bad hedge fund behavior).

<sup>62</sup> Pub. L. No. 107-204, 116 Stat. 745 (2002).

<sup>63</sup> Robert Charles Clark, Corporate Governance Changes in the Wake of the Sarbanes-Oxley Act: A Morality Tale for Policymakers Too, Harvard Law School John M. Olin Center for Law, Economics, and Business & Program on Corporate Governance Discussion Paper No. 525 (Sept. 2005), available at [http://www.law.harvard.edu/programs/olin\\_center/corporate\\_governance/papers/Clark-Corp%20Gov\\_9.20.05.pdf](http://www.law.harvard.edu/programs/olin_center/corporate_governance/papers/Clark-Corp%20Gov_9.20.05.pdf); Donald C. Langevoort, *Internal Controls After Sarbanes-Oxley: Revisiting Corporate Law's "Duty of Care as Responsibility for Systems"*, 31 J. CORP. L. ? (2006); Larry E. Ribstein, *Market versus Regulatory Responses to Corporate Fraud: A Critique of the Sarbanes-Oxley Act of 2002*, 28 J. CORP. L. 1 (2002) and Roberta Romano, *The Sarbanes-Oxley Act and the Making of Quack Corporate Governance*, 114 YALE L.J. 1521 (2005). See also Larry E. Ribstein, *Bubble Laws*, 40 HOUS. L. REV. 77, 83-90 (2003); Larry E. Ribstein, *International Implications of Sarbanes-Oxley: Raising the Rent on US Law*, 3 J. CORP. L. STUD. 299 (2003); Larry E. Ribstein, *Sarbox: The Road to Nirvana*, 2004 MICH. ST. L. REV. 279; and Larry E. Ribstein, *Sarbanes-Oxley after Three Years*, NEW ZEALAND L. REV. (2005), Illinois Law and Economics Working Paper No. LE05-016 (June 20, 2005), available at [www.ssrn.com/abstract=746884](http://www.ssrn.com/abstract=746884).

<sup>64</sup> HENRY N. BUTLER & LARRY E. RIBSTEIN, *THE SARBANES-OXLEY DEBACLE: WHAT WE'VE LEARNED; HOW TO FIX IT* (2006).

<sup>65</sup> See e.g., Robert B. Ahdieh, *From 'Federalization' to 'Mixed Governance' in Corporate Law: A Defense of Sarbanes-Oxley*, 53 BUFF. L. REV. L. REV. 721 (2005); William W. Bratton, *Enron, Sarbanes-Oxley and Accounting: Rules Versus Standards Versus Rents*, 48 VILL. L. REV. 1023 (2003) (finding SOX begins a political process intended over time to produce a new regulatory regime); Lawrence A. Cunningham, *The Sarbanes-Oxley Yawn: Heavy Rhetoric, Light Reform (And it Might Just Work)*, 36 U. CONN. L. REV. 915 (2003) (reading SOX as being a modest Act); Brett McDonnell, *Sarbanes-Oxley, Fiduciary Duties, and the Conduct of Officers and Directors*, EUR. BUS. ORG. L. REV. (forthcoming) (concluding that although SOX imposes significant compliance costs, it also results in beneficial changes in the behaviors of accountants, directors, and officers); and Brett McDonnell, *SOx Appeals*, 2004 MICH. ST. DCL L. REV. 505 (explaining how SOX induced regulators and private actors better informed than Congress to undertake a new reform dynamic spurring desirable changes in the corporate governance of U.S. companies).

investor behavior<sup>66</sup> and how to prevent fraud in laboratory settings.<sup>67</sup> The Social Science Research Network posted in 2004 alone nearly 200 working papers about corporate governance.<sup>68</sup> Finally, two economists very recently proposed formal theoretical models drawing upon contract theory to analytically evaluate corporate governance reforms.<sup>69</sup>

Much of the controversy over the aforementioned mutual fund governance rules involved process concerns over whether the SEC had genuinely deliberated before affirming its mutual fund governance rules upon the U.S. Court of Appeals for the D.C. Circuit's decision to remand them to the SEC for consideration of those rules' costs. As the distinguished economist Albert O. Hirschman eloquently stated, "for a democracy to function well and to endure, it is essential, so it has been argued, that opinions *not* be fully formed *in advance* of the process of deliberation."<sup>70</sup> Not only substantive outcomes, but also process considerations motivate people's behavior, even when it comes to investment and retirement savings.<sup>71</sup> Recently, two economists proposed a notion of procedural utility and provided empirical evidence that participation rights lead to procedural utility in terms of a feeling of self-determination and influence; while actual participation and use of participation rights did not.<sup>72</sup> Two psychologists conducted experiments on the World Wide Web and found that CBA can increase people's trust in

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<sup>66</sup> Amy K. Chow & Ronald R. King, An Experimental Investigation of Trust and Justice: Implications for Corporate Governance, (Feb. 2006), available at <http://ssrn.com/abstract=892332>.

<sup>67</sup> Michael Daniel Guttentag et al., Sarbanes-Oxley in the Laboratory: Using Experimental Economics to Study Fraud Prevention, presentation at the American Association of Law and Economics (May 5, 2006), available at [http://www.amlecon.org/2006\\_program.pdf](http://www.amlecon.org/2006_program.pdf).

<sup>68</sup> Dennis Wright Michaud & Kate A. Magaram, Recent Technical Papers on Corporate Governance, Brown University Corporate Governance Program Working Paper (Apr. 6, 2006), available at <http://ssrn.com/abstract=895520>.

<sup>69</sup> Benjamin E. Hermalin & Michael S. Weisbach, A Framework for Assessing Corporate Governance Reform (Feb. 6, 2006), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=881581](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=881581).

<sup>70</sup> Albert O. Hirschman, *Having Opinions – One of the Elements of Well-Being?*, 79 AM. ECON. REV. 75, 77 (1989).

<sup>71</sup> Tom R. Tyler, *Process Utility and Help Seeking: What Do People Want from Experts?*, 27 J. ECON. PSYCHOL. 360, 362-72 (2006) (demonstrating empirically that people's utilities extend beyond financial and material outcomes to process, even in settings traditionally framed in economic terms); and Harris Sondak & Tom R. Taylor, *How Does Procedural Justice Shape the Desirability of Markets?*, J. ECON. PSYCHOL. (forthcoming)

<sup>72</sup> Bruno Frey & Alois Stutzer, *Beyond Outcomes: Measuring Procedural Utility*, 57 OXFORD ECON. PAPERS 90 (2005). See also Bruno Frey et al., *Introducing Procedural Utility: Not Only What, But Also How Matters*, 160 J. INSTITUTIONAL & THEORETICAL ECON. 377 (2004); Bruno S. Frey & Matthias Benz, *Being Independent Raises Happiness at Work*, 11 SWEDISH ECON. POL'Y REV. 95 (2004); and Alois Stutzer & Bruno S. Frey, *Making International Organizations More Democratic*, 1 REV. L. & ECON. 305 (2005).

decisions that government agencies or companies make.<sup>73</sup> Empirical research based upon data from the European Union revealed that institutional trust in law positively impacts people's subjective well-being.<sup>74</sup> Thus, EIA should analyze and acknowledge not only emotions related to substantive outcomes, but also such emotions related to procedural or process considerations as emotional difficulties that individuals and groups of people have in facing and making certain types of tradeoffs.<sup>75</sup>

This Article advocates that securities and financial regulators can and must incorporate consequences that securities and financial regulations have upon the affect, emotions, feelings, and moods of investors, other financial markets participants, and even people who are not participants in financial or securities markets.<sup>76</sup> EIA advocates that regulators consider emotional impacts that alternative regulations have upon both emotions themselves and consequences of emotions on economic and financial variables. Such analysis is more challenging than traditional CBA but researchers in psychology and neurosciences have successfully analyzed, measured, and studied changes in emotions. Ex ante CBA of environmental, health, and safety regulations is based upon monetary measures of benefits and costs,<sup>77</sup> determined via revealed preference techniques, such as hedonic pricing methodology,<sup>78</sup> or stated preference techniques, such as contingent valuation methodology.<sup>79</sup> EIA shares its emphasis on actual

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<sup>73</sup> Jonathan Baron & Andrea D. Gurmankin Levy, *Cost-Benefit Analysis Can Increase Trust in Decision Makers*, available at <http://www.sas.upenn.edu/~baron/cba.html>.

<sup>74</sup> John Hudson, *Institutional Trust and Subjective Well-Being across the EU*, 59 KYKLOS 43 (2006).

<sup>75</sup> See generally MARY LUCE FRANCES ET AL., *EMOTIONAL DECISIONS: TRADEOFF DIFFICULTY AND COPING IN CONSUMER CHOICE* (2001).

<sup>76</sup> See e.g., Patric Andersson & Richard Tour, *How to Sample Behavior and Emotions: A Psychological Approach and an Empirical Example*, 26 IRISH J. MGMT. 92 (2005) (describing an experience sampling method pilot study of day-traders); and Andrew W. Lo et al., *Fear and Greed in Financial Markets: A Clinical Study of Day-Traders*, 95 AM. ECON. REV. 352 (2005) (finding a correlation between more intense emotional reactions to monetary gains or losses and significantly worse performance among day-traders). See generally JOCELYN PIXLEY, *EMOTIONS IN FINANCE: DISTRUST AND UNCERTAINTY IN GLOBAL MARKETS* (2004).

<sup>77</sup> ANTHONY E. BOARDMAN ET AL., *COST-BENEFIT ANALYSIS: CONCEPTS AND PRACTICE* 3 (3d ed. 2006) (differentiating between ex ante CBA and ex post CBA).

<sup>78</sup> See generally Daniel McFadden, *The New Science of Pleasure: Consumer Behavior and the Measurement of Well-Being*, Frisch Lecture, Econometric Society World Congress, London (Aug. 20, 2005) (revised Oct. 5, 2005), available at [http://emlab.berkeley.edu/users/webfac/dromer/e237\\_f05/mcfadden.pdf](http://emlab.berkeley.edu/users/webfac/dromer/e237_f05/mcfadden.pdf). See e.g., PATRICK BAYER ET AL., *MIGRATION AND HEDONIC VALUATION: THE CASE OF AIR QUALITY*, NAT'L BUREAU OF ECON. RES. WORKING PAPER NO. 12106, available at <http://www.nber.org/papers/w12106> (critiquing standard hedonic techniques for estimating value of local amenities because those methods assume that households move freely among locations).

<sup>79</sup> See e.g., Kenneth J. Arrow et al., *Report of the NOAA Panel on Contingent Valuation*, 58 FED. REG. 4601 (1993); and Dollar-Based Ecosystem Valuation Methods: Contingent Valuation Method, available at [http://www.ecosystemvaluation.org/contingent\\_valuation.htm](http://www.ecosystemvaluation.org/contingent_valuation.htm)

impacts, as opposed to inferred tastes or hypothetical preferences, with a recent proposal by psychologist Daniel Kahneman and economist Robert Sugden to evaluate environmental policy based upon experienced utility measures.<sup>80</sup> Finally, EIA is related to psychologist Gerald Clore's proposal for emotional accounting.<sup>81</sup>

EIA incorporates psychological insights about emotional impacts including process concerns. EIA is a stand-alone type of analysis that differs from CBA because EIA focuses on emotional impacts instead of costs and benefits. Although emotional impacts can be categorized as costs and benefits, most CBA does not consider emotional impacts. In addition, CBA measures costs and benefits in monetary terms, while EIA does not require that emotional impacts be monetized. Of course, securities and financial regulators can perform both CBA and EIA, neither, or just one form of analysis. This Article utilizes the specific example of U.S. federal securities regulation as a template for analyzing how and why financial regulators can and should perform EIA more generally.

The rest of this Article is organized as follows. Section I analyzes EIA in financial regulation, advocating that U.S. financial regulators should engage routinely in EIA. Section I also examines the current practice of CBA in SEC rulemaking, finding that it leaves much to be desired. Section II analyzes conceptual and measurement issues that arise in EIA. A conclusion summarizes this Article and speculates on generalizing EIA to non-financial social policies.

## **I. Emotional Impact Analysis in Financial Regulation**

Independent of whether a financial regulator engages in CBA, this Article advocates that it should engage in EIA. This Article theoretically evaluates potential conceptual problems and measurement difficulties of EIA, both in general and in the specific contexts of securities regulation and financial regulation. U.S. financial regulators generally conduct some form of CBA in promulgating rules. A

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<sup>80</sup> Daniel Kahneman & Robert Sugden, *Experienced Utility as a Standard of Policy Evaluation*, 32 ENVTL. & RESOURCE ECON. 161 (2005).

<sup>81</sup> Gerald L. Clore, *For Love or Money: Some Emotional Foundations of Rationality*, 80 CHI.-KENT L. REV. 1151, 1159 (2005).

number of legal scholars argue for and endorse CBA in financial regulation.<sup>82</sup> But, a number of legal scholars are very critical of CBA in non-financial regulations.<sup>83</sup> Furthermore, even for a particular financial regulation other considerations can trump CBA. For example, one may feel that insider trading or securities fraud should be illegal even if they lead to financial benefits, such as equilibrium securities market prices conveying insider information, exceeding their financial costs, because they lead to emotional impacts, such as some individual retail investors feeling that securities markets are not a level playing field and therefore not participating in securities markets.

Some people feel similarly about how Ford Motor Company used CBA in deciding to not correct a serious defect in their design and placement of gas tanks in the Pinto.<sup>84</sup> An economist discusses two satirical examples of CBA from literature,<sup>85</sup> one involving eating infants,<sup>86</sup> and another about paying for a public suicide.<sup>87</sup> Another non-financial example of CBA that most people are likely to find troubling is utilizing CBA to decide whether to assassinate or torture a known or even suspected terrorist. Indeed, people and societies often choose to not utilize CBA for categories of decisions by adopting decision rules.<sup>88</sup> But, even for regulations that are desirable regardless of quantifiable benefits, regulators can analyze costs and choose to adopt regulations that are most cost-effective. Non-financial regulators can apply cost-effectiveness analysis to ration health care<sup>89</sup> and to combat global warming.<sup>90</sup>

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<sup>82</sup> *Langevoort, supra* note 63; *Ribstein, supra* note 63; and *Romano, supra* note 63.

<sup>83</sup> *See generally* FRANK ACKERMAN & LISA HEINZERLING, PRICELESS: ON KNOWING THE PRICE OF EVERYTHING AND THE VALUE OF NOTHING 35-40 (2004); Edwin C. Baker, *Starting Points in the Economic Analysis of Law*, 8 HOFSTRA L. REV. 939 (1980); and Henry S. Richardson, *The Stupidity of the Cost-Benefit Standard*, 29 J. LEGAL STUD. 971 (2000).

<sup>84</sup> *See e.g.*, Steven Kelman, *Cost-Benefit Analysis: An Ethical Critique*, in THE FORD PINTO CASE: A STUDY IN APPLIED ETHICS, BUSINESS AND TECHNOLOGY 123-36 (Douglas Birsch & John H. Fielder eds., 1994); HAROLD WINTER, TRADE-OFFS: AN INTRODUCTION TO ECONOMIC REASONING AND SOCIAL ISSUES 10-14 (2005) and <http://www.engineering.com/content/ContentDisplay?contentId=41009014>.

<sup>85</sup> THE LITERARY BOOK OF ECONOMICS: INCLUDING READINGS FROM LITERATURE AND DRAMA ON ECONOMIC CONCEPTS, ISSUES AND THEMES 301-05 (Michael Watts ed., 2003).

<sup>86</sup> JONATHAN SWIFT, A MODEST PROPOSAL (1729).

<sup>87</sup> PAR LAGERKVIST, *A Hero's Death*, in THE MARRIAGE FEAST 37-38 (1954).

<sup>88</sup> *See e.g.*, On Amir & Dan Ariely, *Decisions by Rules: The Case of Unwillingness to Pay for Beneficial Delays*, (Jan. 2006), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=876108](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=876108); Jonathan Baron, *Nonconsequentialist Decisions*, 17 BEHAV. & BRAIN SCI. 1 (1994); Drazen Prelec & Richard Herrnstein, *Preferences or Principles: Alternative Guidelines for Choice*, in STRATEGY AND CHOICE 319-40 (Richard J. Zeckhauser ed., 1991); and Cass R. Sunstein, *Moral Heuristics and Moral Framing*, 88 MINN. L. REV. 1556 (2004).

<sup>89</sup> *See generally* PETER UBEL, PRICING LIFE: WHY IT'S TIME FOR HEALTH CARE RATIONING (1999).

Two critics of CBA state “[i]n practice, most cost-benefit analyses could more accurately be described as “complete cost-incomplete benefit” studies. Most or all of the costs are readily determined market prices, but many important benefits cannot be meaningfully quantified or priced, and are therefore implicitly given a value of zero.”<sup>91</sup> A reason CBA is often incomplete about benefits, while complete about costs, is that many costs are monetary and easy to measure, while those benefits that are left out include process concerns and emotional impacts, which are perceived to be difficult for people to quantify.<sup>92</sup> EIA explicitly recognizes emotional impacts and places non-zero values upon them.

It might seem that of all types of regulation, financial regulation and securities regulation are two areas in which regulators do not have to analyze emotional considerations because there already exist natural metrics and yardsticks for evaluating outcomes, namely aggregate levels of financial and economic variables, such as consumption, investment, liquidity, prices, trading volume, and wealth. In addition, many people believe that equilibrium prices of competitive stock markets already reflect all relevant fundamental information for accurately pricing stocks and only that information.<sup>93</sup> But, there is much empirical data that investor confidence and social mood alters levels of such traditional economic and financial variables as corporate finance,<sup>94</sup> including corporate investment, initial public offerings,<sup>95</sup>

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<sup>90</sup> JONATHAN GRUBER, PUBLIC FINANCE AND PUBLIC POLICY 208 (2005).

<sup>91</sup> ACKERMAN & HEINZERLING, *supra* note 83, at 40.

<sup>92</sup> JOEL BEST, MORE DAMNED LIES AND STATISTICS: HOW NUMBERS CONFUSE PUBLIC ISSUES 9-13 (2004).

<sup>93</sup> *See e.g.*, BREALEY, MYERS, & ALLEN, *supra* note 27, at 333-37.

<sup>94</sup> *See generally* HERSH SHEFRIN, BEHAVIORAL CORPORATE FINANCE: DECISIONS THAT CREATE VALUE (2007).

<sup>95</sup> *See e.g.*, Lucy F. Ackert, et al, *Emotion and Financial Markets*, 88 FED. RESERVE BANK OF ATLANTA ECON. REV. 33 (2003); Kevin Au et al., *Mood in Foreign Exchange Trading: Cognitive Processes and Performance*, 91 ORG. BEHAV. & HUMAN DECISION PROCESSES 322 (2003); Glenn W. Boyle et al., *Emotion, Fear and Superstition in the New Zealand Stockmarket*, (Feb. 18, 2003) (analyzing New Zealand stock market reaction to five economically-neutral events that psychological research indicates have varying degrees of influence on people’s emotions and moods), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=388581](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=388581); Michael Dowling & Brian Lucey, *The Role of Feelings in Investor Decision-Making* 90 J. ECON. SURVEYS 211 (2005); David Dreman, *The Influence of Affect on Investor Decision-Making*, 5 J. BEHAV. FIN. 70 (2004); Frank Fehle et al., *Can Companies Influence Investor Behaviour through Advertising? Super Bowl Commercials and Stock Returns*, 11 EUR. FIN. MGMT. 625 (2005) (finding significant abnormal stock returns for companies which advertise and consistent with mood and attention effects); Melissa L. Finucane, *Mad Cows, Mad Corn, & Mad Money: Applying What We Know About the Perceived Risk of Technologies to the Perceived Risk of Securities*, 3 J. PSYCHOL. & FIN. MARKETS 15 (2002); Baruch Fischhoff et al, *Investing in Frankenfirms: Predicting Socially Unacceptable Risks*, 2 J. PSYCHOL. & FIN. MARKETS 100 (2001); Donald G. MacGregor, et al, *Imagery, Affect, and Financial Judgment*, 1 J. PSYCHOL. & FIN. MARKETS 104 (2000); Ulrike Malmendier & Geoffrey Tate, *CEO Overconfidence and Corporate Investment*, 60 J. FIN. 2661 (2005) (finding that overconfident CEOs engage in excessive corporate investment when they have abundant internal funds, but limit corporate investment when they require external financing); Ulrike Malmendier &

and mergers and acquisitions, individual debt, market liquidity, and securities demand. In other words, “[s]tock market prices reflect both (fundamental) value and sentiment.”<sup>96</sup> Seventy years ago, a famous macroeconomist John Maynard Keynes utilized the phrase “animal spirits” to describe investor optimism or pessimism when he stated that:

Even apart from the instability due to speculation, there is the instability due to the characteristic of human nature that a large proportion of our positive activities depend on spontaneous optimism rather than mathematical expectations, whether moral or hedonistic or economic. Most, probably, of our decisions to do something positive, the full consequences of which will be drawn out over many days to come, can only be taken as the result of animal spirits - a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities.<sup>97</sup>

Noted economist John Kenneth Galbraith believed there is not much that securities regulators can do about financial euphoria.<sup>98</sup> In contrast, several legal scholars have proposed that securities regulators can and should regulate financial market euphoria.<sup>99</sup>

Recent evidence suggests that relationships between emotional considerations and financial economic variables not only exist, but also run surprisingly in both directions. There is a growing body of intriguing empirical data demonstrating that local astronomical and meteorological conditions are correlated with market index returns on international financial exchanges.<sup>100</sup> There is medical and

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Geoffrey Tate, *Does Overconfidence Affect Corporate Investment? CEO Overconfidence Measures Revisited*, 11 EUR. FIN. MGMT. 649 (2005) (presenting supplementary evidence about how CEO portrayals in popular financial press are related to overconfident investment decisions); Rajnish Mehra & Raaj Sah, *Mood Fluctuations, Projection Bias, and Volatility of Equity Prices*, 26 J. ECON. DYNAMICS & CONTROL 869 (2002); John R. Nofsinger, *Social Mood and Financial Economics*, 6 J. BEHAV. FIN. 144, 147-49, 152-55, 157-58 (2005); JOHN R. NOFSINGER, *THE PSYCHOLOGY OF INVESTING* 86-96 (2d ed. 2005); Richard L. Peterson, *Buy on the Rumor: Anticipatory Affect and Investor Behavior* 3 J. PSYCHOL. & FIN. MARKETS 218 (2002); and Richard J. Rosen, *Merger Momentum and Investor Sentiment: The Stock Market Reaction to Merger Announcements*, 79 J. BUS. 987 (2006).

<sup>96</sup> Kenneth L. Fisher & Meir Statman, *Sentiment, Value, and Market-Timing*, FIN. ANALYSTS J., Fall 2004, at 10.

<sup>97</sup> JOHN MAYNARD KEYNES, *THE GENERAL THEORY OF EMPLOYMENT, INTEREST AND MONEY* 161-62 (1936).

<sup>98</sup> JOHN KENNETH GALBRAITH, *A SHORT HISTORY OF FINANCIAL EUPHORIA* 108 (1993).

<sup>99</sup> See e.g., Theresa A. Gabaldon, *The Role of Law in Managing Market Moods: The Whole Story of Jason, Who Bought High*, 69 GEO. WASH. L. REV. 111 (2000); Theresa A. Gabaldon, John Law, *With A Tulip, In the South Seas: Gambling and the Regulation of Euphoric Market Transactions*, 26 J. CORP. L. 225 (2001); and Donald C. Langevoort, *Taming the Animal Spirits of the Stock Markets: A Behavioral Approach to Securities Regulation*, 97 NW. U. L. REV. 135 (2002).

<sup>100</sup> See e.g., Melanie Cao & Jason Wei, *Stock Market Returns: A Note on Temperature Anomaly*, J. BANKING & FIN. (2002) (finding that for eight international stock markets, returns are statistically significantly and negatively correlated with temperature); Melanie Cao & Jason Wei, *An Expanded Study of the Stock Market Temperature Anomaly* 22 RES. IN FIN. 73 (2005) (expanding on and confirming their previous research to include nineteen additional financial markets); Ilia D. Dichev & Troy D. Janes, *Lunar Cycle Effects in Stock Returns*, J. PRIVATE

psychological evidence that weather affects people's moods and behavior.<sup>101</sup> There is also field evidence

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EQUITY, Fall 2003 (finding that returns are significantly higher, on the magnitude of 5% to 8% on an annualized basis, around new moon dates as compared to full moon dates for all major U.S. stock indices over their entire available history); Michael Dowling & Brian M. Lucey, *Weather, Biorhythms and Stock Returns: Some Preliminary Irish Evidence*, 14 INT'L REV. FIN. ANALYSIS 337 (2005) (examining relationship between eight proxy variables for investor mood, based on weather, biorhythms, and beliefs, and daily Irish stock returns from 1988 to 2001 and finding that some variables proposed in recent literature, rain and time changes around daylight savings have, minor but significant influences); William N. Goetzmann and Ning Zhu, *Rain or Shine: Where is the Weather Effect?*, 11 EUR. FIN. MGMT. 559 (2005) (finding and interpreting evidence that behavior of market-makers, rather than individual investors, may be responsible for observed relationship between stock market returns and weather); David A. Hirshleifer & Tyler G. Shumway, *Good Day Sunshine: Stock Returns and the Weather*, 58 J. FIN. 1009 (2003) (finding that morning sunshine at a country's leading stock exchange is strongly, positively correlated with stock market index returns that day at twenty six stock exchanges internationally from 1982-97); Mark Jack Kamstra et al., *Losing Sleep at the Market: The Daylight Savings Anomaly*, 90 AM. ECON. REV. 1005 (2000) (showing that so-called weekend effect in terms of lower-than-expected Friday-to-Monday stock market returns is particularly pronounced for two weekends involving daylight-savings clock changes); Mark Jack Kamstra et al., *Losing Sleep at the Market: The Daylight Savings Anomaly: Reply*, 92 AM. ECON. REV. 1257 (2002) (revisiting issue of whether daylight-saving-time changes impact financial markets and conclude that evidence indicates they do); Mark Jack Kamstra et al., *Winter Blues: A SAD Stock Market Cycle*, 93 AM. ECON. REV. 324 (2003); Anna Krivelyova & Cesare Robotti, *Playing the Field: Geomagnetic Storms and International Stock Markets*, FED. RESERVE BANK OF ATLANTA WORKING PAPER NO. 2003-5b (2003) (finding empirical evidence that unusually high levels of geomagnetic storm activity have a statistically and economically significant negative impact on next week's returns for all U.S. stock market indices), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=375702](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=375702); Piman Limpaphayom et al., *Gloom and Doom? Local Weather and Futures Trading* (2005) (providing direct evidence that local weather affects investor behavior by finding that effective bid-ask spreads increase on windy days and that sky cover and wind are positively related to futures floor traders' incomes and market timing abilities), available at [http://www.asianfa.com/SPTOP/810/AP/810\\_AP007.pdf](http://www.asianfa.com/SPTOP/810/AP/810_AP007.pdf); Edward M. Saunders, Jr., *Losing Stock Prices and Wall Street Weather*, 83 AM. ECON. REV. 1337 (1993) (providing first study to empirically examine relationship between amount of sunshine and stock market returns, finding that less cloud cover in New York City is associated with increased returns for major stock market indices of exchanges based in New York City); and Kathy Yuan et al., *Are Investors Moonstruck? Lunar Phases and Stock Returns* 13 J. EMPIRICAL FIN. 1 (2006) (providing evidence for a global sample of forty-eight countries that stock returns are lower by 3% to 5% per annum on days around a full moon than on days around a new moon). *But see* Walter Kramer & Ralf Runde, *Stocks and the Weather: An Exercise in Data Mining or yet Another Capital Market Anomaly*, 22 EMPIRICAL ECON. 637 (1997) (attempting to replicate findings that stock prices are systematically affected by local weather utilizing German data, and finding that no systematic relationship seems to exist); Reinhold P. Lamb et al., *Don't Lose Sleep on It: A Re-Examination of the Daylight Savings Time Anomaly*, 14 APPLIED FIN. ECON. 443 (2004) (finding that neither consistency nor magnitude and statistical significance of a daylight savings stock market anomaly survives serious scrutiny); Tim Loughran & Paul Schultz, *Weather, Stock Returns, and the Impact of Localized Trading Behavior*, 39 J. FIN. & QUANTITATIVE ANALYSIS 343, 345, 355-62 (2004) (finding little evidence that cloudy weather in a company's headquarters affects its stock returns); Angel Pardo & Enric Valor, *Spanish Stock Returns - Rational or Weather Influenced?* 9 EUR. FIN. MGMT. 117 (2003) (finding no evidence indicating that sunshine hours and humidity levels influence Spanish stock market prices under both an open outcry trading system and computerized and decentralized trading system); J. Michael Pinegar, *Losing Sleep at the Market: Comment*, 92 AM. ECON. REV. 1251 (2002) (reporting daylight savings stock market anomaly is not robust); Mark A. Trombley, *Stock Prices and Wall Street Weather: Additional Evidence*, 36 Q.J. BUS. & ECON. 11 (1997) (presenting evidence indicating that relationship between stock returns and Wall Street weather is neither clear nor strong); and Ekrem Tufan & Bahattin Hamarat, *Do Cloudy Days Affect Stock Exchange Returns: Evidence from the Istanbul Stock Exchange*, 2 J. NAVAL SCI. & ENGINEERING 117 (2003) (finding that cloudy days neither cause nor are related to the Istanbul Stock Exchange 100 index returns).

<sup>101</sup> See e.g., Matthew C. Keller et al., *A Warm Heart and A Clear Head: The Contingent Effects of Weather on Mood and Cognition*, 16 PSYCHOL. SCI. 724 (2005) (reviewing existing psychological studies that link mood to weather, and providing new experimental evidence that pleasant weather in the form of higher temperature or barometric

that weather affects reviewers' judgments and decisions about college applicants.<sup>102</sup> Conversely, it is intuitive that financial economic variables impact people's affect, emotions, moods, and subjective well-being.<sup>103</sup> For example, empirical research finds that consumer personal debt can be very stressful. One study finds that heads of households with greater outstanding non-mortgage credit debt balances are significantly more likely to report higher levels of psychological distress.<sup>104</sup> Another study finds that credit card behavior is associated with scores on the Frontal Lobe Personality Scale, which is a measure of personality and behavioral traits associated with frontal cortex dysfunction.<sup>105</sup> Finally psychological research finds that while materialistic financial attitudes can have negative emotional consequences,<sup>106</sup> non-materialistic financial attitudes correlate positively with financial knowledge and subjective well-being.<sup>107</sup> Such emotions as stress also affect and are affected by our social relationships.<sup>108</sup> In addition, there is evidence that negative emotions hurt our longevity, mental health, mortality, and physical health,<sup>109</sup> while positive emotions improve them.<sup>110</sup>

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pressure is related to higher mood, better memory, and broadened cognitive style during spring as time spent outside increased).

<sup>102</sup> Uri Simonsohn., *Clouds Make Nerds Look Good: Field Evidence of the Impact of Incidental Factors on Decision Making*, Aug. 2006, available at <http://ssrn.com/abstract=906872> (analyzing a data set of actual college admission decisions for 667 college applications and finding that applicants' academic attributes are more heavily weighted on cloudier days, and their non-academic attributes are more heavily weighted on sunnier days).

<sup>103</sup> See generally ROBERT E. LANE, *THE LOSS OF HAPPINESS IN MARKET DEMOCRACIES* (2000).

<sup>104</sup> Sarah Brown et al., *Debt and Distress: Evaluating the Psychological Costs of Credit*, 26 *ECON. PSYCHOL.* 642 (2005).

<sup>105</sup> Marcello Spinella et al., *Predicting Credit Card Behavior: A Study in Neuroeconomics*, 100 *PERPETUAL & MOTOR SKILLS* 777 (2005).

<sup>106</sup> Carol Nickerson et al., *Zeroing in on the Dark Side of the American Dream: A Closer Look at the Negative Consequences of the Goal for Financial Success*, 14 *PSYCHOL. SCI.* 531 (2003); Tim Kasser & Richard M. Ryan, *A Dark Side of the American Dream: Correlates of Financial Success as A Central Life Aspiration*, 65 *J. PERSONALITY & SOC. PSYCHOL.* 410 (1993); and Tim Kasser & Richard M. Ryan, *Further Examining the American Dream: Differential Correlates of Intrinsic and Extrinsic Goals*, 22 *J. PERSONALITY & SOC. PSYCHOL.* 281 (1996). See generally TIM KASSER, *THE HIGH PRICE OF MATERIALISM* (2002).

<sup>107</sup> Stephanie M. Bryant et al., *Financial Attitudes: Implications for Personal Financial Planning Services (PFPs) and Financial Literacy*, (Apr. 10, 2006), available at <http://ssrn.com/abstract=896101>.

<sup>108</sup> See generally EMOTION, SOCIAL RELATIONSHIPS, AND HEALTH (Carol D. Ryff & Burton H. Singer eds., 2001).

<sup>109</sup> See Pim Cuijpers & Filip Smit, *Excess Mortality in Depression: A Meta-Analysis of Community Studies*, 72 *J. AFFECTIVE DISORDERS* 227 (2002) (examining 25 studies with 106,628 adult subjects, of whom 6416 were depressed with follow-up periods of 2 to 16 years and concluding that there is an increased risk of mortality for not only major clinical depression, but also in subclinical forms of depression); Dorothy D. Dunlop et al., *Incidence of Disability Among Preretirement Adults: The Impact of Depression*, 95 *AM. J. PUB. HEALTH* 2003 (2005) (finding that odds of activities of daily living disability were 4.3 times greater for depressed adults than their non-depressed peers); Sherita Hill Golden et al., *Depressive Symptoms and the Risk of Type 2 Diabetes: The Atherosclerosis Risk in Communities Study*, 27 *DIABETES CARE* 429 (2004) (finding that depressive symptoms predicted incident type 2

In light of these pervasive links between emotions and financial decisions, it becomes clear that investor confidence in securities markets and trust in corporate America having a culture of honesty are important public goods.<sup>111</sup> There is a voluminous behavioral finance literature about investor sentiment.<sup>112</sup> Corporate and securities law scholar Lynn Stout suggests that investor confidence and trust motivate investing.<sup>113</sup> A number of legal scholars have addressed how to restore trust in American business.<sup>114</sup> Recent experimental evidence finds that trust harmed by untrustworthy actions can be restored effectively, but trust harmed by the same untrustworthy behavior and deception never fully recovers.<sup>115</sup> Financial economists and the popular press have proposed numerous measures of investor confidence, mood, or sentiment, some based upon survey data, and others based upon financial market statistics, such as Barron's Confidence Index,<sup>116</sup> the Chicago Board Options Exchange Volatility Index or Investor Fear Gauge,<sup>117</sup> the Equity Market Sentiment Index,<sup>118</sup> Issuance Percentage,<sup>119</sup> Net Cash Flow into

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diabetes in a biracial cohort study of 11,615 initially non-diabetic adults aged 48–67 years, who were subsequently followed for 6 years); Harry Hemingway & Michael Marmot, *Evidence Based Cardiology - Psychosocial Factors in the Aetiology and Prognosis of Coronary Heart Disease: Systematic Review of Prospective Cohort Studies*, 318 BRIT. MED. J. 1460 (1999) (reviewing epidemiological literature and finding the anxiety and depression are associated with increased risk of coronary disease). See generally MICHAEL MARMOT, THE STATUS SYNDROME: HOW SOCIAL STANDING AFFECTS OUR HEALTH AND LONGEVITY (2004).

<sup>110</sup> See Nicholas Bakalar, *Go On, Laugh Your Heart Out*, NEW YORK TIMES, Mar. 8, 2005, § F, at 6 (reporting on a study Michael Miller and others presented at the American College of Cardiology demonstrating that laughter is linked to healthy function of blood vessels); Sheldon Cohen & Sarah D. Pressman, *Positive Affect and Health*, 15 CURRENT DIRECTIONS IN PSYCHOL. SCI. 122 (2005) (highlighting consistent patterns of research associating physical health with trait positive affect); Sarah D. Pressman & Sheldon Cohen, *Does Positive Affect Influence Health?*, 131 PSYCHOL. BULL. 925 (2005) (providing a comprehensive review consistent patterns in existing literature associating physical health to positive affect); and Andrew Steptoe et al., *Positive Affect and Health-Related Neuroendocrine, Cardiovascular, and Inflammatory Processes*, 102 PROC. NAT'L ACAD. SCI. 6508 (2005) (showing that positive affect in middle-aged men and women is associated with reduced neuroendocrine, inflammatory, and cardiovascular activity).

<sup>111</sup> See generally TAMAR FRANKEL, TRUST AND HONESTY: AMERICA'S BUSINESS CULTURE AT A CROSSROAD (2006).

<sup>112</sup> See generally HERSH SHEFRIN, A BEHAVIORAL APPROACH TO ASSET PRICING 201-19 (2005). See also <http://sentiment.behaviouralfinance.net/>.

<sup>113</sup> Lynn A. Stout, *The Investor Confidence Game*, 68 BROOK. L. REV. 407 (2002).

<sup>114</sup> See generally RESTORING TRUST IN AMERICAN BUSINESS (Jay W. Lorsch et al. eds., 2005); RESTORING TRUST IN AMERICA'S BUSINESS INSTITUTIONS: CONFERENCE PROCEEDINGS, GEORGETOWN UNIVERSITY LAW CENTER, NOV. 6-7, 2003 (Margaret M. Blair & William W. Bratton eds., 2005); and ROBERT C. SOLOMON & FERNANDO FLORES, BUILDING TRUST IN BUSINESS, POLITICS, RELATIONSHIPS, AND LIFE (2001).

<sup>115</sup> Maurice E. Schweitzer et al., *Promises and Lies: Restoring Violated Trust*, ORG. BEHAV. & HUMAN DECISION PROCESSES (forthcoming), available at <http://knowledge.wharton.upenn.edu/papers/1321.pdf>.

<sup>116</sup> Malek Lashgari, *The Role of TED Spread and Confidence Index in Explaining the Behavior of Stock Prices*, 18 J. FIN. & QUANTITATIVE ANALYSIS 9 (2000).

<sup>117</sup> George J. Jiang, & Yisong S. Tian, *Gauging the 'Investor Fear Gauge': Implementation Problems in the CBOE's New Volatility Index and a Simple Solution*, (June 16, 2005), available at <http://ssrn.com/abstract=880459>; Matthew

Mutual Funds,<sup>120</sup> the Put-Call Ratio,<sup>121</sup> and the Risk Appetite Index.<sup>122</sup> A recent empirical study finds that a simple measure of media pessimism constructed from the Wall Street Journal's daily "Abreast of the Market" column predicts low stock market prices.<sup>123</sup> EIA of investor sentiment must differentiate amongst different categories of investors, however, because investor sentiment differs across investors.<sup>124</sup>

Although how to accurately and most usefully measure the mood and sentiment of consumers and investors remain open questions,<sup>125</sup> there are several measures of consumer and investor confidence and optimism including the ABC News/Money Magazine Consumer Comfort Index;<sup>126</sup> UBS/Gallup Index of Investor Optimism;<sup>127</sup> the Conference Board's Consumer Confidence Index;<sup>128</sup> and the University of Michigan, Institute for Social Research, Survey Research Center Index of Investor Sentiment, Investor Current Conditions Index, Index of Investor Expectations, Index of Consumer Sentiment, Index of Consumer Confidence, and Index of Consumer Expectations.<sup>129</sup> A number of studies investigate the relationship between various measures of consumer confidence or investor sentiment and real economic variables or stock market performance.<sup>130</sup> Thus, although emotional variables are more difficult to

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T. Moran, *Review of the VIX Index and VIX Futures*, J. INDEXES, Oct./Nov. 2004, at 16; Robert E. Whalley, *The Investor Fear Gauge*, 26 J. PORTFOLIO MGMT. 12 (2000). See also <http://www.cboe.com/micro/vix/faq.aspx>; and

<sup>118</sup> Arindam Bandopadhyaya & Anne Leah Jones, *Measuring Investor Sentiment in Equity Markets*, J. ASSET MGMT. (forthcoming).

<sup>119</sup> Malcolm Baker & Jeffrey Wurgler, *Investor Sentiment and the Cross-Section of Stock Returns*, J. FIN. (Aug. 2006), available at [http://www.afajof.org/journal/forth\\_abstract.asp?ref=251](http://www.afajof.org/journal/forth_abstract.asp?ref=251).

<sup>120</sup> Maury R. Randall et al., *Pure Contagion and Investors' Shifting Risk Appetite: Analytical Issues and Empirical Evidence*, 5 INT'L FIN. 401 (2002).

<sup>121</sup> Patrick Dennis & Stewart Mayhew, *Mutual Fund Cash Flows and Stock Market Performance*, 12 J. INVESTING 78 (2003).

<sup>122</sup> Manmohan S. Kumar & Avinash Persaud, *Pure Contagion and Investors' Shifting Risk Appetite: Analytical Issues and Empirical Evidence*, 5 INT'L FIN. 401 (2002).

<sup>123</sup> Paul C. Tetlock, *Giving Content to Investor Sentiment: The Role of the Media in the Stock Market*, J. FIN. (forthcoming).

<sup>124</sup> Kenneth L. Fisher & Meir Statman, *Investor Sentiment and Stock Returns*, FIN. ANALYST S.J., Mar./Apr. 2000, at 16.

<sup>125</sup> Jeff Dominitz & Charles F. Manski, *How Should We Measure Consumer Confidence?*, J. ECON. PERSP., Spring 2004, at 51.

<sup>126</sup> <http://www.abcnews.go.com>

<sup>127</sup> Dennis Jacobo & David W. Moore, *Cutting Through the Noise: The UBS Index of Investor Optimism*, PUB. PERSP. Mar./Apr. 2003, at 35. See also <http://www.ropercenter.uconn.edu/ubs.html>; and <http://www.ubs.com/1/e/about/research/indexofinvestoroptimism.html>.

<sup>128</sup> <http://www.conference-board.org/>.

<sup>129</sup> <http://www.sca.isr.umich.edu>.

<sup>130</sup> See e.g., Kenneth L. Fisher & Meir Statman, *Market Timing in Regressions and Reality*, 29 J. FIN. RES. 293 (2006); Kenneth L. Fisher & Meir Statman, *Consumer Confidence and Stock Returns*, Fall J. PORTFOLIO MGMT. 115

measure and quantify than traditional financial economic variables, it has been done in various ways, making EIA quite feasible.

## **II. How Cost-Benefit Analysis and Emotional Impact Analysis Differ**

CBA strives to be, often appears to be, and usually is a cold and unemotional, technocratic method of (assisting) human decision-making. Quantification has a seductive allure suggesting at once clarity and simplicity, providing individuals and societies hard raw data for deliberation over and justification of decisions.<sup>131</sup> CBA, like other forms of commensuration,<sup>132</sup> such as rankings of academic institutions, employers, places to live, websites, and wines, certainly appears to fill an understandable human desire for objectivity and precision.<sup>133</sup> But, some critics of CBA believe this appearance is more of an illusion than a reality.<sup>134</sup> Some people have felt that “[s]ome debates were so emotionally charged, you couldn’t even conduct them – and certainly not in public.”<sup>135</sup> In other words, certain arguments, comparisons, and trade-offs are considered improper or taboo.<sup>136</sup> Such process concerns as emotional impacts of deliberating over and making tragic choices,<sup>137</sup> explicitly instead of implicitly, help explain some people’s resistance to CBA. Expressive views of law<sup>138</sup> view choices among incommensurable

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(2003) Kenneth L. Fisher & Meir Statman, *Blowing Bubbles*, 3 J. PSYCHOL. & FIN. MARKETS 53 (2002); W. Jos Jansen & Niek J. Nahuis, *The Stock Market and Consumer Confidence: European Evidence*, 79 ECON. LETTERS 89 (2003); Alok Kumar & Charles M.C. Lee, *Retail Investor Sentiment and Return Comovements*, J. FIN. (Oct. 2006), available at [http://www.afajof.org/journal/forth\\_abstract.asp?ref=263](http://www.afajof.org/journal/forth_abstract.asp?ref=263); Sydney C. Ludvigson, *Consumer Confidence and Consumer Spending*, J. ECON. PERSP., Spring 2004, at 29; and Lily Xiaoli Qiu & Ivo Welch, *Investor Sentiment Measures* (June 5, 2006), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=589641](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=589641).

<sup>131</sup> See generally I. BERNARD COHEN, *THE TRIUMPH OF NUMBERS: HOW COUNTING SHAPED MODERN LIFE* (2005).

<sup>132</sup> Wendy N. Espeland & Mitchell L. Stevens, *Commensuration as a Social Process*, 24 ANN. REV. SOC. 313, 315 (1998) (defining commensuration).

<sup>133</sup> See generally JOHN M. HENSHAW, *DOES MEASUREMENT MEASURE UP?: HOW NUMBERS REVEAL AND CONCEAL THE TRUTH* (2006).

<sup>134</sup> DAVID BOYLE, *THE SUM OF OUR DISCONTENT: WHY NUMBERS MAKE US IRRATIONAL* 19 (2004).

<sup>135</sup> RICHARD BRADLEY, *HARVARD RULES: THE STRUGGLE FOR THE SOUL OF THE WORLD’S MOST POWERFUL UNIVERSITY* 19 (2005).

<sup>136</sup> A. Peter McGraw & Philip E. Tetlock, *Taboo Trade-Offs, Relational Framing, and the Acceptability of Exchanges*, 15 J. CONSUMER RES. 2 (2005).

<sup>137</sup> See generally GUIDO CALABRESI & PHILIP BOBBITT, *TRAGIC CHOICES* (1978).

<sup>138</sup> See generally ELIZABETH S. ANDERSON, *VALUE IN ETHICS AND ECONOMICS* (1996); Elizabeth S. Anderson & Richard H. Pildes, *Expressive Theories of Law: A General Restatement*, 148 U. PA. L. REV. 1503 (2000); and Richard H. Pildes & Elizabeth S. Anderson, *Slinging Arrows At Democracy: Social Choice Theory, Pluralism, and Democratic Politics*, 90 COLUM. L. REV. 2121 (1990).

options and processes by which societies make those choices as signals of those societies' identities<sup>139</sup> or aspirations.<sup>140</sup> Such views of social decision-making are related to a psychological model of individual self-signaling.<sup>141</sup> When and how policy makers decide to utilize CBA methodology and techniques can in this way shape our society just as certain theoretical models shaped modern financial markets.<sup>142</sup>

As an economist notes, “[i]n principle, cost-benefit analyses are accounting exercises, a way of adding up the benefits and costs ... and then comparing them. In practice, however, cost-benefit analyses are rich, economic exercises that bring to bear ... microeconomic reasoning ... and a host of interesting empirical evidence.”<sup>143</sup> But, CBA does not count emotional impacts when analyzing benefits and costs. Some omissions are implicit and unconscious, because it has become a second-hand, automatic reflex for CBA to ignore much affect because of the dual conservative forces of precedent and tradition. Other exclusions of emotions in CBA are conscious, deliberate, explicit and intentional choices due to beliefs and feelings that emotional variables are categorically distinct from unemotional variables;<sup>144</sup> and therefore insurmountably difficult to measure, too complex to easily analyze, or too nebulous to make operational.

To illustrate how EIA differs from CBA, reconsider the case which this Article started with, namely the SEC rule that requires mutual funds to have independent board chairs and a higher percentage of independent directors than before. CBA of requiring independent board chairs and more independent

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<sup>139</sup> See generally Claire A. Hill, What the New Economics of Identity has to Say to Legal Scholarship, University of Minnesota Legal Studies Research Paper No. 05-46 (unpublished manuscript) (Nov. 9, 2005), available at <http://ssrn.com/abstract=844345>.

<sup>140</sup> See generally Philip Harvey, *Aspirational Law*, 52 BUFF. L. REV. 701 (2004).

<sup>141</sup> Drazen Prelec & Ronit Bodner, *Self-Signaling and Self-Control*, in TIME AND DECISION: ECONOMIC AND PSYCHOLOGICAL PERSPECTIVES ON INTERTEMPORAL CHOICE. 277 (George Loewenstein et al. eds. 2003); and Ronit Bodner & Drazen Prelec, *Self-Signaling and Diagnostic Utility in Everyday Decision Making*, in 1 THE PSYCHOLOGY OF ECONOMIC DECISIONS: RATIONALITY AND WELL-BEING 105 (Isabelle Brocas & Juan D. Caririllo eds., 2003).

<sup>142</sup> See generally, DONALD MACKENZIE, AN ENGINE, NOT A CAMERA: HOW FINANCIAL MODELS SHAPE MARKETS (2006).

<sup>143</sup> GRUBER, supra note 90, at 194.

<sup>144</sup> CASS R. SUNSTEIN, RISK AND REASON: SAFETY, LAW, AND THE ENVIRONMENT 292 (2003) (stating that CBA “might seem to disregard people’s sense of risk and danger. The point is correct, but is no objection. Policy should ordinarily be rooted in evidence, not baseless fear or unwarranted optimism”).

directors for mutual funds considered, among other financial costs, these:<sup>145</sup> (1) search costs to find qualified board candidates; (2) new board member salaries; (3) higher compensation for independent board chairs; and (4) additional remuneration to retain independent legal counsel and other support staff for new independent directors. CBA considered, among other financial benefits, these:<sup>146</sup> (1) enhancing quality of fund governance; (2) fostering more capital formation; (3) increasing accountability by fund boards; and (4) increasing market liquidity.

EIA of requiring independent board chairs and more independent directors for mutual funds evaluates likely magnitudes of such negative emotional impacts as these: (1) a false sense of security by fund shareholders resulting in less individual vigilance; (2) additional influence costs;<sup>147</sup> (3) reduced board cohesiveness; and (4) transition costs of changing board cultures. EIA should also quantify such positive emotional impacts as these: (1) greater investor confidence and trust in mutual funds; (2) avoiding documented perverse, psychological shortcomings to simply disclosing conflicts of interest;<sup>148</sup> (3) lower decision-making anxiety for potential fund shareholders; (4) lower stress for existing fund shareholders; and (5) placebo effects.<sup>149</sup> The first positive emotional impact cited above is one that the SEC often cites in proposing rules,<sup>150</sup> but makes no attempt to quantify by its own empirical survey research or any reference to data from existing survey measures. The second positive emotional impact cited above requires explicitly comparing the proposed substantive regulation with the most common policy alternative in the SEC's regulatory toolkit, namely mandatory disclosure. This example thus

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<sup>145</sup> Investment Company Governance, *supra* note 43, at 39,391-39,396.

<sup>146</sup> *Id.*, at 39,396.

<sup>147</sup> Margaret A. Meyer et al., *Organizational Prospects, Influence Costs and Ownership Changes*, 1 J. ECON. & MGMT. STRATEGY 9 (1992).

<sup>148</sup> Daylian M. Cain et al., *Coming Clean but Playing Dirtier: The Shortcomings of Disclosure as a Solution to Conflicts of Interest*, in CONFLICTS OF INTEREST: CHALLENGES AND SOLUTIONS IN BUSINESS, LAW, MEDICINE, AND PUBLIC POLICY 104 (Don A. Moore et al. eds., 2005) (presenting evidence that disclosure of conflicts of interest can have two perverse effects: (1) disclosers behave in more biased fashion; and (2) audience of disclosure insufficiently discounts for conflict of interest); and Daylian M. Cain et al., *The Dirt on Coming Clean: Perverse Effects of Disclosing Conflicts of Interest*, 34 J. LEGAL STUD. 1 (2005) (same).

<sup>149</sup> Amitai Aviram, *The Placebo Effect of Corporate Compliance Programs* (unpublished manuscript), available at <http://www.law.ufl.edu/faculty/publications/pdf/avir.pdf>.

<sup>150</sup> Stephen J. Choi, *Behavioral Economics and the Regulation of Public Offerings*, 10 LEWIS & CLARK L. REV. 85, 90-91 n.22 (2006) (citing numerous examples of SEC proposed regulations invoking promotion of investor confidence, without analysis).

illustrates how EIA could lead to a regulatory outcome different from traditional policy instruments under CBA.

EIA should obtain evidence from, among other sources, a request for public comment and empirical affective data as to whether and, if so, how much this proposed rule would actually promote the positive emotional impact of more investor confidence. The affirming majority of the SEC Commissioners merely and summarily asserted the value of promoting investor confidence as buzzwords and as a mantra,<sup>151</sup> without engaging in EIA to measure investor confidence in at least quantitative, if not dollar terms.<sup>152</sup> Both dissenting SEC Commissioners criticized and questioned the affirming majority for such vague assertions.<sup>153</sup> Thus, a contentious part of the controversy over these mutual fund governance rules is the actual size of a particular and often cited positive emotional impact, namely more investor confidence over and greater trust in securities markets. In other words, despite all of the fuss over what are the likely costs of complying with these mutual fund governance rules, a crucial part of the controversy over these mutual fund governance rules is due to differences in beliefs about whether the SEC can and should perform EIA of investor confidence.

It is quite intuitive that there was a flight from U.S. stock markets because investors lost confidence and trust in our stock markets after our string of infamous corporate scandals. A recent empirical study by several economists at the Brookings Institution provided ballpark estimates that suggest the crisis in U.S. corporate governance reduced the U.S. Gross Domestic Product (GDP) in the first year after the scandals from a low of 0.20% to a high of 0.48% of GDP, or approximately \$21 to \$49.9 billion.<sup>154</sup> In their base case, GDP drops 0.34%, or approximately \$35.4 billion. To place these base case numbers in comparative perspective and familiar contexts, those numbers are in the range of

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<sup>151</sup> Investment Company Governance, *supra* note 43, at 39,396 and 39,400-39,401.

<sup>152</sup> *Id.*, at 39,396.

<sup>153</sup> *Id.*, at 39,405 and 39,408.

<sup>154</sup> Carol Graham et al., *The Bigger They Are, the Harder They Fall: An Estimate of the Costs of the Crisis in Corporate Governance*, 6 Working Paper The Brookings Institution (Aug. 30, 2002), available at <http://www.brookings.edu/Views/Papers/Graham/20020722Graham.pdf>. See also Carol Graham et al., *Cooking the Books: The Cost to the Economy*, Policy Brief # 106, The Brookings Institution (Aug, 2002), available at <http://www.brookings.edu/comm/policybriefs/pb106.htm> and *Cooking the Books: The Economic and Political*

what the federal government spent annually on homeland security, or the surge in annual total costs of U.S. oil imports due to a \$10 or 38% rise in the per barrel price of crude oil.<sup>155</sup> They base their calculations on conservative estimates of how the corporate governance crisis impacts stock market wealth, which in turn affects consumer expenditures and investment,<sup>156</sup> calibrated according to a model of the U.S. economy due to the Federal Reserve Board.<sup>157</sup> Their estimates are conservative because they do not include longer-term supply side disturbances related to bankruptcies of several major corporations, or inefficiencies due to distorted consumer, corporate, and investor decisions based upon misreported corporate earnings. There is additional evidence that on average, for each dollar by which a corporation misleadingly inflates its market value, once its misconduct has been revealed that firm loses not only that dollar, but also an additional \$2.47, of which \$0.18 is from expected legal penalties, while \$2.29 is from stock market reputation penalties defined as expected losses in present value of future cash flows resulting from increased contracting and financing costs.<sup>158</sup>

A trust-based explanation of why investors deserted American stock markets would imply that restoring, maintaining, and promoting investor confidence about and trust in our stock markets is crucial to U.S. economic prosperity. But trust plays no role in standard neoclassical financial models about investors' optimal portfolio choices and rates of stock market participation. Only very recently does a financial model analytically demonstrate how people's fears of being cheated reduce their participation in stock markets.<sup>159</sup> Reasonable calibrations of this model demonstrate that mistrust in stock markets alone can explain why many wealthy Americans do not buy stocks, and account for cross-country differences in

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Implications of the Crisis in Corporate Governance, 3-6, A Brookings National Issues Forum (Sept. 4, 2002), available at <http://www.brookings.edu/comm/events/20020904.htm>

<sup>155</sup> Graham et al., *supra* note 154, at 11.

<sup>156</sup> James M. Porterba & Andrew A. Samwick, *Stock Ownership Patterns, Stock Market Fluctuations, and Consumption*, 2 BROOKINGS PAPERS ON ECON. ACTIVITY 295 (1995).

<sup>157</sup> David Reifschneider et al., *Aggregate Disturbances, Monetary Policy, and the Macroeconomy: The FRB/US Perspective*, FED. RES. BULL. (Jan. 1999).

<sup>158</sup> Jonathan M. Karpoff et al., *The Cost to Firms of Cooking the Books*, (July 27, 2005), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=652121](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=652121).

<sup>159</sup> Luigi Guiso et al., *Trusting the Stock Market*, Nat'l Bureau of Econ. Res. Working Paper No. 11648 (unpublished manuscript) (Sept. 19, 2005), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=811545](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=811545).

stock market participation rates.<sup>160</sup> In addition, there is recent experimental and survey evidence that family background, gender, and political ideology affect how much American college students believe that economic theory predicts outcomes in a double auction.<sup>161</sup> These findings also extend to Russian students.<sup>162</sup> Also recently, a study conducting five experiments finds “that incidental emotions significantly influence trust in unrelated settings. Happiness and gratitude – emotions with positive valence – increase trust, and anger – an emotion with negative valence – decreases trust.”<sup>163</sup>

Future research should analyze how such emotions as anxiety and frustration influence trust.<sup>164</sup> A pair of legal scholars recently proposed a cognitive theory about optimal trust and explored its policy implications for two settings: corporate governance and doctor-patient relationships.<sup>165</sup> They note that the socially optimal amount of fraud is not zero because most people do are not willing to live in societies having the high costs required to deter all deception and fraud. Similarly, the socially optimal amounts of automobile accidents and automobile pollution are not zero because most people are not willing to live in societies without cars. While determination of the socially optimal amount of non-zero fraud is easy to do in theory by just solving for the amount of fraud at which its marginal social costs and marginal social benefits are set equal, such determination is difficult in practice due to imperfect and incomplete data concerning actual empirical magnitudes of marginal social benefits and marginal social costs. Also, financial economist Michael C. Jensen recently advocated that financial theory and practice develop a language for how integrity affects corporate, market, personal, and policy issues.<sup>166</sup>

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<sup>160</sup> *Id.*

<sup>161</sup> D. Andrew Austin & Nathaniel T. Wilcox, *Believing in Economic Theory: Sex, Lies, Evidence, Trust, and Ideology*, Center for Economic Research and Graduate Education - Economics Institute Working Paper 238 (2004), available at <http://www.cerge-ei.cz/pdf/wp/Wp238.pdf>.

<sup>162</sup> D. Andrew Austin et al., *Believe but Verify? Russian Views and the Market*, Center for Economic Research and Graduate Education - Economics Institute Working Paper 278 (Sept. 2005), available at <http://www.cerge-ei.cz/pdf/wp/Wp278.pdf>.

<sup>163</sup> Jennifer R. Dunn & Maurice E. Schweitzer, *Feeling and Believing: The Influence of Emotion on Trust*, 88 J. PERSONALITY & SOC. PSYCHOL. 736 (2005).

<sup>164</sup> *Id.*, at 746.

<sup>165</sup> Claire A. Hill & Erin Ann O’Hara, *A Cognitive Theory of Trust* (unpublished manuscript) (Nov. 2005).

<sup>166</sup> Michael C. Jensen, *Putting Integrity into Finance Theory and Practice: A Positive Approach*, Harvard Negotiation, Organizations and Markets Research Paper No. 06-06 (Jan. 6, 2006), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=876312](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=876312).

One possible concern about EIA is that while people feel emotional impacts, those experiences are temporary psychological effects that dissipate with repeated experience or self-practice. A second concern about EIA is that emotional impacts often are overreactions at least initially that people self-correct over time. But, just as often corrections might be over-corrections.<sup>167</sup> A third reservation about EIA is that emotional overreactions get corrected by financial markets, with the so-called level-headed earning arbitrage profits at the expense of so-called irrationally emotionally-driven traders. The rebuttal to such a false belief is that any such alleged market correction process is costly and lengthy. In addition, there always is a new supply of people who are motivated at least partially by their emotions, so by the time that financial markets have adjusted to the excessive optimism of the 1980's, there is the irrational exuberance of the 1990's.

A related set of issues about EIA involve the variability of emotions across time.<sup>168</sup> Two familiar examples of people being unable to accurately forecast their own future emotions are people buying too little food when they shop for groceries on a full stomach and often those same people buying too much food when they shop for groceries on an empty stomach. There is psychological evidence that people adapt over time both faster and more than they and others expected to happiness,<sup>169</sup> and some types of unhappiness.<sup>170</sup> Social psychological research into how accurately people can forecast affect reveals that people overestimate both the duration and intensity of their future happiness or unhappiness in response to changes in their external circumstances.<sup>171</sup> Such affective overestimation can be due to a several

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<sup>167</sup> See generally Ehud Guttel, *Overcorrection*, 93 GEO. L.J. 241 (2004).

<sup>168</sup> See generally JUDGMENTS OVER TIME: THE INTERPLAY OF THOUGHTS, FEELINGS, AND BEHAVIORS (Lawrence J. Sanna & Edward C. Chang eds., 2006).

<sup>169</sup> See e.g., Philip Brickman, Dan Coates & Ronnie J. Janoff-Bulman, *Lottery Winners and Accident Victims: Is Happiness Relative?*, 36 J. PERSONALITY & SOC. PSYCHOL. 917 (1978). But see Richard A. Easterlin, *Is There an "Iron Law of Happiness"?*, Institute of Economic Policy Research Working Paper 05.8 (Jan. 2005), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=653543](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=653543); and Sonja Lyubomirsky et al., *Pursuing Happiness: The Architecture of Sustainable Change*, 9 REV. GEN. PSYCHOL. 111 (2005).

<sup>170</sup> See e.g., Robert H. Frank, *Does Absolute Income Matter?*, in *ECONOMICS AND HAPPINESS: FRAMING THE ANALYSIS* (Luigino Bruni & Pier Luigi Porta eds., 2006); and Andrew J. Oswald & Nattavudh Powdthavee, *Does Happiness Adapt? A Longitudinal Study of Disability with Implications for Economists and Judges*, (unpublished manuscript) (Sept. 30, 2005), available at [http://www2.warwick.ac.uk/fac/soc/economics/staff/faculty/oswald/hedonic\\_adaptation.pdf](http://www2.warwick.ac.uk/fac/soc/economics/staff/faculty/oswald/hedonic_adaptation.pdf).

<sup>171</sup> See e.g., Jeremy A. Blumenthal, *Law and the Emotions: The Problem of Affective Forecasting*, 80 IND. L.J. 155 (2005); Daniel T. Gilbert et al., *Looking Forward to Looking Backward*, 15 PSYCHOL. SCI. 346 (2004); DANIEL

causes,<sup>172</sup> including a focusing illusion,<sup>173</sup> a distinction bias,<sup>174</sup> and immune neglect.<sup>175</sup> Regardless of its cause, people inaccurately anticipate their adaptation upon a hedonic treadmill.<sup>176</sup> A pair of psychologists introduced the phrase “hedonic treadmill” to suggest that pursuit of happiness is akin to a person on a treadmill, who must keep working just to stay in the same place.<sup>177</sup> People also incorrectly predict other people’s emotional reactions,<sup>178</sup> and their own hedonic adaptation.<sup>179</sup>

Recent advances in emotions research provide several refinements in our understanding about temporal dimensions of emotions. First, people accurately forecast specific emotions in contrast with experiencing focusing illusions about happiness or subjective well-being.<sup>180</sup> Second, inaccurate judgments about anticipated and remembered emotions can function to motivate pursuit of and striving

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GILBERT, STUMBLING ON HAPPINESS (2006); THOMAS GILOVICH ET AL., SOCIAL PSYCHOLOGY 506-07 (2006); Jon Gertner, *The Futile Pursuit of Happiness*, N.Y. TIMES MAG., Sept. 7, 2003, at 44; Jennifer S. Lerner & Roxana M. Gonzalez, *Forecasting One’s Future Based on Fleeting Subjective Experiences*, 31 PERSONALITY & SOC. PSYCHOL. BULL. 454 (2005); and Timothy D. Wilson et al., *Making Sense: The Causes of Emotional Evanescence*, in 1 THE PSYCHOLOGY OF ECONOMIC DECISIONS: RATIONALITY AND WELL-BEING 209 (Isabelle Brocas & Juan D. Carrillo eds., 2003).

<sup>172</sup> Daniel Kahneman & Richard H. Thaler, *Utility Maximization & Experienced Utility*, J. ECON. PERSP., Winter 2006, at 221 (discussing four areas of mistaken hedonic forecasts and choices).

<sup>173</sup> See e.g., Daniel Kahneman et al., *Would You Be Happier If You Were Richer? A Focusing Illusion*, 312 SCI. 1908 (2006); David A. Schkade & Daniel Kahneman, *Does Living In California Make People Happy? A Focusing Illusion in Judgments of Life Satisfaction*, 9 P PSYCHOL. SCI. 340 (1998); and Timothy Wilson et al., *Focalism: A Source of Durability Bias in Affective Forecasting*, 78 J. PERSONALITY & SOC. PSYCHOL. 821 (2000). But see Kent C. H. Lam et al., *Cultural Differences in Affective Forecasting: The Role of Focalism*, 31 PERSONALITY & SOC. PSYCHOL. BULL. 1296 (2005) (presenting three studies which support a hypothesis that East Asians, who tend to think more holistically than Westerners, are less susceptible to focalism and, thus, bias in affective forecasting).

<sup>174</sup> Christopher K. Hsee & Jiao Zhang, *Distinction Bias: Misprediction and Mischoice Due to Joint Evaluation*, 86 J. PERSONALITY & SOC. PSYCHOL. 680 (2004).

<sup>175</sup> Daniel Gilbert et al., *Immune Neglect: A Source of Durability Bias in Affective Forecasting*, 75 J. PERSONALITY & SOC. PSYCHOL. 617 (1998).

<sup>176</sup> See e.g., RICHARD LAYARD, HAPPINESS: LESSONS FROM A NEW SCIENCE 48-49 (2005) (describing hedonic adaptation); and Daniel Kahneman, *Objective Happiness*, in WELL-BEING: THE FOUNDATIONS OF HEDONIC PSYCHOLOGY 13-14 (Daniel Kahneman, Ed Diener & Norbert Schwarz eds., 1999) (analyzing the hedonic treadmill hypothesis).

<sup>177</sup> Philip Brickman & Donald Campbell, *Hedonic Relativism and Planning the Good Society*, in ADAPTATION-LEVEL THEORY: A SYMPOSIUM 287 (Mortimer Herbert Appley ed., 1971).

<sup>178</sup> Leaf Van Boven et al., *The Illusion of Courage in Social Predictions: Underestimating the Impact of Fear of Embarrassment on Other People*, 96 ORG. BEHAV. & HUMAN DECISION PROCESSES 130 (2005).

<sup>179</sup> Jason Riis et al., *Ignorance of Hedonic Adaptation to Hemodialysis: A Study Using Ecological Momentary Assessment*, 134 EXPERIMENTAL PSYCHOL.: GENERAL 3 (2005).

<sup>180</sup> Martin A. Safer & Aaron J. Dodini, Individual Differences in Anticipated, Experienced, and Remembered Emotions, presented in the panel on Anticipating and Remembering Emotions of the 2006 International Society for Research on Emotions, Atlanta, GA (Aug. 10, 2006), available at <http://www.cas.gsu.edu/isre2006/program.html>.

for goals.<sup>181</sup> Third, people feel emotions not only during emotional experiences themselves, but also upon anticipation and retrospection of emotions. Recent psychological research provides experimental evidence that people feel more intense emotions upon contemplating these emotional events in the future than in the past: Thanksgiving, an annoying noise, an all expenses paid ski vacation, and menstruation.<sup>182</sup>

Notwithstanding these eventual adjustments people make after emotional impacts, two points are critical for this Article's analysis. First, based upon their inaccurate affective forecasts, people make decisions, some of which are irreversible, are very costly to reverse, or at least have lasting impacts. Second, EIA does not ask people to forecast ex ante their affect in the future, but instead envisions asking people to report ex post recently experienced affect.

The previously discussed empirical study by economists at the Brookings Institution<sup>183</sup> demonstrates that even if emotional impacts are transitory or people can adapt to affective reactions, affect has irreversible and permanent consequences upon such traditional economic variables as levels of aggregate consumption, investment, stock prices, and stock volume. More generally, incorrect affective forecasts will transform any forward-looking behavior, such as commercial real estate purchases, commercial and personal borrowing, consumer durable expenditures, mortgage financing and refinancing, new home construction, and residential real estate purchases. As 1972 Nobel Laureate in economics<sup>184</sup> Kenneth Arrow noted, expectations concerning the future affect many economic decisions in the present.<sup>185</sup> EIA should build upon recent economic theoretical research about how such affect as anxiety

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<sup>181</sup> Heather C. Lench & Linda J. Levine, Emotion Regulation Across Time,: Relation of Goals to Anticipated and Remembered Emotions, presented in the panel on Anticipating and Remembering Emotions of the 2006 International Society for Research on Emotions, Atlanta, GA (Aug. 10, 2006), available at <http://www.cas.gsu.edu/isre2006/program.html>.

<sup>182</sup> Leaf Van Boven & Laurence Ashworth, Looking Forward, Looking Back: Anticipation is More Evocative than Retrospection, presented in the panel on Anticipating and Remembering Emotions of the 2006 International Society for Research on Emotions, Atlanta, GA (Aug. 10, 2006), available at <http://www.cas.gsu.edu/isre2006/program.html>.

<sup>183</sup> Graham et al., *supra* note 154.

<sup>184</sup> <http://nobelprize.org/economics/laureates/1972/index.html>.

<sup>185</sup> See generally Kenneth Joseph Arrow, *The Future and the Present in Economic Life*, 16 ECON. INQUIRY 157 (1978).

and fear influence people's consumption, investment, and savings decisions.<sup>186</sup> Economists have only just begun to analyze theoretical models of how regulators can and should take into account and utilize such affect as anxiety and fear to influence people's behavior.<sup>187</sup>

EIA is able to address whether investors being concerned or scared about mutual fund board independence supports increasing the percentage of independent directors on mutual fund boards from 50% to 75%. EIA also can address whether and how much of a reduction in levels of mutual fund investors' anxiety justifies requiring mutual funds to retain independent board chairs. In thinking about distinctions among financial regulations for which EIA could be important, and those for which EIA might not, behavioral finance research is relevant.<sup>188</sup> For example, EIA should matter more for rules about closed-end funds, which are simply "firms whose only asset is a portfolio of common stocks,"<sup>189</sup> than open-end funds, which "stand ready to buy or sell additional shares at a price equal to the fund's net asset value per share."<sup>190</sup> A reason for this difference is that individuals are more involved with closed-end funds than with open-end funds. For that same reason, the observed empirical finding that closed-end

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<sup>186</sup> See e.g., Andrew Caplin & Jonathan Leahy, *Psychological Expected Utility Theory and Anticipatory Feelings*, 116 Q. J. ECON. 51 (2001) (providing the first theoretical model of how anticipatory emotions can alter economic behavior); and Wojciech Kopczuk & Joel Slemrod, Denial of Death and Economic Behavior, Nat'l Bureau of Econ. Res. Working Paper 11485 (June 2005) (providing the first theoretical model of the impact of denial and fear of death upon consumption and saving decisions), available at <http://www.nber.org/papers/w11485>.

<sup>187</sup> See Andrew Caplin, *Fear as a Policy Instrument*, in TIME AND DECISION: ECONOMICS AND PSYCHOLOGICAL PERSPECTIVES ON INTERTEMPORAL CHOICE 441-58 (George Loewenstein, Daniel Read, & Roy F. Baumeister eds., 2003) (providing the first theoretical model of how to utilize fear-inducing messages to motivate citizens to undertake preventive care); Andrew Caplin & Kfir Eliaz, *AIDS Policy and Psychology: A Mechanism-Design Approach*, 34 RAND J. ECON. 631 (2003) (providing the first theoretical model of AIDS policy when people are fearful of AIDS testing); Andrew Caplin & Jonathan Leahy, *The Supply of Information by a Concerned Expert*, 114 ECON. J. 487 (2004) (providing the first theoretical model of the optimal disclosure procedure for doctors facing potentially anxious patients); Andrew Caplin & Jonathan Leahy, *Behavioral Policy*, in 1 THE PSYCHOLOGY OF ECONOMIC DECISIONS: RATIONALITY AND WELL-BEING 73, 79-85 (Isabelle Brocas & Juan D. Carillo eds., 2003) (outlining theoretical challenges that anxiety and stress pose for analyzing such educational policies as genetic testing and providing financial retirement savings information); and Botond Koszegi, *Health Anxiety and Patient Behavior*, 22 J. HEALTH ECON. 1073 (2003) (providing the first theoretical model of patients' anxiety over their health and consequences of such fears and stress for patient decision-making about information acquisition and treatment).

<sup>188</sup> See generally ADVANCES IN BEHAVIORAL FINANCE (Richard H. Thaler ed., 1993); and II ADVANCES IN BEHAVIORAL FINANCE (Richard H. Thaler ed., 2005).

<sup>189</sup> BREALEY, MYERS, & ALLEN, *supra* note 27, at 963.

<sup>190</sup> Investment Company Governance, *supra* note 43, at 39,405 and 39,408.

fund shares usually trade for less than the per share market value of the assets the fund holds is a puzzle,<sup>191</sup> while “[t]he share price of an open-end fund always equals net asset value.”<sup>192</sup>

To decide in what financial environments EIA adds value to CBA in regulatory and policy evaluation, it would help courts, the SEC, and securities law scholars to answer these questions. Which SEC rules are most likely to result in emotional impacts on individual retail investors? Which SEC rules are most likely to result in emotional impacts on at least some decision-makers at large institutional investors?<sup>193</sup> EIA can and should also examine how the nature and size of emotional impacts differ between individual retail investors, such as the stereotypical widows and orphans, and large institutional investors, such as mutual funds and pension plan sponsors. In other words, how does this pair of negative emotional impacts differ: “I don’t want to lose my nest egg” versus “I don’t want to be fired”? And, how does this pair of positive emotional impacts differ: “I want my investments to double in value” versus “I want my annual bonus to be huge”?

An understandable concern at least among non-economists about CBA is that it privileges economics in policy evaluation by framing costs and benefits as positives or negatives that economists add or subtract. But, economists have enjoyed privileged roles in public policy for awhile,<sup>194</sup> as evidenced for example by the Council of Economic Advisors (CEA).<sup>195</sup> The CEA consists of three independent economists who, according to its founding mandate, “provide the President with objective economic analysis and advice on the development and implementation of a wide range of domestic and international economic policy issues.”<sup>196</sup> The CEA prepares an overview annually of U.S. economic

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<sup>191</sup> Charles M. C. Lee et al., *Investor Sentiment and the Closed-End Fund Puzzle*, 46 J. FIN. 75 (1991); and Navin Chopra et al., *Yes, Discounts on Closed-End Funds Are a Sentiment Index*, 48 J. FIN. 801 (1993).

<sup>192</sup> *Id.*, at n.12.

<sup>193</sup> See e.g., Andrew W. Lo & Dmitry V. Repin, *The Psychophysiology of Real-Time Financial Risk Processing*, 14 J. COGNITIVE NEUROSCI. 323 (2002).

<sup>194</sup> See generally MICHAEL A. BERNSTEIN, *A PERILOUS PROGRESS: ECONOMISTS AND PUBLIC PURPOSE IN TWENTIETH-CENTURY AMERICA* (2001). But see WHAT DO ECONOMISTS CONTRIBUTE? (Daniel B. Klein ed., 1999).

<sup>195</sup> <http://www.whitehouse.gov/cea/>.

<sup>196</sup> The Employment Act of 1946. H.R. 2202, S. 380, 15 U.S.C. § 1021 et seq. See generally G. J. Santoni, *The Employment Act of 1946: Some History Notes*, FED. RES. BANK OF ST. LOUIS REV., Nov. 1986, at 5-16. See also [http://www.americanpresident.org/action/orgchart/administration\\_units/councilofeconomicadvisers/a\\_index.shtml](http://www.americanpresident.org/action/orgchart/administration_units/councilofeconomicadvisers/a_index.shtml).

progress in a document known as the Economic Report of the President.<sup>197</sup> The CEA has a staff, which “includes about 20 academic economists, plus four permanent economic statisticians.”<sup>198</sup> Another example of the privileging of economics in law is that “[i]n the last few decades, the law and economics movement has had a tremendous impact on legal studies.”<sup>199</sup>

Psychologist Daniel Kahneman believes that psychologically informing economics is likely to be more influential and effective than attempting to displace economics from law and public policy;<sup>200</sup> and makes this observation:

there are really two disciplines that are in charge, and they're the economists and the lawyers. And the economists, in particular, are the gatekeepers, the academic gatekeepers of the policy world. They do the research, they interpret the research, and so everything goes through them in terms of what actually gets implemented. ... and this situation is one that is not going to change soon.<sup>201</sup>

Thus, EIA would redress a number of shortcomings of CBA as financial and securities regulators currently practice it. EIA would simply replace or supplement a dominant form of economic analysis in policymaking, namely CBA with a broader, more accurate brand of psychologically informed economics.

### **III. Cost-Benefit Analysis in SEC Rulemaking**

#### **A. Does the SEC Engage in Cost-Benefit Analysis?**

As a general empirical and factual matter, SEC rulemakings often contain sections with apparently extensive CBA. A casual perusal of many SEC proposed and final rules finds a larger percentage of pages in them devoted to discussing CBA than one might expect. For example, the final version of the above-mentioned controversial mutual fund governance rule (requiring independent board chairs and 75 percent of board members being independent) contained a section “III. Discussion,” which

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<sup>197</sup> <http://www.gpoaccess.gov/eop/>.

<sup>198</sup> [http://en.wikipedia.org/wiki/Council\\_of\\_Economic\\_Advisors](http://en.wikipedia.org/wiki/Council_of_Economic_Advisors).

<sup>199</sup> EMMA COLEMAN JORDAN & ANGELA P. HARRIS, *ECONOMIC JUSTICE: RACE, GENDER, IDENTITY, AND ECONOMICS*, at v (2005).

<sup>200</sup> See e.g., Russel B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 81 CA. L. REV. 1051 (2000).

<sup>201</sup> Daniel Kahneman, *Does Psychology Have Anything To Say to Policy Makers?*, 1 (Oct. 3, 2003), available at [http://www.gallup.hu/pps/2003/kahneman\\_transscript.pdf](http://www.gallup.hu/pps/2003/kahneman_transscript.pdf).

had a subsection “I. Costs Resulting From Exemptive Rule Amendments.”<sup>202</sup> Both concurring and dissenting SEC Commissioners also engaged in their own additional CBA discussions.<sup>203</sup> Thus, a total of 78% to 79% of the pages in the final version of this rule is devoted to CBA discussions. This might not be surprising because the U.S. Court of Appeals for the D.C. Circuit remanded this rule to the SEC for consideration of its costs.<sup>204</sup> Another example of an SEC proposal for a rule defining the term “nationally recognized statistical rating organization” contained a section “VI. Consideration of the Costs and Benefits of Proposed Rule,” which made up approximately 12% to 13% of the pages in that proposal.<sup>205</sup>

A careful examination of these and other such pages reveals that CBA by the SEC is often uninformative, should not be taken seriously, and ultimately is likely counterproductive. Also in those areas where EIA is crucial, such as the emotional impacts of investor confidence and trust in the integrity of securities markets, often cited by the SEC, the amount, level, quality, and sophistication of CBA is disappointing.

As a matter of general impression, the SEC rulemaking process clearly at least appears to attempt some discussion of CBA. Reasonable people can debate whether SEC attempts at CBA are more analogous to disingenuous image or public relations and informational management spin or instead sincere public discourse after careful information acquisition and examination. Reasonable individuals can also disagree over whether SEC discussions of CBA are understandable reactions to perceived demand by securities investors and securities industry professionals for the SEC to engage in CBA justifications of its rulemaking or alternatively overreactions, analogous to physicians engaging in practicing defensive medicine due to fears of unjustified malpractice lawsuits. It is an open empirical question whether the SEC already possesses or might develop a requisite institutional competence to engage successfully in EIA.

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<sup>202</sup> Investment Company Governance, *supra* note 43, at 39,391-97.

<sup>203</sup> *Id.*, at 39,399-401; and 39,403-408.

<sup>204</sup> U.S. Chamber of Commerce v. SEC, *supra* note 39.

<sup>205</sup> Definition of Nationally Recognized Statistical Rating Organization, Release Nos. 33-8570; 34-51572; IC-26834; File No. S7-04-05; Proposed Rule 70 Fed. Reg. 21,306, 21,319-21 (Apr. 25, 2005) (to be codified at 17 C.F.R. pt. 240), available at <http://www.sec.gov/rules/proposed/33-8570fr.pdf>

Thus, while the SEC engages in CBA in an ad hoc and haphazard fashion, the SEC typically does not perform formal, systematic CBA of its regulations. Neither do any of these other U.S. financial regulators: the Commodity Futures Trading Commission (CFTC); the Federal Deposit Insurance Corporation (FDIC); the Federal Reserve Board of Governors; and the Federal Trade Commission (FTC). However, current SEC Commissioner Annette Nazareth, during a Senate Banking Committee confirmation hearing on her nomination, said that she was “keenly aware of the cost of regulation and the importance of balancing these costs with the benefits that regulation seeks to achieve.”<sup>206</sup>

Each of the aforementioned U.S. financial regulators: the SEC, CFTC, FDIC, FTC, and Federal Reserve Board of Governors, is exempt from those major provisions of the executive orders that require CBA by executive agencies,<sup>207</sup> because each is an independent regulatory agency, not an executive agency.<sup>208</sup> The SEC and the other aforementioned U.S. financial regulators differ in this regard at least statutorily from U.S. executive agencies, such as the EPA, which engages in CBA in evaluating alternative regulations about environmental social risks.<sup>209</sup> Using the phrase “independent agency” to describe the SEC and similar financial regulatory agencies is of course ironic because “independent” financial regulatory agencies, such as the SEC, “are not independent of politics; they are highly dependent upon the industries that they are charged with regulating. That dependency is mediated through Congress, which uses its mediating role to extract financial support from the financial services industry, accounting firms and public companies.”<sup>210</sup> Thus, the SEC’s exemption from CBA stems from a highly formalistic distinction between it and other regulatory agencies that, in reality, all are more political (and beholden to the political branches) than independent.

## **B. Will the SEC Engage in Cost-Benefit Analysis?**

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<sup>206</sup> Deborah Solomon, *Cox Pledges to Leave Stock-Options Rule Alone*, N.Y. TIMES, July 27, 2005, at C3.

<sup>207</sup> Exec. Order No. 12,291, 3 C.F.R. 127, 128 (1981) § 1(d); Exec. Order No. 12,866, 3 C.F.R. 638, 639 (1993) § 3(b).

<sup>208</sup> Paper Reduction Act of 1980, codified as amended at 44 U.S.C. § 3502(10) (1994) and re-codified at 44 U.S.C. § 3502(5) (2000) after the Paper Reduction Act of 1995, Pub. L. No. 104-13, 109 Stat. 163 (1995).

<sup>209</sup> Cass R. Sunstein, *Cost-Benefit Default Principles*, 99 MICH. L. REV. 1651 (2001).

<sup>210</sup> Adam C. Pritchard, *The SEC at 70: Time for Retirement?*, 80 NOTRE DAME L. REV. 1073, 1092 (2005).

As mentioned already, a number of legal scholars have advocated that the SEC engage in more formal CBA.<sup>211</sup> While the public at present seems unlikely to push for CBA of securities regulation in response to a perception of too much financial and securities regulation, either Congress in response to lobbying pressure from the securities industry could impose CBA,<sup>212</sup> or the SEC and other U.S. financial regulators may preemptively impose CBA upon themselves due to “congressional pressure, interest group lobbying, bureaucratic (but nonexpertise-based) policy views, or bureaucratic protection of turf or other self-interest.”<sup>213</sup> Should the SEC and other U.S. financial regulators adopt CBA, they can learn from the significant experience of the SEC’s United Kingdom counterpart, the Financial Services Authority (FSA), which is mandated by statute to engage in CBA of its regulations.<sup>214</sup> American and British scholars and economic consultants have studied formal CBA of FSA financial regulations.<sup>215</sup> An American legal scholar has recently advocated for a number of compelling reasons that the United States also adopt a single, federal financial services agency that is akin to the United Kingdom’s FSA.<sup>216</sup>

A possible concern about EIA is that it will not impose a meaningful constraint on SEC rule-making. But such a reservation presumes that left by itself the SEC will regulate too much. There is a

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<sup>211</sup> Ribstein, *supra* note 63; Romano, *supra* note 63; Stephen J. Choi & Adam C. Pritchard, *Behavioral Economics and the SEC*, 56 STAN. L. REV. 1, 36-37 (2003) (proposing an internal review process where SEC staff members are required to justify their decisions to mitigate cognitive biases that affect the SEC); Stephanie Stern, *Cognitive Consistency: Theory Maintenance and Administrative Rulemaking*, 63 U. PITT. L. REV. 589, 626-27 (2002) (recommending “[r]eview processes that encourage counterargument” to counteract agency “lock-in” bias from notice-and-comment rulemaking).

<sup>212</sup> Sherwin, *supra* note 7, at 83.

<sup>213</sup> Elena Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245, 2353 (2001).

<sup>214</sup> Financial Services and Markets Act of 2000, c. 8, § 2(3)(c); § 155(1)-(2); and § 155(10) (Eng.).

<sup>215</sup> ISSAC ALFON & PETER ANDREWS, COST-BENEFIT ANALYSIS IN FINANCIAL REGULATION: HOW TO DO IT AND HOW IT ADDS VALUE (Financial Services Authority, Occasional Paper Series No. 3, 1999); FINANCIAL SERVICES AUTHORITY, CENTRAL POLICY, PRACTICAL COST-BENEFIT ANALYSIS FOR FINANCIAL REGULATORS: VERSION 1.1 (June 2000), available at <http://www.fsa.gov.uk/pubs/foi/CBA.pdf>; Julian R. Franks et al., *The Direct and Compliance Costs of Financial Regulation*, 21 J. BANKING & FIN. 1547 (1997); NERA ECONOMIC CONSULTING, THE FSA’S METHODOLOGY FOR COST-BENEFIT ANALYSIS (Nov. 26, 2004), available at [http://www.fsa.gov.uk/pubs/other/nera\\_CBA\\_report.pdf](http://www.fsa.gov.uk/pubs/other/nera_CBA_report.pdf); Press Release, *FSA Begins Costs of Regulations Study* (Mar. 3, 2005), available at <http://www.fsa.gov.uk/Pages/Library/Communication/PR/2005/027.shtml>; Howell E. Jackson, An American Perspective on the U.K. Financial Services Authority: Politics, Goals, and Regulatory Intensity, Harvard Law School John M. Olin Center for Law, Economics, and Business & Program on Corporate Governance Discussion Paper No. 522 (Aug. 2005), available at [http://www.law.harvard.edu/programs/olin\\_center/corporate\\_governance/papers/Jackson\\_522.pdf](http://www.law.harvard.edu/programs/olin_center/corporate_governance/papers/Jackson_522.pdf); and DAVID SIMPSON ET AL., SOME COST-BENEFIT ISSUES IN FINANCIAL REGULATION (Financial Services Authority, Occasional Paper Series No. 12, 2000), available at <http://www.law.harvard.edu/faculty/hjackson/projects.php>.

vast amount of empirical evidence that stringent SEC regulation facilitates capital market development and economic growth.<sup>217</sup> It should be clear that EIA can suggest and justify regulations that CBA might not because EIA but not CBA takes into account such positive emotional impacts as investor confidence and trust. Symmetrically EIA can prevent and eliminate regulations that CBA might not because EIA but not CBA takes into account such negative emotional impacts as anxiety and fear. An example of a policy that might fail EIA are non-specific terrorist alerts that only serve to incite hysteria and panic among the public at large that more than offsets any unemotional regulatory gains in terms of detecting and preventing terrorist attacks. Financial regulators engaging in EIA should not let other people's or their own preconceived notions about whether there is too much or too little financial regulation overall dictate EIA of specific proposed rules and regulations. Instead, a virtue of EIA is that it has a potential to and should provide a principled and unbiased tool for evaluating alternative regulatory policies.

### **C. Relevance of Criticisms of Cost-Benefit Analysis in Non-Financial Regulation**

Some people feel that routinely utilizing CBA for making policy decisions about environmental regulations is disturbing and inappropriate for a host of reasons. Applications of CBA to environmental, health, and safety regulations have understandably generated much contentious debate and heated controversy.<sup>218</sup> Some believe that, as is also possible with an increasingly influential Precautionary Principle,<sup>219</sup> certain politicians and interest groups utilize CBA for delay, inaction, and regulatory

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<sup>216</sup> Elizabeth F. Brown, *E Pluribus Unum – Out of Many, One: Why the United States Needs a Single Financial Services Regulator*, 14 U. MIAMI BUS. L. REV. 1 (2005).

<sup>217</sup> Frank B. Cross & Robert A. Prentice, *Economies, Capital Markets, and Securities Law U of Texas Law, Law and Econ Research Paper* (2006), available at <http://ssrn.com/abstract=908927> (surveying this literature and contributing its own empirical study).

<sup>218</sup> See generally ACKERMAN & HEINZERLING, *supra* note 83; Robert H. Frank, *Why Is Cost-Benefit Analysis So Controversial*, 29 J. LEGAL STUD. 913 (2000); Jeffrey L. Harrison, *Piercing Pareto Superiority: Real People and the Obligations of Legal Theory*, 39 AZ. L. REV. 1 (1997); Jeffrey L. Harrison, *Egoism, Altruism, and Market Illusions: The Limits of Law and Economics*, 33 U.C.L.A. L. REV. 1309 (1986); JORDAN & HARRIS, *supra* note 199, at 382-84 (2005); MARK KELMAN, *Is the Kaldor-Hicks Position Coherent?*, in A GUIDE TO CRITICAL LEGAL STUDIES 141-50 (1987); Duncan Kennedy, *Cost-Benefit Analysis of Entitlement Problems: A Critique*, 33 STAN. L. REV. 387, 422-45 (1981); and Symposium, *Cost-Benefit Analysis: Legal, Economic, and Philosophical Perspectives*, 29 J. LEGAL STUD. 837 (2000).

<sup>219</sup> See e.g., Mike Feintuck, *Precautionary Maybe, But What's the Principle? The Precautionary Principle, the Regulation of Risk, and the Public Domain*, 32 J.L. & SOC. 371 (2005). See generally CASS R. SUNSTEIN, *LAW OF FEAR: BEYOND THE PRECAUTIONARY PRINCIPLE* (2005). But see Dan M. Kahan et al., *Fear and Democracy or Fear*

paralysis.<sup>220</sup> Other legitimate concerns about CBA include these critiques: anti-regulatory tendencies;<sup>221</sup> cognitive biases;<sup>222</sup> commodification in terms of assigning economic value to items traditionally not considered in economic terms;<sup>223</sup> ideological biases;<sup>224</sup> ignoring of equity and justice considerations;<sup>225</sup> incommensurability of values to money;<sup>226</sup> indeterminacy;<sup>227</sup> its poor track record,<sup>228</sup> measurement errors;<sup>229</sup> mistaken beliefs about consequences of policies;<sup>230</sup> over-discounting of far-future consequences such as the possibility of catastrophic global warming;<sup>231</sup> reliance upon non-deliberative and unreflective preferences;<sup>232</sup> and undermining democratic process.<sup>233</sup> Not all these concerns about CBA in non-financial regulation apply to CBA in financial regulation. For example, dignity and other concerns about valuation of human life,<sup>234</sup> or loss of limb are unlikely to arise in applying CBA to financial regulations. But some other concerns about CBA of non-financial regulations, such as its potential for anti-regulatory bias, political misuse, organizational delay, or institutional paralysis, also may apply to CBA of securities regulations.

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*of Democracy? A Cultural Evaluation of Sunstein on Risk*, 119 HARV. L. REV. 1071 (2006) (reviewing and critiquing CASS R. SUNSTEIN, *LAWS OF FEAR: BEYOND THE PRECAUTIONARY PRINCIPLE*).

<sup>220</sup> SUNSTEIN, *supra* note 144, at 293 (stating that “[a]ny effort to ensure cost-benefit balancing should ensure that it does not produce “paralysis by analysis.””). See also Christopher J. Anderson, *The Psychology of Doing Nothing: Forms of Decision Avoidance Result from Reason and Emotion*, 129 PSYCHOL. BULL. 139 (2003).

<sup>221</sup> ACKERMAN & HEINZERLING, *supra* note 83, at 35; and Zygmunt J. B. Plater, *Dealing with Dumb and Dumber: The Continuing Mission of Citizen Environmentalism*, 20 J. ENVTL. L. & LITIGATION 9, 28 (2005). But see Robert W. Hahn, *The Economic Analysis of Regulation: A Response to the Critics*, 71 U. CHI. L. REV. 1021 (2004).

<sup>222</sup> See e.g., Daniel Kahneman et al., *The Endowment Effect, Loss Aversion, and Status Quo Bias*, J. ECON. PERSP., Winter 1991, at 193.

<sup>223</sup> See generally MARGARET JANE RADIN, *CONTESTED COMMODITIES* (2001); and *RETHINKING COMMODIFICATION: CASES AND READINGS IN LAW AND CULTURE* (Martha M. Ertman & Joan C. Williams eds., 2005).

<sup>224</sup> See generally C. Edwin Baker, *The Ideology of the Economic Analysis of Law*, 5 PHIL. & PUB. AFF. 3 (1975).

<sup>225</sup> DANIEL M. HAUSMAN & MICHAEL S. MCPHERSON, *ECONOMIC ANALYSIS, MORAL PHILOSOPHY, AND PUBLIC POLICY* 149 (2d ed. 2006).

<sup>226</sup> See generally *INCOMMENSURABILITY, INCOMPARABILITY, AND PRACTICAL REASON* (Ruth Chang ed., 1997); and Cass R. Sunstein, *Incommensurability and Valuation in Law*, 92 MICH. L. REV. 779 (1994).

<sup>227</sup> Amy Sinden, *In Defense of Absolutes: Combating the Politics of Power in Environmental Law*, 90 IOWA L. REV. 1405, 1454 (2005); and DANIEL A. FARBER & PHILIP J. FRICKEY, *LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION* 34 (1991).

<sup>228</sup> See generally Robert W. Hahn & Robert E. Litan, *Counting Regulatory Benefits and Costs: Lessons for the U.S. and Europe*, 8 J. INT’L ECON. L. 473, 478-86 (2005).

<sup>229</sup> Richard H. Pildes & Cass R. Sunstein, *Reinventing the Regulatory State*, 62 U. CHI. L. REV. 1, 47 (1995).

<sup>230</sup> HAUSMAN & MCPHERSON, *supra* note 225, at 151.

<sup>231</sup> See generally *AN INCONVENIENT TRUTH* (Paramount Pictures 2006).

<sup>232</sup> HAUSMAN & MCPHERSON, *supra* note 225, at 149-50.

<sup>233</sup> Amy Sinden, *The Economics of Endangered Species: Why Less is More in the Economic Analysis of Critical Habitat Designations*, 28 HARV. ENVTL. L. REV. 129, 207-09 (2004).

#### **IV. Conceptual and Measurement Issues with Emotional Impact Analysis**

A precursor to EIA is research by Richard Zerbo, Jr. and his co-authors about incorporating moral sentiments into CBA.<sup>235</sup> Zerbo's approach confronted and tackled conceptual difficulties and issues about including moral sentiments in CBA. This Article advocates counting and including not only moral sentiments in analyzing policy, but also emotional impacts. But Zerbo's approach bracketed any discussion of measurement issues associated with incorporating moral sentiments into CBA. Fortunately, many issues that measuring and quantifying emotional impacts have been addressed already in empirical, experimental, and theoretical research by economists and psychologists about happiness. Indeed, happiness is an alternative metric to money or wealth for measuring emotional impacts.

There is a variety of emotional impacts that EIA might helpfully incorporate, including distributional or equity concerns,<sup>236</sup> ethical considerations,<sup>237</sup> moral consequences,<sup>238</sup> and process concerns.<sup>239</sup> But if regulators are to incorporate these affective variables into their policy deliberations and evaluations, then regulators must be able to consistently quantify or measure such variables in order to improve upon their decision-making process by adding such affective variables to CBA. Fortunately, there are several precursors to EIA, including arguably Adam Smith's first book, *The Theory of Moral Sentiments* (1759), published seventeen years before his famous book, *The Wealth of Nations* (1776).<sup>240</sup>

##### **A. Moral (and Immoral) Sentiments**

EIA builds upon research analyzing the desirability and feasibility of policy makers taking into account moral sentiments. Zerbo utilizes the phrase "moral sentiments" to mean concern for other people, beings, or entities in the form of paternalistic or non-paternalistic altruistic preferences. People clearly feel moral sentiments as defined here. Thus, moral sentiments are particular examples or forms of

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<sup>234</sup> See generally Eric A. Posner & Cass R. Sunstein, *Dollars and Death*, 72 U. CHI. L. REV. 537 (2005).

<sup>235</sup> See e.g., Richard O. Zerbo, Jr., *Should Moral Sentiments Be Incorporated into Cost-benefit Analysis? An Example of Long-Term Discounting*, POL'Y SCI. (2006).

<sup>236</sup> See generally, LOUIS KAPLOW & STEVEN SHAVELL, *FAIRNESS VERSUS WELFARE* (2002).

<sup>237</sup> See generally, JOHN R. BOATRIGHT, *ETHICS IN FINANCE* (1999).

<sup>238</sup> See generally, BENJAMIN M. FRIEDMAN, *THE MORAL CONSEQUENCES OF ECONOMIC GROWTH* (2005).

<sup>239</sup> F. Thomas Juster et al., *A Conceptual Framework for the Analysis of Time Allocation Data*, in *TIME, GOODS, AND WELL-BEING* 113, ? (F. Thomas Juster & Frank P. Stafford eds., 1985).

emotional impacts. In fact, many individuals are more than willing to make charitable private donations of clothes, food, money, labor services, lodging, supplies, and time in order to express their moral sentiments towards victims of such natural disasters as hurricanes Katrina and Rita. Zerbe and his co-authors propose measuring moral sentiments by an individual's willingness to pay (WTP) for them.<sup>241</sup>

Moral sentiments are but one kind of ethical and other values missing from CBA because such values are not considered to be a legitimate part of CBA, are seen as being difficult to quantify, and are affective in their nature. Zerbe's approach advocates replacing the standard KH criterion (defined in the last section) for CBA with an aggregate KHM (for Kaldor-Hicks-Moral) measure that adds to the standard KH criterion one additional requirement: if there is a WTP or willingness to accept (WTA) for a particular item, then we should count its WTP or WTA.<sup>242</sup> Zerbe's approach proposes to utilize WTP or WTA as ways of measuring and monetizing people's moral sentiments. Potential examples include amounts of money that individuals are willing to pay to express their moral sentiments towards pets,<sup>243</sup> compassion towards animals,<sup>244</sup> or concern for trees.<sup>245</sup> To be clear, EIA does not advocate WTP or WTA measures to quantify emotional impacts; nor does it even propose monetizing emotional impacts. To be sure, if regulators engage in both CBA and EIA, they will have to combine those analyses. They can do so by attempted monetizing of emotional impacts, or conversion of monetary costs and benefits into measures of subjective well-being.

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<sup>240</sup> See generally Nava Ashraf et al., *Adam Smith, Behavioral Economist*, J. ECON. PERSP., Summer 2005, at 131.

<sup>241</sup> See generally Richard O. Zerbe, Jr., *An Integration of Equity and Efficiency*, 73 WASH. L. REV. 349 (1998); Richard O. Zerbe, Jr., *Is Cost-Benefit Analysis Legal? Three Rules*, 17 J. POL'Y ANALYSIS & MGMT. 419 (1998); RICHARD O. ZERBE, JR., *ECONOMIC EFFICIENCY IN LAW AND ECONOMICS* (2001); Richard O. Zerbe, Jr., *Can Law and Economics Stand the Purchase of Moral Satisfaction?*, 20 RESEARCH IN LAW AND ECONOMICS: AN INTRODUCTION TO THE LAW AND ECONOMICS OF ENVIRONMENTAL POLICY: ISSUES IN INSTITUTIONAL DESIGN 135 (Richard O. Zerbe, Jr. & Timothy Swanson, eds., 2002); and Richard O. Zerbe, Jr. & Sunny Knott, *An Economic Justification for a Price Standard in Merger Policy: The Merger of Superior Propane with ICG Propane*, 21 RESEARCH IN LAW AND ECONOMICS: ANTITRUST LAW AND ECONOMICS 409 (John B. Kirkwood ed., 2004).

<sup>242</sup> Richard O. Zerbe, Jr., et al., *An Aggregate Measure for Benefit Cost Analysis*, 58 ECOLOGICAL ECON. 449 (2006); and Richard O. Zerbe, Jr., et al., *A Preference for an Aggregate Measure: A Reply to Sagoff*, ECOLOGICAL ECON. (forthcoming).

<sup>243</sup> See e.g., ANIMAL RIGHTS: CURRENT DEBATES AND NEW DIRECTIONS (Cass Sunstein & Marha C. Nussbaum eds., 2004).

<sup>244</sup> See e.g., PETER SINGER, ANIMAL LIBERATION (2001); and TOM REGAN, THE CASE FOR ANIMAL RIGHTS (2d ed. 2004).

Zerbe's approach deals effectively and thoroughly with several arguments against policy makers taking into account moral sentiments.<sup>246</sup> A particular concern with including moral sentiments is double counting.<sup>247</sup> Another concern with including moral sentiments is an invariance claim that non-paternalistic altruistic moral sentiments are unimportant because they simply reinforce those decisions that would be made in their absence.<sup>248</sup> Zerbe finds that arguments against policy makers taking into account moral sentiments are incorrect or unpersuasive. Although Zerbe's approach focuses on moral sentiments, Zerbe notes that moral sentiments can include immoral sentiments, where people feel such negative affect as anger, envy, hatred, jealousy, or vengeance towards others.

## **B. Amoral Sentiments**

Upon a moment's reflection, it becomes clear that Zerbe's moral sentiments are paradigmatic examples of what this Article has termed positive emotional impacts. Emotional impacts can arise from ethical or income distributional concerns.<sup>249</sup> But emotional impacts do not have to be moral sentiments or immoral sentiments, because emotions do not have to arise from a moral or immoral source. For example, in a sample of 909 employed women, commuting to and from their work produced the lowest levels of retrospective well-being out of a list of 19 activities.<sup>250</sup> In other words, stress from daily commuting is bona fide affective cost which can be quite large,<sup>251</sup> but not a moral sentiment or an immoral sentiment. Commuters may feel anger towards their fellow commuters for clogging up roads,

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<sup>245</sup> See e.g., CHRISTOPHER D. STONE, *SHOULD TREES HAVE LEGAL STANDING AND OTHER ESSAYS ON LAW, MORALS AND THE ENVIRONMENT* (1996).

<sup>246</sup> See generally Paul R. Milgrom, *Is Sympathy an Economic Value? Philosophy, Economics and the Contingent Valuation Method*, in *CONTINGENT VALUATION: A CRITICAL ASSESSMENT* 417 (Jerry Hausman ed., 1993); Paul R. Milgrom, *Cost-benefit Analysis, Bounded Rationality and the Contingent Valuation Method*, Stanford Center for Economic Policy Research Publication No. 316 (1992) (unpublished manuscript); and Sidney G. Winter, *A Simple Remark on the Second Optimality Theorem of Welfare Economics*, 1 *J. ECON. THEORY* 99 (1969).

<sup>247</sup> Peter A. Diamond & Jerry A. Hausman, *Contingent Valuation: Is Some Number Better Than No Number?*, *J. ECON. PERSP.*, Autumn 1994, at 45, 55 (voicing this double counting concern); and Kenneth E. McConnell, *Does Altruism Undermine Existence Value?*, 32 *J. ENVTL. ECON. & MGMT.* 22, 23, 29 (1997) (refining this concern properly to just non-paternalistic altruism).

<sup>248</sup> McConnell, *supra* note 247, at 27 (stating this invariance claim).

<sup>249</sup> CAROL GRAHAM & STEFANO PETTINATO, *HAPPINESS & HARDSHIP: OPPORTUNITY AND INSECURITY IN NEW MARKET ECONOMIES* (2002).

<sup>250</sup> Daniel Kahneman et al., *A Survey Method for Characterizing Daily Life Experience: The Day Reconstruction Method*, 306 *SCI.* 1776, 1777 tbl.1, 1779 fig.3 (2004).

but such anger or road rage is at least conceptually distinct from driving stress, though it might be related to such feelings as anger, boredom, despair, frustration, or loss of control. Moral sentiments are examples of emotional impacts. Thus, moral sentiments form a subset, but only a proper subset of the set of emotional impacts. Zerbe's approach justifies including as part of CBA not just moral sentiments, but any consequence with a WTP or WTA. But because of well-known problems with WTP or WTA,<sup>252</sup> EIA advocates counting and including emotional impacts by other procedures, such as in terms of their impacts on standard financial economic variables, including liquidity, prices, volatility, and trading volume in securities markets.

### **C. Measuring and Quantifying Emotional Impacts**

Next, we turn to issues about measurement and quantification of emotional impacts. Zerbe's approach put aside such measurement issues. Zerbe's approach of eliciting WTP for moral sentiments suggests a straightforward method of conducting a Contingent Valuation Survey (CVS) asking people to forecast how much they are likely to pay for moral sentiments. Unlike other social scientists, most economists have traditionally been quite skeptical of the accuracy, informativeness, and reliability of questionnaires and other self-descriptions.<sup>253</sup> But many economists, legal academics, and policy analysts

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<sup>251</sup> Alois Stutzer & Bruno S. Frey, *Stress That Doesn't Pay: The Commuting Paradox*, Institute for Empirical Research in Economics, University of Zurich Working Paper No. 151 (Aug. 2004).

<sup>252</sup> See e.g., Mark Sagoff, *An Aggregate Measure of What: A Reply to Zerbe, Bauman, and Finkle*, ECOLOGICAL ECON. (forthcoming); and Kathryn Zeiler & Charles R. Plott, *The Willingness to Pay/Willingness to Accept Gap, the Endowment Effect, Subject Misconceptions and Experimental Procedures for Eliciting Valuations*, 95 AM. ECON. REV. 530 (2005).

<sup>253</sup> TRUMAN BEWLEY, WHY WAGES DON'T FALL DURING A RECESSION 13-16 (discussing oft-cited biases and problems of survey data); Fritz Machlup, *Marginal Analysis and Empirical Research*, 36 AM. ECON. REV. 519 (1946) (pointing out that people might hide or falsify information, fail to understand their own motivations, and lack incentives to be accurate); Donald N. McCloskey, *The Rhetoric of Economics*, 21 J. ECON. LITERATURE 481, 514 (1983) (discussing "the curious status of survey research in modern economics"); and THOMAS C. SCHELLING, *the Life You Save May Be Your Own*, in CHOICE AND CONSEQUENCE: PERSPECTIVES OF AN ERRANT ECONOMIST 113, 127-28 (1984) (explaining ambiguities and advantages of interviews and questionnaires). On the subjects of self-reports and socialization of academic economists' professional norms, I cannot help but recall being a freshman in Econ. 101 listening to Burton G. Malkiel, *supra* note 27, telling a lecture hall full of 700-800 undergraduates this joke about how a survey can alter the behavior of a respondent: if you ask a centipede how it moves, it will stop a number of its legs to ponder this question and then stop another number of its legs to introspect. Pretty soon, that centipede will become paralyzed. See also Flavio T. P. Oliveira & David Goodman, *Conscious and Effortful or Effortless and Automatic: A Practice/Performance Paradox In Motor Learning*, 99 PERCEPTUAL & MOTOR SKILLS 315 (2004).

have long adopted CVS methodology in assessing environmental, health, and safety regulations, despite its many problems, such as its hypothetical nature.<sup>254</sup>

Fortunately and more recently, a number of economists have begun to employ other survey methodologies besides CVS.<sup>255</sup> Applications include researching behavioral macroeconomics (that incorporates realistic behavioral assumptions grounded in psychological and sociological observations);<sup>256</sup> conducting field research in development economics;<sup>257</sup> analyzing the observed relationship between income and subjective well-being;<sup>258</sup> analyzing the switch to business majors and careers during the 1970s and 1980s;<sup>259</sup> explaining adjustments in the use of contraceptives to limit family size;<sup>260</sup> and understanding why similar households end up with very different wealth levels.<sup>261</sup>

Self-reported measures are ubiquitous in research about happiness and subjective well-being (SWB);<sup>262</sup> although there remain concerns about exactly what such reports mean and measure.<sup>263</sup> Psychological evidence in experimental settings and from reported happiness surveys finds that people

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<sup>254</sup> See e.g., James J. Murphy & Thomas H. Stevens, *Contingent Valuation, Hypothetical Bias, and Experimental Economics*, 33 AGRIC. & RESOURCE ECON. REV. 182 (2004).

<sup>255</sup> See e.g., Truman Bewley, *Interviews as a Valid Empirical Tool in Economics*, 31 J. SOCIO-ECON. 343, 344-52 (2002) (describing data analysis, interviewing, and sampling methods for conducting survey research); and BEWLEY, *supra* note 253, at 20-37 (1983) (detailing interview methodology).

<sup>256</sup> See generally George A. Akerlof, *Behavioral Macroeconomics and Macroeconomic Behavior*, 92 AM. ECON. REV. 411 (2002); BEWLEY, *supra* note 253.

<sup>257</sup> GRAHAM & PETTINATO, *supra* note 249; Robert Townsend, *Financial Systems in Northern Thai Villages*, 110 Q. J. ECON. 1011 (1995); Christopher Udry, *Risk and Insurance in a Rural Credit Market: An Empirical Investigation in Northern Nigeria*, 61 REV. ECON. STUD. 495 (1994); and Christopher Udry, *Risk and Saving in Northern Nigeria*, 85 AM. ECON. REV. 1287 (1995).

<sup>258</sup> RICHARD A. EASTERLIN, *Economics and the Use of Subjective Testimony*, in THE RELUCTANT ECONOMIST: PERSPECTIVES ON ECONOMICS, ECONOMIC HISTORY, AND DEMOGRAPHY 22-24 (2004).

<sup>259</sup> *Id.*, at 24-26.

<sup>260</sup> *Id.*, at 26-28.

<sup>261</sup> John Ameriks, Andrew Caplin, & John Leahy, *Wealth Accumulation and the Propensity to Plan*, 118 Q. J. ECON. 1007 (2003) (providing new and unique survey data of differences in the attitudes and skills that households possess when they approach financial planning).

<sup>262</sup> See generally Ed Diener, *Subjective Well-Being: The Science of Happiness and a Proposal for a National Index*, 55 AM. PSYCHOL. 34 (2000); Daniel Kahneman et al., *Toward National Well-Being Accounts*, 94 AM. ECON. REV. 429 (2003); Daniel Kahneman & Alan B. Krueger, *Developments in the Measurement of Subjective Well-Being*, J. ECON. PERSP., Winter 2006, at 3; and Kahneman et al., *supra* note 250. See generally Bruno S. Frey & Alois Stutzer, *What Can Economists Learn from Happiness Research?*, 40 J. ECON. LITERATURE 402 (2002).

<sup>263</sup> See e.g., Thomas D. Griffith, *Progressive Taxation and Happiness*, 45 B.C. L. REV. 1363, 1368-70 (2004) (discussing several possible types of errors in self-reported happiness); Daniel Hamermesh, *Subjective Outcomes in Economics*, 71 SOUTHERN ECON. J. 2, 3-4 (2004) (examining critically work that economists have done about self-reported life satisfaction); and Diane M. Ring, *Why Happiness?: A Commentary on Griffith's Progressive Taxation*

systematically underestimate how much their own tastes change over time.<sup>264</sup> For example, recently there is research utilizing economic field data from a large outdoor-apparel company finding that people are over-influenced by order-date temperature when placing catalog purchases for winter clothing.<sup>265</sup> Survey data that measure current levels of investor confidence,<sup>266</sup> investor sentiment,<sup>267</sup> or consumer sentiment,<sup>268</sup> avoid such forecasting error problems.

EIA can and should build upon a growing body of research on the economics of happiness.<sup>269</sup> Two national magazines featured happiness research on their covers.<sup>270</sup> Just recently, a national morning news show included a segment about empirical psychological research what makes people happy.<sup>271</sup> A number of recent books offer summaries of this already sizeable but still rapidly growing literature.<sup>272</sup> Some happiness economics research utilizes regression equations involving large samples of random individuals,<sup>273</sup> to provide monetary estimates of how much any event in life impacts SWB.<sup>274</sup> Large cross-sectional samples of hundreds of thousands of individuals' expressed life satisfaction across

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*and Happiness*, 45 B.C. L. REV. 1413, 1415-16 (2004) (presenting three additional caveats about happiness reporting).

<sup>264</sup> George Loewenstein et al., *Projection Bias in Predicting Future Utility*, 118 Q. J. ECON. 1209 (2003) (reviewing psychological evidence and constructing a theoretical model to develop implications of such bias for economic environments); and George Loewenstein & David Schakde, *Wouldn't It Be Nice? Predicting Future Feelings*, in WELL-BEING: THE FOUNDATIONS OF HEDONIC PSYCHOLOGY 85 (Daniel Kahneman, Ed Diener & Norbert Schwarz eds., 1999) (providing a detailed examination of the psychological evidence).

<sup>265</sup> Michael Conlin, Ted O'Donoghue, & Timothy J. Vogelsang, *Projection Bias in Catalog Orders*, (unpublished manuscript) (Mar. 17, 2005) (providing field data of such projection bias).

<sup>266</sup> See e.g., the Certified Financial Planner Board Investor Confidence Survey, available at <http://www.cfp.net/media/survey.asp?id=15>.

<sup>267</sup> See e.g., David Dreman et al., *A Report on the March 2001 Investor Sentiment Survey*, 2 J. PSYCHOL. & FIN. MARKETS 126 (2001).

<sup>268</sup> See e.g., the University of Michigan's monthly Consumer Sentiment Survey, available at [http://www.market-harmonics.com/free-charts/sentiment/consumer\\_sentiment.htm](http://www.market-harmonics.com/free-charts/sentiment/consumer_sentiment.htm).

<sup>269</sup> Rafael Di Tella & Robert MacCulloch, *Some Uses of Happiness Data in Economics*, J. ECON. PERSP., Winter 2006, at 25; Bruno S. Frey & Alois Stutzer, *Testing Theories of Happiness*, in ECONOMICS AND HAPPINESS: FRAMING THE ANALYSIS, *supra* note 170; and Carol Graham, *The Economics of Happiness*, in THE NEW PALGRAVE DICTIONARY OF ECONOMICS (Steven Durlauf & Larry Blume eds., 2d ed. forthcoming).

<sup>270</sup> *The Return of Happiness*, PROSPECT, Mar. 2005; and *The New Science of Happiness*, TIME, Jan. 17, 2005.

<sup>271</sup> *What Makes People Happy*, TODAY (NBC television broadcast, Sept. 1, 2006), available at <http://video.msn.com/v/us/msnbc.htm?g=9e714aa7-90a1-4deb-9c27-7afaece83e6d>.

<sup>272</sup> See generally, ECONOMICS AND HAPPINESS: FRAMING THE ANALYSIS, *supra* note 170; HAIDT, *supra* note 18; LAYARD, *supra* note 176.

<sup>273</sup> Andrew E. Clark & Andrew J. Oswald, *A Simple Statistical Method for Measuring How Life Events Affect Happiness*, 31 INT'L. J. EPIDEMIOLOGY 1139 (2002).

<sup>274</sup> Andrew J. Oswald, *How Much Do External Factors Affect Wellbeing? A Way to Use 'Happiness Economics' to Decide*, 16 PSYCHOLOGIST 140 (2003).

countries and over time reveal remarkably consistent patterns in what determines an individual's self-reported happiness.<sup>275</sup> For example, a British economist and an American economist estimated that having a lasting marriage, as compared to widowhood, generated as much happiness on average as receiving approximately \$100,000 in 1990 dollars annually.<sup>276</sup> Similarly, these researchers found that in a random sample of approximately 16,000 American adult females and males, increasing the regular frequency of sex from once a month to once a week had an impact on happiness for an average American that was equivalent to \$50,000 of additional income yearly.<sup>277</sup> They also discovered that undergoing a divorce produced unhappiness that was equivalent on average to a reduction of \$66,000 per year.<sup>278</sup>

Again, to be clear EIA does not advocate nor endorse that regulators have to monetize a rule's emotional impacts to be able to account for, measure, and quantify emotional impacts. In contrast, Adler explicitly advocates monetizing anxiety or fear about certain non-financial risks by engaging in what he calls fear assessment, copying the phrase risk assessment.<sup>279</sup> His proposal argues that contingent-valuation surveys are the appropriate way to price fear.<sup>280</sup> He states, "what about welfare-enhancing mental states, like cheerfulness, happiness, serenity, excitement, and pleasure? Shouldn't agencies generally engage in a broad practice of hedonic assessment, including but not limited to fear assessment? This seems incorrect."<sup>281</sup> This Article disagrees and specifically endorses that agencies can and should engage in a broad form of hedonic assessment, namely EIA. In fact, Adler's quotation specifically cites three pages from a book about happiness economics, which provide four examples of how measuring

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<sup>275</sup> See generally, Frey & Stutzer, *supra* note 262; and FREY & STUTZER, *supra* note 272.

<sup>276</sup> David G. Blanchflower & Andrew J. Oswald, *Well-Being Over Time in Britain and the U.S.A.*, 88 J. PUB. ECON. 1359, 1373 (2004).

<sup>277</sup> David G. Blanchflower & Andrew J. Oswald, *Money, Sex and Happiness: An Empirical Study*, 106 SCAND. J. ECON. 393, 401-04 (2004).

<sup>278</sup> *Id.* See also Jonathan Gardner & Andrew J. Oswald, *Do Divorcing Couples Become Happier By Breaking Up?*, 169 J. ROYAL STAT. SOC'Y A 319 (2006).

<sup>279</sup> Matthew D. Adler, *Fear Assessment: Cost-Benefit Analysis and the Pricing of Fear and Anxiety*, 79 CHI.-KENT L. REV. 997 (2004).

<sup>280</sup> *Id.*, at 1024-34.

<sup>281</sup> *Id.*, at 986-87 (footnotes omitted).

happiness can inform anti-poverty policies, non-CBA evaluation of government expenditures, tax policies, and welfare programs.<sup>282</sup>

SWB measures raise a critical question of what precisely is the empirical and theoretical relationship between economists' notion of utility and psychologists' measures of SWB. Two economists argue that while SWB does not coincide with flow utility, it does bear a systematic relationship to it.<sup>283</sup> A detailed analysis of whether policy makers can and should utilize measures of happiness or SWB instead of money or wealth is beyond the scope of this Article, but such issues are considered in a companion<sup>284</sup> and complementary Articles,<sup>285</sup> as well as Articles proposing a happiness-based theory of corporations,<sup>286</sup> a life satisfaction approach to environmental valuation,<sup>287</sup> and tax reforms based upon on happiness considerations.<sup>288</sup> What is crucial to note is that EIA does not require nor eschew monetization of emotional impacts. EIA is agnostic over what metric to account for, measure, and take into account emotional impacts. EIA merely advocates that regulators account for, measure, and take into account emotional impacts utilizing some metric. If regulators also engage in CBA, they will then have to either convert non-monetary measures of emotional impacts to dollar equivalents or convert dollar measures of costs and benefits into happiness or SWB equivalents.

In addition to affective survey data, such as that concerning investor confidence, this Article advocates that financial regulators utilize financial data that securities markets automatically and routinely create as by-products, namely information about liquidity, prices, quantities, volatility, and trading

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<sup>282</sup> FREY & STUTZER, *supra* note 272, at 175-77.

<sup>283</sup> Miles Kimball & Robert Willis, *Utility and Happiness*, (Mar. 3, 2006), available at <http://www-personal.umich.edu/~mkimball/pdf/uhap.pdf>. See also Miles Kimball et al., *Unhappiness After Hurricane Katrina*, (Feb. 11, 2006), available at <http://www-personal.umich.edu/~mkimball/pdf/katrina.pdf>.

<sup>284</sup> Peter H. Huang, *Happiness and Evaluating Financial Policy Affect*, presentation in the panel on Law and Emotions at the International Society for Research on Emotions, Atlanta, GA (Aug. 7, 2006), available at <http://www.cas.gsu.edu/isre2006/program.html>.

<sup>285</sup> Peter H. Huang, *Law and Positive Psychology: Happiness, Affective Neuroscience, and Paternalism*, presentation at the Fifth International Positive Psychology Summit, Washington, D.C. (Oct. 5-7, 2006).

<sup>286</sup> James McConvill, *The Separation of Ownership and Control Under a Happiness-Based Theory of the Corporation*, *COMP. LAW.* 2005, 26(2), 35, 44-51.

<sup>287</sup> Heinz Welsch, *Environment and Happiness: Valuation of Air Pollution Using Life Satisfaction Data*, 58 *ECOLOGICAL ECON.* 801 (2006).

<sup>288</sup> Mirko Bagaric & James McConvill, *Stop Taxing Happiness: A New Perspective on Progressive Taxation*, 2 *PITT. TAX REV.* 65, 65-87 (2005).

volume to measure traditional economic and financial consequences of changes in such affective variables as investor confidence. This roundabout method of measuring indirectly emotional impacts avoids controversies about reliability of direct measures of affect. It also satisfies a preference that many economists and policy makers have for objective measures over subjective measures and measures that are behaviorally generated and thus observable to and verifiable by others instead of measures that are self-reported and therefore unobservable to and unverifiable by others. Finally, such objective well-being measures complement subjective well-being measures.<sup>289</sup>

Three recent econometric studies illustrate how to measure the financial and economic impacts of sudden changes of investor mood and consumer sentiment. One study found an economically and statistically significant negative stock market reaction exceeding 7% monthly to losses by national soccer teams, and that elimination from a major international soccer tournament is associated with a next-day return on a national stock market index 38 basis points lower than average.<sup>290</sup> To place this empirical finding in perspective, 40 basis points of the November 2005 United Kingdom market capitalization was \$11.5 billion.<sup>291</sup> This recent study also documents that similar stock market loss effects exist for basketball, cricket, ice hockey, and rugby in countries where those sports are popular.<sup>292</sup> Another study found empirical evidence that wins against foreign rivals in the Winner's Cup by one, but not the other two, of the three teams that dominates the Turkish soccer league increased stock market returns.<sup>293</sup> A

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<sup>289</sup> Jonathan Levav, *The Mind and the Body: Subjective Well-Being in an Objective World*, in DO EMOTIONS HELP OR HURT DECISION MAKING? (Roy Baumeister et al. eds., 2006), available at <http://www1.gsb.columbia.edu/mygsb/faculty/research/pubfiles/1835/Emotion%20and%20Decision%20SWB%20Chapter%20Epdf>.

<sup>290</sup> Alex Edmans et al., *Sports Sentiment and Stock Returns*, J. FIN. (forthcoming), available at [http://www.afajof.org/journal/forth\\_abstract.asp?ref=319](http://www.afajof.org/journal/forth_abstract.asp?ref=319). See also Glenn W. Boyle & Brett Walter, *Reflected Glory and Failure: International Sporting Success and the Stock Market*, 13 APPLIED FIN. ECON. 225 (2003).

<sup>291</sup> *Id.* at 17.

<sup>292</sup> *Id.* at 27-29.

<sup>293</sup> Hakan Berument et al., *Performance of Soccer on the Stock Market: Evidence from Turkey*, SOC. SCI. J. (forthcoming), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=807444#PaperDownload](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=807444#PaperDownload).

third study found that the joy from winning the 1998 Soccer World Cup led to a positive, durable, and significant impact on demand for soccer games in France.<sup>294</sup>

One might be concerned that measuring emotional impacts both directly by themselves and indirectly by their consequences on financial economic variables is double counting of them. There are several responses to such concerns. First, emotional impacts themselves affect people's happiness or subjective well-being and thus have normative significance to policy-makers. Second, the consequences of emotional impacts on financial economic variables also influence people's happiness or subjective well-being and thus have normative significance to policy-makers. Third, because CBA places zero value upon emotional impacts, CBA does not measure them or their consequences upon financial and economics variables. Fourth, because emotional impacts result in changes in people's future-oriented behavior, which in turn alters values of financial and economics variables, such emotional impacts as consumer sentiment are considered to be leading indicators of economic and financial activity.<sup>295</sup> Fifth, because changes in economic and financial outcomes have feedback effects in terms of having second-order emotional impacts, policy makers would benefit from improving their ability to directly measure emotional impacts.

#### **D. Concerns about Emotional Impacts**

A reason that CBA ignores emotional impacts is that such variables are measurable at least in principle. Similarly, economists have a methodological preference for or bias towards building models that have as their data or inputs variables which can be objectively measured and verified, such as initial endowments of physical capital, labor, land, energy, and financial resources. These variables are quantifiable and when markets function smoothly, they can also be priced on markets. But, there are two categories of variables that economists also treat as exogenous parameters, which are trickier for economists to measure. These are producers' technologies and consumers' tastes. Economic models

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<sup>294</sup> Jean-Marc Falter et al., *Impact of Overwhelming Joy on Consumer Demand: The Case of a Soccer World-Cup Victory*, (unpublished manuscript) (Jan. 12, 2005), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=650741](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=650741).

about how firms and societies engage in and can foster research and development, growth, and innovation obviously do not assume that production possibilities and technological constraints are fixed and immutable. In addition, some economists have come to realize that individual preferences are culturally and socially constructed in addition to being malleable in response to advertising, experience, imitation, and persuasion. Moreover, some consumer researchers, marketing professors, and psychologists address how to construct preferences.<sup>296</sup> EIA should build upon such research.

Another potential concern about EIA is whether or not it would be too financially costly or resource prohibitive to perform EIA studies, at least currently because regulations might have their own fairly unique set of emotional impacts. At least with CBA, regulators can draw upon a pre-existing large number of CBA studies for analogous benefits and costs to a particular regulation. But EIA does not already have that large collection of data at hand. So basically every EIA must start more afresh, which is a big drawback in terms of passing timely regulations. One response to such a concern is all this provides all the more reason to start requiring EIA. A second response is that some forms of EIA, such as those about investor confidence or trust, process concerns, and social mood are important for all financial and securities regulations. Moreover, high quality CBA, as opposed to the hand-waving, perfunctory discussions of CBA that many financial and securities regulators do, would not be cheap either. EIA thus is expensive only in comparison to low quality CBA all too prevalent among financial and securities regulators today.

A direct and more basic response is that, as described above already, a small, but growing number of economists have already developed statistical techniques to examine how external factors affect SWB. For example, economists found that an individual's own reported utility losses from terrorism are likely to far exceed terrorism's purely economic consequences.<sup>297</sup> Another pair of researchers estimated the

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<sup>295</sup> Fisher & Statman, *supra* note 130, at 115. *See also*

<http://www.thestreet.com/tsc/basics/tscglossary/leadingeconomicindicators.html>.

<sup>296</sup> *See e.g.*, THE CONSTRUCTION OF PREFERENCE (Sarah Lichtenstein & Paul Slovic eds., 2006)

<sup>297</sup> Bruno S. Frey, Simon Luenchinger & Alois Stutzer, *Calculating Tragedy: Assessing the Costs of Terrorism*, Institute for Empirical Research in Economics, University of Zurich Working Paper No. 205 (Sept. 2004).

monetary value of the cost of noise that the Schipol Airport in Amsterdam created.<sup>298</sup> Another study found that long hours of watching television is linked to higher material aspirations and anxiety and thus lower self-reported SWB.<sup>299</sup> Other economists found that changes in macroeconomic variables, such as a nation's Gross Domestic Product and inflation rate, are correlated with reported SWB.<sup>300</sup> This group of economists also found that merely a fear of unemployment generates large reductions in SWB.<sup>301</sup> Another pair of researchers found that people in transition economies on average self-reported SWB as compared to people in non-transition countries.<sup>302</sup> Their econometric analysis demonstrated that SWB levels are highest in countries with the most advanced market-oriented reforms and lower inequality. Another study provided empirical evidence of the affective and social costs of competition in experimental games.<sup>303</sup> A final example of empirical SWB research is a study finding that higher levels of government spending reduce life satisfaction.<sup>304</sup>

EIA could concern critics of CBA who argue that CBA is really indeterminate and can be merely used as a smoke screen to justify any decision that a regulatory agency desires. But, instead of exacerbating matters by throwing more imponderables into the mix, EIA can prevent regulators from leaving out relevant emotional impacts. One legal scholar has pointed out that what counts as benefits and what counts as costs are nowhere canonically specified in CBA.<sup>305</sup> By highlighting that emotional

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<sup>298</sup> Bernard M. S. van Praag & Barbara E. Baarsma, *Using Happiness Surveys to Value Intangibles: The Case of Airport Noise*, *ECON. J.* 224 (2005).

<sup>299</sup> Bruno S. Frey, Christine Benesch & Alois Stutzer, *Does Watching TV Make Us Happy?*, Institute for Empirical Research in Economics, University of Zurich Working Paper No. 241 (May 2005).

<sup>300</sup> Rafael di Tella et al., *The Macroeconomics of Happiness*, 85 *REV. ECON. & STAT.* 809 (2003); and Justin Wolfers, *Is Business Cycle Volatility Costly? Evidence From Surveys of Subjective Wellbeing*, 6 *INT'L FIN.* (2003).

<sup>301</sup> Rafael di Tella et al., *Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness*, 91 *AM. ECON. REV.* 335 (2001).

<sup>302</sup> Peter Sanfey & Utku Tekeşöz, *Does Transition Make You Happy?*, European Bank for Reconstruction and Development Working Paper No. 91 (June 2005), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=755446](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=755446).

<sup>303</sup> Jordi Brandts et al., *Competition and Well-Being*, Institute for the Study of Labor Discussion Paper No. 1769 (Sept. 2005), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=548222](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=548222).

<sup>304</sup> Christian Bjørnskov et al., *The Bigger the Better? Evidence of the Effect of Government Size on Life Satisfaction Around the World*, Institute of Economic Research Working Paper 05/44 (Oct. 2005), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=830545](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=830545).

<sup>305</sup> Hill, *supra* note **Error! Bookmark not defined.**, at 582 (pointing out how CBA presupposes that categories of costs and benefits are known already). See also Roland G. Fryer, Jr. & Matthew O. Jackson, *A Categorical Model of Cognition and Biased Decision-Making* (Nov. 12, 2004) (unpublished manuscript), available at

impacts exist and should be taken into account, EIA disciplines regulators to specify explicitly and justify publicly what counts and what does not count in their analysis. Recent experimental marketing research provides evidence that people can attach “affective tags” to money in ways that influence their consumption behavior, such as people having negative feelings about monetary inheritances.<sup>306</sup> Perhaps similarly, people may have affective connotations about certain benefits and costs. For example, some people could associate military expenditures with negative feelings. Another example is that some people could associate disaster aid relief with positive feelings. An individual’s affective tags for a particular expenditure could influence that individual’s perceived categories, numbers, and sizes of that expenditure’s emotional impacts.

In general, some regulations might not have emotional impacts. But, because all investors are influenced, at least some of the time, by their own - or other investors’ - affect, emotions, and moods,<sup>307</sup> SEC rules will always have some degree or level of emotional impacts, such as reduced anxiety or decision-making stress, and increased fear or exuberance.<sup>308</sup> Also, if, as has often been claimed, a desired rationale of securities regulation is to bolster or promote investor confidence in the integrity of U.S. federal securities markets,<sup>309</sup> then, the SEC should utilize EIA to quantitatively incorporate impacts of investor attitudes, beliefs, feelings, and sentiment upon traditional economic and financial variables.

#### **E. Political Concerns**

Clearly, financial regulation in general or securities regulation in particular, like any regulatory process, is a political process. This political reality means that SEC regulators must consider how their actions make their supervising politicians feel and that, in turn, depends on how those politicians’

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[http://post.economics.harvard.edu/faculty/fryer/papers/fryer\\_jackson.pdf](http://post.economics.harvard.edu/faculty/fryer/papers/fryer_jackson.pdf).

<sup>306</sup> Jonathan Levav & A. Peter McGraw, Emotional Accounting: Feelings About Money and Consumer Choice, Presentation in the Decision Processes Seminar, Wharton (Jan. 23, 2006), available at <http://www1.gsb.columbia.edu/mygsb/faculty/research/pubfiles/1816/MS%2004%2D0091%20REVISEDSept21%20Edoc>.

<sup>307</sup> Peter H. Huang, *Moody Investing and the Supreme Court: Rethinking Materiality of Information and Reasonableness of Investors*, 13 SUP. CT. ECON. REV. 99, 102-05 (2005) (presenting empirical and experimental evidence of moody investing). See generally David A. Hoffman, *The 'Duty' To Be a Rational Shareholder*, 90 MINN. L. REV. 536 (2006).

<sup>308</sup> Henry C. Hu, *Faith and Magic: Investor Beliefs and Government Neutrality*, 78 TEX. L. REV. 777, 840-50 (2000) (arguing that SEC disclosure and regulations contribute to investor optimism about stocks).

constituencies feel towards SEC behavior. For example, there might be a public outcry against SEC regulations that have a large positive CBA value. Similarly, there could be strong public support in favor of SEC regulations that have a large negative CBA value. EIA should identify, describe, and quantify such public political pressures, and whether they reflect a rational affective reaction or instead a mistaken affective response due to strongly held irrational or verifiably incorrect beliefs. There are many non-financial examples of public anxiety,<sup>310</sup> including concerns over brain cancer and tumors due to cell phone usage;<sup>311</sup> fear of radioactive fallout from a catastrophic nuclear power plant accident;<sup>312</sup> fear over episodic terrorist attacks in the U.S.;<sup>313</sup> and fear over safety of commercial air travel after 9/11.<sup>314</sup> A significant rise of at least 1,200 road fatalities due to people substituting less-safe driving for safer air travel after September 11, 2001's terrorist attacks provides an example of how fear can result in severe indirect consequential effects.<sup>315</sup> These examples raise a question of whether a regulator should count as benefits and costs affective reactions that some people genuinely have, but some technical experts deem to be irrational and unfounded.<sup>316</sup> If people genuinely feel such allegedly phantom benefits and costs, then a strong argument suggests these fears deserve to be counted and recognized.

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<sup>309</sup> Investment Company Governance, *supra* note 43, at 39,396, 39, 400-39,401.

<sup>310</sup> See generally BARRY GLASSNER, *THE CULTURE OF FEAR: WHY AMERICANS ARE AFRAID OF THE WRONG THINGS* (2000); and MARC SIEGEL, *FALSE ALARM: THE TRUTH ABOUT THE EPIDEMIC OF FEAR* (2005).

<sup>311</sup> Lennart Hardell et al., *Further Aspects on Cellular and Cordless Phones and Brain Tumours*, 22 INT'L. J. ONCOLOGY 399 (2003) (considering evidence linking cancer to using cell phones).

<sup>312</sup> *THE CHINA SYNDROME* (Columbia Pictures 1979); Maurice Tubiana, *Radiation Risks in Perspective: Radiation-Induced Cancer among Cancer Risks*, 39 RADIATION & ENV'T. BIOPHYSICS 3, 11, 13 (2000) (discussing the importance of emotions in public's attitudes towards nuclear energy in general and nuclear power plants in particular).

<sup>313</sup> Jonathan H. Marks, *9/11 + 3/11 + 7/7: What Counts in Counterterrorism*, 37 COLUM. HUM. RTS. L. REV. 559 (2006) (drawing on behavioral law and economics to explain how emotional responses to terrorist attacks can motivate and influence counterterrorism policy).

<sup>314</sup> Garrick Blalock et al., *The Impact of 9/11 on Road fatalities: The Other Lives Lost to Terrorism*, (Feb. 10, 2005) available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=677549](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=677549).

<sup>315</sup> *Id.*

<sup>316</sup> SUNSTEIN, *supra* note 144, at xii (discussing excessive fear and stating that “[p]ublic fear is a real problem, even if it is unjustified, and a government does its citizens a grave disservice if it ignores their concerns.”). *But see* Rachel F. Moran, *Fear Unbound: A Reply to Professor Sunstein*, 42 WASHBURN L.J. 1 (2002) (criticizing Sunstein's reduction of fear to a cognitive heuristic). *See also* Rachel F. Moran, *Fear: A Story in Three Parts*, 69 MO. L. REV. 1013 (2004);

EIA is thus related to research in political science,<sup>317</sup> and political psychology.<sup>318</sup> This research analyzes the role of affect in deliberations,<sup>319</sup> international relations,<sup>320</sup> perceptions of risk,<sup>321</sup> political attributions,<sup>322</sup> political campaign ads,<sup>323</sup> political judgments,<sup>324</sup> preferences,<sup>325</sup> and protest.<sup>326</sup> Affective reactions also explain and interact with cognitive biases and heuristics in forming public perceptions of and (mis)understandings about public finance systems, including taxation.<sup>327</sup> EIA's method of measuring emotional impacts is also related to recent research about how emotions influence bargaining and negotiations.<sup>328</sup>

## **F. Cultural, Diversity, and Heterogeneity Concerns**

Although CBA can in principle deal with the reality that most regulations impose uneven benefits and impose unequal costs on different subpopulations, indexed by their age, ethnicity, income, race, sex, and wealth by differential weighting of costs and benefits across these subgroups of people, CBA

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<sup>317</sup> See e.g., George E. Marcus, *The Structure of Emotional Response*, 82 AM. POL. SCI. REV. 735 (1988); George E. Marcus, *Emotions and Politics: Hot Cognitions and the Rediscovery of Passion*, 30 SOC. SCI. INFO. 195 (1991); George E. Marcus, *Emotions in Politics*, 3 ANN. REV. POL. SCI. 221 (2000); and George E. Marcus & Michael B. MacKuen, *Anxiety, Enthusiasm and the Vote: The Emotional Underpinnings of Learning and Involvement During Presidential Campaigns*, 87 AM. POL. SCI. REV. 688 (1993).

<sup>318</sup> See e.g., INTRODUCTION TO POLITICAL PSYCHOLOGY 48-56 (Martha Cottam et al. eds., 2004); and George E. Marcus, *The Psychology of Emotion and Politics*, in POLITICAL PSYCHOLOGY 182-221 (David O. Sears et al. eds., 2003).

<sup>319</sup> See generally GEORGE E. MARCUS, *THE SENTIMENTAL CITIZEN: EMOTION IN DEMOCRATIC POLITICS* (2002).

<sup>320</sup> See generally ROSE MCDERMOTT, *POLITICAL PSYCHOLOGY IN INTERNATIONAL RELATIONS* 153-87 (2004).

<sup>321</sup> Jennifer S. Lerner et al., *Emotion and Perceived Risks of Terrorism: A National Field Experiment*, 14 PSYCHOL. SCI. 144 (2003).

<sup>322</sup> Deborah A. Small et al., *Emotion Priming and Attribution for Terrorism: Americans' Reactions in a National Field Experiment*, 27 POL. PSYCHOL. 289 (2006).

<sup>323</sup> See e.g., James N. Druckman, *Stoking the Voters' Passions*, 312 SCI. 1878 (2006) (reviewing TED BRADER, *CAMPAIGNING FOR HEARTS AND MINDS: HOW EMOTIONAL APPEALS IN POLITICAL ADS WORK* (2006) (presenting a psychological theory, experimental evidence, data, and content analysis of political campaign television ads that appeal to enthusiasm and fear).

<sup>324</sup> See e.g., Victor C. Ottari & Robert S. Wyer, Jr., *Affect and Political Judgment*, in EXPLORATIONS IN POLITICAL PSYCHOLOGY 296-315 (Shanto Iyengar & William J. McGuire eds., 1993). See generally AFFECTIVE INTELLIGENCE AND POLITICAL JUDGMENT (George E. Marcus et al., 2000).

<sup>325</sup> Deborah A. Small & Jennifer S. Lerner, *Emotional Politics: Personal Sadness and Anger Shape Public Welfare Preferences* (2004) (unpublished manuscript).

<sup>326</sup> See generally PASSIONATE POLITICS: EMOTIONS AND SOCIAL MOVEMENT (Jeff Goodwin et al., eds. 2001).

<sup>327</sup> See generally Edward J. McCaffery & Jonathan Baron, *The Political Psychology of Redistribution*, UCLA L. REV. (forthcoming), University of Southern California Center for Law, Economics and Organization Research Paper No. C05-4 (Mar. 15, 2005), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=695305](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=695305).

privileges those costs and benefits that are not emotional impacts. A desirable and important feature of EIA is being able to explicitly acknowledge and evaluate that regulations are likely to provide different emotional impacts upon people of different ages, ethnicities, genders, and races. There is recent evidence finding differences in information processing in response to emotional advertisements due to motivational and cognitive changes associated with age.<sup>329</sup> There is a large amount of evidence that non-financial risk perceptions generally vary across gender and race.<sup>330</sup>

Similarly, there are numerous empirical findings providing evidence that: female mutual fund managers are less overconfident, follow less extreme investment styles, take less risk, and trade less than male fund managers;<sup>331</sup> retirement investment behavior differs by gender and marital status;<sup>332</sup> individual stock trading involves higher turnover for and lower performance by men than women;<sup>333</sup> women invest less than men in every study of simple investment choices, and thus appear to be financially more risk-averse than men;<sup>334</sup> and the Survey of Consumer Finances financial risk tolerance measure differs

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<sup>328</sup> See generally ROGER FISHER & DANIEL SHAPIRO, *BEYOND REASON: USING EMOTIONS AS YOU NEGOTIATE* (2005). See also Jennifer S. Lerner, *Negotiating Under the Influence: Emotional Hangovers Can Distort Your Judgment and Lead to Bad Decisions*, 8 *NEGOTIATION* 1 (2005).

<sup>329</sup> Patti Williams & Aimee Drolet, *Age-Related Differences in Responses to Emotional Advertisements*, 32 *J. CONSUMER RES.* 343 (2005).

<sup>330</sup> See e.g., Richard J. Bord & Robert E. O'Connor, 78 *SOC. SCI. Q.* 830 (1997) (presenting survey data evidence that women are more concerned than men about environmental risks for global warming and hazardous chemical waste sites); Debra J. Davidson & William R. Freudenberg, *Gender and Environmental Risk Concerns: A Review and Analysis of Available Research*, 28 *ENV'T & BEHAV.* 302, 309-16 (1996) (analyzing the results of seventy-five published reports and studies about gender and environmental risk attitudes); James Flynn, et al., *Gender, Race, and Perception of Environmental-Health Risks*, 14 *RISK ANALYSIS* 1101 (1994) (finding race and gender differences in risk perception in the U.S.); Melissa L. Finucane et al., *Gender, Race, and Perceived Risk: The 'White Male' Effect*, 2 *HEALTH, RISK & SOC.* 159, 163-69 (2000) (presenting survey data about how people of different races and genders perceive risks); Dan M. Kahan et al., *Gender, Race, and Risk Perception: The Influence of Cultural Status Anxiety*, *J. PERSONALITY & SOC. PSYCHOL.* (forthcoming) (proposing cultural status anxiety to explain the "white male effect"); and Theresa A. Satterfield et al., *Discrimination, Vulnerability, and Justice in the Face of Risk*, 24 *RISK ANALYSIS* 115, 124-27 (2004) (reexamining "the white male effect").

<sup>331</sup> Alexandra Niessen & Stefan Ruenzi, *Sex Matters: Gender and Mutual Funds*, University of Cologne Center Fin. Res. Working Paper No. 06-01 (Mar. 2006), available at <http://www.cfr-cologne.de/downloads/workingpaper/cfr-06-01.pdf>.

<sup>332</sup> Annika E. Sunden & Brian J. Surette, *Gender Differences in the Allocation of Assets in Retirement Savings Plans*, 88 *AM ECON. REV.* 207, 209-10 (1998) (finding that gender and marital status affect investment behavior significantly).

<sup>333</sup> Brad M. Barber & Terrance Odean, *Boys will be Boys: Gender, Overconfidence, and Common Stock Investment*, 88 *Q.J. ECON.* 261, 275-86 (2001) (presenting such evidence and hypothesizing that evidence is due to greater feelings of male overconfidence than female overconfidence).

<sup>334</sup> Gary Charness & Uri Gneezy, *Gender Differences in Financial Risk-Taking*, (Dec. 5, 2004) (presenting such experimental evidence), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=648735](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=648735). But see Renate

significantly over ethnicities and racial categories.<sup>335</sup> Such variation in risk attitudes, behavior, beliefs, perceptions, and tolerances across various discrete classifications, which the U.S. Constitution commits to equal protection of,<sup>336</sup> raises very serious issues of equality, equity, and justice for CBA of regulations. Some researchers propose that regulatory “agencies and financial educators should target investor education on investments and financial risk to racial and ethnic groups in order to promote better choices for investing for financial goals.”<sup>337</sup> Recently, a legal scholar suggests diversity and independence of directors might be desirable because women and men directors may behave differently in terms of trusting or trustworthiness due to gender differences in their bases for trust and trustworthiness.<sup>338</sup> A sociologist empirically finds that gender is among the dimensions of diversity that help improve the stock portfolio performance of investment clubs.<sup>339</sup>

In addition to explicit measures of affective variables, there is also research about people’s implicit associations, attitudes, and cognitions.<sup>340</sup> Recent implicit measures of life satisfaction permit analysis of cultural and ethnic differences in subjective well-being.<sup>341</sup> Similarly, implicit measures of risk attitude facilitate analysis of whether there are gender differences in risk behavior.<sup>342</sup> Finally, implicit

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Schubert et al., *Financial Decision Making: Are Women Really More Risk-Averse?*, 89 AM. ECON. REV. 381 (1999) (finding that the comparative risk propensity of male and female subjects depends strongly on financial decision settings; and no gender differences in risk propensity when subjects face contextual financial decision settings)

<sup>335</sup> Rui Yao et al., *The Financial Risk Tolerance of Blacks, Hispanic and Whites*, 129 FIN. COUNSELING & PLANNING 51, 56-59 (2005) (presenting and discussing statistical analyses of empirical survey evidence of differences by race and ethnicity in an individual’s willingness to take financial risks).

<sup>336</sup> U.S. CONST. amend. XIV, § 1.

<sup>337</sup> Yao et al., *supra* note 335, at 51.

<sup>338</sup> Joan MacLeod Hemingway, *Sex, Trust, and Corporate Boards*, (Aug. 11, 2006), available at <http://ssrn.com/abstract=924590>. See also Giri Kanagaretnam et al., *The Impact of Sex, Value Orientations and Risk Attitudes on Trust and Reciprocity*, (unpublished manuscript) (Aug. 22, 2006), available at: <http://ssrn.com/abstract=926076>.

<sup>339</sup> See generally BROOKE HARRINGTON, *POP FINANCE: INVESTMENT CLUBS AND THE NEW “OWNERSHIP SOCIETY”* (2007).

<sup>340</sup> See e.g., <https://implicit.harvard.edu/implicit/>. See also Marianne Bertrand et al., *Implicit Discrimination*, 95 AM. ECON. REV. 94 (2005).

<sup>341</sup> Do-Yeong Kim, *The Implicit Life Satisfaction Measure*, 7 ASIAN J. SOC. PSYCHOL. 236 (2004).

<sup>342</sup> Richard Ronay & Do-Yeong Kim, *Gender Differences in Explicit and Implicit Attitudes Towards Risk: A Socially Facilitated Phenomenon*, 45 BRIT. J. SOC. PSYCHOL. 397 (2006).

measures of law-abidingness facilitate research about gender differences in an individual's propensity to abide by laws.<sup>343</sup>

## **Conclusions**

This Article advocates an accounting, inclusion, quantification, and measurement of emotional impacts of financial policies and securities regulations. It offers a theoretical examination of an empirical set of procedures and processes. It argues that U.S. financial regulators should measure impacts that emotional impacts have upon traditional economic and financial variables. It analyzes conceptual and measurement issues with emotional impacts.

Although this Article has focused on incorporating emotional impacts in analyzing financial regulations generally and securities regulations particularly, much of its analysis also applies to non-financial individual and social risks. In fact, much of the contentiousness in assessing costs and benefits in environmental, health, and safety regulations comes from traditional cost-benefit analysis devaluing, ignoring, or simply missing a number of affective values and emotional impacts, including morally based affect in particular. Affective reactions are likely to be just as important, if not more important, for non-financial risks than financial risks. But while money provides a common metric for quantifying and measuring financial risks, quantifying and measuring non-financial risks typically lacks a universally accepted standardized and unifying metric. Money arises naturally in discussions evaluating regulating financial and securities markets, but not necessarily naturally in discourse analyzing regulating non-financial risks, such as environmental risks,<sup>344</sup> health risks,<sup>345</sup> and safety risks.<sup>346</sup> Although there are cross-cultural differences in the psychology of money, there are also similarities in how individuals think about money across nations.<sup>347</sup>

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<sup>343</sup> B. Atwood & Do-Yeong Kim, *Gender Differences in Explicit and Implicit Law-Abidingness* (2005) (unpublished manuscript).

<sup>344</sup> See generally MARK SAGOFF, PRICE, PRINCIPLE, AND THE ENVIRONMENT (2004).

<sup>345</sup> See generally UBEL, *supra* note 89.

<sup>346</sup> See generally PAUL SLOVIC, THE PERCEPTION OF RISK (2000).

<sup>347</sup> See generally ADRIAN FURNHAM & MICHAEL ARGYLE, THE PSYCHOLOGY OF MONEY (1998).

CBA provides less (and less accurate) information than EIA because CBA does not account for, include, measure, nor quantify emotional impacts. “Without accurate information on overall economic conditions, workers, firms, voters, and policymakers are flying blind – or at least peering through a thick fog.”<sup>348</sup> A personal analogy may prove helpful. During my last annual physical examination, my physician prescribed walking more to reduce my slightly elevated blood pressure. She suggested buying a pedometer to keep track of how many steps I take daily and to set a long-range target of 10,000 steps daily. I purchased a pedometer and walked more, lost that pedometer, bought another, and lost it. Both lost pedometers also tracked miles walked and calories burned in addition to steps taken. There are fancier pedometers that also measure blood pressure. One can think of such more sophisticated pedometers as being analogous to EIA, while both of the lost pedometers are analogous to CBA. It is ultimately an empirical question and matter of individual choice whether such more informative pedometers are worth their additional emotional impacts and monetary costs.

Similarly, EIA provides more (and more accurate) information than CBA does in terms of affective variables and emotional impacts. But, it is ultimately an empirical question and matter of regulatory and social choice whether such more affectively informative EIA is worth its additional affective and monetary costs when compared to CBA. Despite losing both pedometers and finding one of them after buying two replacements, but not always remembering to wear any of them, walking as often as possible is now an internalized behavior, even without a pedometer. Similarly, even though a specific regulator or society may decide not to adopt, or to abandon after experimentation with actually engaging in EIA, thinking more formally, quantitatively, and rigorously about emotional impacts can become internalized to cultures, governments, organizations and regulators. But, despite my walking more than before my last physical, unless I actually utilize a pedometer, I will be unable to measure and quantify my progress towards the instrumental goal of 10,000 steps daily. Unless I purchase another pedometer that

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<sup>348</sup> Katharine G. Abraham, *What We Don't Know Could Hurt Us: Some Reflections on the Measurement of Economic Activity*, J. ECON. PERSP., Summer 2005, at 3.

measures blood pressure, I will not be able to measure and instantaneously keep track of my progress towards the ultimate goal of reducing my blood pressure.

A final analogy is that with experience over time, EIA may come to be analogous to global positioning satellite (GPS) navigation systems built into certain automobiles. Drivers who utilize their built-in GPS systems might become so dependent on them that they find themselves lost upon driving another car without a built-in GPS. Of course, there are several hand-held, portable GPS units. In terms of analogies to EIA, this Article has attempted to present both general principles and thoughts about EIA that should be portable across different environmental, health, social, and financial regulations in addition to specific analysis of conceptual and measurement issues associated with EIA that arise in financial and securities regulation.