How Do Securities Laws Influence Affect, Happiness, & Trust?

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ABSTRACT

This Article advocates that securities regulators promulgate rules based upon taking into consideration their impacts upon investors' and others' affect, happiness, and trust. Examples of these impacts are consumer optimism, financial stress, anxiety over how thoroughly securities regulators deliberate over proposed rules, investor confidence in securities disclosures, market exuberance, social moods, and subjective well-being. These variables affect and are affected by traditional financial variables, such as consumer debt, expenditures, and wealth; corporate investment; initial public offerings; and securities market demand, liquidity, prices, supply, and volume. This Article proposes that securities regulators can and should evaluate rules based upon measures of affect, happiness, and trust in addition to standard observable financial variables. This Article concludes that the organic statutes of the United States Securities and Exchange Commission are indeterminate despite mandating that federal securities laws consider efficiency among other goals. This Article illustrates analysis of affective impacts of these financial regulatory policies: mandatory securities disclosures; gun-jumping rules for publicly registered offerings; financial education or literacy campaigns; statutory or judicial default rules and menus; and continual reassessment and revision of rules. These regulatory policies impact and are impacted by investors' and other people's affect, happiness, and trust. Thus, securities regulators can and should evaluate such affective impacts to design effective legal policy.
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1. INTRODUCTION

The Sarbanes-Oxley Act of 2002 (SOX),¹ in particular, section 404's internal financial control provisions, has generated a great deal of controversy. Four legal scholars considered evidence from empirical studies utilizing Cost-Benefit Analysis (CBA),² to conclude that SOX had modest benefits that were hard to document, but very large measurable compliance costs.³ Other corporate law scholars expressed opposite attitudes towards SOX.⁴ This debate over SOX raises a pair of related foundational normative questions, namely, what should be the appropriate way to evaluate securities laws, and what should be the role of CBA in the evaluation of securities laws.

CBA is "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."⁵ Kenneth J. Arrow, a 1972 Nobel Laureate in economics,⁶ stated that "some sense of

4. See Robert B. Abdieh, From "Federalization" to "Mixed Governance" in Corporate Law: A Defense of Sarbanes-Oxley, 53 BUFF. L. REV. 721 (2005); William W. Bratton, Enron, Sarbanes-Oxley and Accounting: Rules Versus Principles 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), 35 CONN. L. REV. 915 (2003) (reading SOX as being a modest act); Brett H. 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); Brett H. McDonnell, SOX Appeals, 2004 Mich. St. L. REV. 505 (explaining how SOX induced regulators and private actors that were better informed than Congress to undertake a new reform dynamic spurring desirable changes in U.S. corporate governance); Robert Prentice, Sarbanes-Oxley: The Evidence Regarding the Impact of SOX 404, 29 CARDOZO L. REV. 703 (2007) (finding that although accurately performing CBA of SOX section 404 is currently impossible, real benefits have often been overlooked while implementation costs have been overstated).
rational balancing of ends and means must be understood to play a major role in our understanding of ourselves and our social role. Most economists advocate that policy makers and regulators can and should engage in CBA involving estimating quantitatively monetary costs and benefits. A creative recent application of CBA to corporate governance reform examines costs and benefits to increasing diversity of corporate boards of directors.

The important and non-trivial question of whether the Securities and Exchange Commission (SEC) should routinely engage in formal CBA is already the subject of another article. Thus, this Article brackets that question and accepts as 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. This is a reasonable hypothesis because there are several economic, legal, philosophical, and pragmatic arguments in favor of informing policy by some type of CBA. But, this is a hypothesis that 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.

Independent of whether securities regulators can, do, should, or will engage in CBA, this Article advocates that securities regulators also should consider affective and subjective well-being impacts of policies, an effort that would entail measuring investors' confidence, happiness, and moods in addition to respecting process concerns. This Article thus promotes a different and novel way to evaluate securities regulations than is the current practice.

Part II analyzes how and why securities laws impact investors' and others' affect, happiness, and trust in addition to why those impacts matter for policy evaluation. Part III provides several examples of other recent securities regulations controversies in addition to SOX that implicate the questions of how to evaluate securities regulations and how CBA should fit into such evaluations. Part IV analyzes whether the SEC and other U.S. financial regulators currently engage in some type of CBA, and provides background about utilizing CBA as the metric for evaluating financial policy. Part V analyzes whether the SEC is required by the language of its organizing statutes to engage only in CBA, concluding that there is considerable textual ambiguity over this question and a lack of guidance about how to balance multiple and possibly conflicting objectives in evaluating SEC rules and regulations. Part VI illustrates affective and subjective well-being impacts for various categories of securities regulations. A conclusion summarizes this Article.

II. AFFECT, HAPPINESS, & TRUST

A. Affective Impacts

This Article utilizes the phrase “affective impacts” in a general sense to refer to not only affect, but also emotions, feelings, and moods. A widely accepted “circumplex” model of affect proposes that affective 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.\(^{15}\) For example, happiness can involve high arousal as with Western concepts of elation and excitement, but happiness can also involve low arousal, as with Eastern ideas of calmness and serenity. Examples of positive affect include awe,\(^{16}\) exuberance,\(^{17}\) gratitude,\(^{18}\) and happiness;\(^{19}\) negative affect includes envy,\(^{20}\) guilt,\(^{21}\) regret,\(^{22}\) shame,\(^{23}\) and stress.\(^{24}\)

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It might seem that of all categories of regulation, securities law is an area in which regulators do not have to analyze affective considerations because there already exists a natural metric and yardstick for evaluating outcomes, namely aggregate levels of financial and economic variables, such as consumption, income, 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. But, there is much empirical data suggesting that investor moods alter levels of such traditional economic and financial variables as corporate finance, including corporate investment, initial public offerings, mergers and acquisitions, individual debt, market liquidity, and securities demand. In other words, "[s]tock [market] prices reflect both (fundamental) value and sentiment." 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 on a mathematical expectation, 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 a result of animal spirits—of a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities.29

Noted economist John Kenneth Galbraith believed that there is not much that securities regulators can do about financial euphoria.30 In contrast, several legal scholars have proposed that securities regulators can and should regulate financial market euphoria.31

Recent evidence suggests that relationships between affective considerations and financial economic variables not only exist, but also run in both directions. There is a growing body of intriguing empirical data that analyzes whether and to what extent local astronomical and meteorological conditions are correlated with market index returns on international financial exchanges.32 There is medical and psycho-

32. See Melanie Cao & Jason Wei, An Expanded Study on the Stock Market Temperature Anomaly, 22 RES. FIN. 73 (2005) (expanding on and confirming their previous research to include nineteen additional financial markets); Melanie Cao & Jason Wei, Stock Market Returns: A Note on Temperature Anomaly, 29 J. BANKING & FIN. 1559 (2005) (finding that for eight international stock markets, returns are statistically significantly and negatively correlated with temperature); Ilia D. Dichev & Troy D. Janes, Lunar Cycle Effects in Stock Returns, J. PRIVATE EQUITY, Fall 2003, at 8 (finding that returns are significantly higher, on the magnitude of 5% to 10% 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 & 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 Hirshleifer & Tyler 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 ex-
logical evidence that weather affects people's moods and behavior. There is also field evidence that weather affects reviewers' judgments and decisions about college applicants. Conversely, it is intuitive that financial economic variables impact people's affect, emotions, moods, and subjective well-being. 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.  

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. Finally, psychological research finds that while materialistic financial attitudes can have negative affective consequences, non-materialistic financial attitudes positively correlate with financial knowledge and subjective well-being. Such emotions as stress also affect and are affected by our social relationships. In addition, there is evidence that negative emotions hurt our longevity, mental health, mortality, and physical health, while positive emotions improve them.

Affective impacts of regulations include not only changes in various types of affect in their own right, but also effects of affect on economic and financial vari-

41. See Pim Cuijpers & Filip Smit, Excess Mortality in Depression: A Meta-Analysis of Community Studies, 72 J. AFFECTIVE DISORDERS 227 (2002) (examining twenty-five studies with 106,628 adult subjects, of whom 6,416 were depressed with follow-up periods of two to sixteen 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 diabetes in a biracial cohort study of 11,615 initially non-diabetic adults aged forty-eight to sixty-seven years, who were subsequently followed for six 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 that anxiety and depression are associated with increased risk of coronary disease). See generally Michael G. Marmot, The Status Syndrome: How Social Standing Affects Our Health and Longevity (2004).
42. See Sheldon Cohen & Sarah D. Pressman, Positive Affect and Health, 15 CURRENT DIRECTIONS PSYCHOL. SCI. 122 (2006) (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 of consistent patterns in existing literature associating physical health to positive affect); Andrew Steptoe et al., Positive Affect and Health-Related Neuroendocrine, Cardiovascular, and Inflammatory Processes, 102 PROC. NAT’L ACADEMY SCI. 6508 (2005) (showing that positive affect in middle-aged men and women is associated with reduced neuroendocrine, inflammatory, and cardiovascular activity); Nicholas Bakalar, Reactions: Go On, Laugh Your Heart Out, N.Y. TIMES, Mar. 8, 2005, at F6 (reporting on a study Michael Miller and others presented at the American College of Cardiology demonstrating that laughter is linked to the healthy functioning of blood vessels).
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ables. For example, rules prohibiting insider trading, backdating options issued to executives, or spring loading, the practice of companies granting executives stock options just before announcing good news, may have not only affective impacts, such as increased confidence in stock markets on the part of investors and the non-investing public and greater trust in corporate America, but also monetary costs and benefits, including possibly increased stock price informational efficiency. Thus, there are two aspects of affective impacts. First, there are changes in affect, 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.

Second, changes in affect have impacts upon both observable financial behavior, and measurable financial outcomes. For example, experimental research documented how disgust and sadness from unrelated contexts alter people's buying and selling behavior. Thus, changes in positive and negative forms of affect have both direct consequences in terms of people's subjective well-being and indirect consequences for their financial behavior and our economy.

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, the Chicago Board Options Exchange Volatility Index or Investor Fear Gauge, the Equity Market Sentiment Index, Issuance Percentage, Net Cash Flow into Mu-

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46. See, e.g., Baba Shiv et al., Investment Behavior and the Negative Side of Emotion, 16 PSYCHOL. SCI. 435 (2005) (providing the first study finding that people who have brain lesions in regions associated with emotional processing made riskier investment decisions and earned higher profits than normal subjects).
tual Funds, the Put-Call Ratio, and the Risk Appetite Index. A recent empirical study found 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. Analysis of investor sentiment must differentiate among different categories of investors, however, because investor sentiment differs across investors.

Although how to accurately and most usefully measure the mood and sentiment of consumers and investors remain open questions, there are several measures of consumer and investor confidence and optimism including the ABC News/Money Magazine Consumer Comfort Index; the Conference Board's Consumer Confidence Index; 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. A number of studies investigate the relationship between various measures of consumer confidence or investor sentiment and real economic variables or stock market performance. Thus, although affective variables might seem to be more difficult to measure and quantify than traditional financial economic variables, it already has been done in various ways, making analysis of affective impacts quite feasible.

53. See generally id.
57. See generally Jeff Dominitz & Charles F. Manski, How Should We Measure Consumer Confidence?, J. ECON. PERSP., Spring 2004, at 51.
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Analysis of affective impacts must also acknowledge that it can be difficult classifying particular affects as benefits or costs, and hard to determine how to weigh affective impacts against each other and other considerations. So, for example, are anxiety and fear costs that should weigh in favor of government secrecy? Is optimism truly beneficial if such optimism could lead easily to irrational exuberance? Should financial regulators design policy so that people have feelings of autonomy, self-determination, and influence without actually giving them any actual autonomy, self-determination or influence? Should financial regulators convince the apocryphal widows and orphans that securities investing is a level playing field when that is not so? Should financial regulators mandate that investing be left only to experts that no longer exhibit as much affective response to stock market news as neophytes?

B. Happiness

Of all the various types of affect, happiness enjoys a privileged status in that most people claim to want happiness above all else in their lives, and most parents claim to want happiness for their children more than anything else. People also wish for happiness upon their friends and loved ones. Some people also experience joy or schadenfreude from and wish for unhappiness upon those whom they harbor ill-will or bad feelings. So, happiness occupies a unique position of being not only a type of affect, but also the prototypical concept of at least positive affect. Indeed, the noted Supreme Court Justice Oliver Wendell Holmes, Jr. stated near the culmination of an influential and seminal essay that, “we all want happiness.”

The United States Declaration of Independence held it self-evident that among our inalienable rights is “the pursuit of happiness.” But, what is happiness? Can people achieve happiness and maintain it? Can law and public policy promote happiness? Is happiness correlated with health? Is happiness related to preferences that people seem to manifest or appear to reveal in their observed choices?

63. Oliver W. Holmes, Jr., Justice, Supreme Judicial Court of Mass., The Path of the Law, Remarks at the Dedication of the new hall of the Boston University School of Law (Jan. 8, 1897), in 10 Harv. L. Rev. 457, 459 (1897).
64. The Declaration of Independence para. 2 (U.S. 1776).
68. See generally Steptoe et al., supra note 42.
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Many individuals, philosophies, and societies have attempted to answer these questions over the history of humanity.70

Different cultural traditions manifest different attitudes towards these timeless questions.71 Even within a country, people can differ in their conceptions of happiness across demographic classifications of age, ethnicity, and gender. People's views about happiness also can vary depending on their educational background, income, job, marital status, and socio-economic status. Only recently has empirical research begun to analyze how and which exogenous and endogenous variables affect happiness.72 Also recently, interdisciplinary empirical studies have linked certain types of happiness to such biological and physiological correlates as cardiovascular measures, immune function, longevity, neural circuitry,73 neuroendocrine markers, and sleep efficiency. This research lays foundations for an intriguing possibility, namely that of a science of happiness;74 and its policy applications.75 Thus far, however, there have been limited applications of insights from a science of happiness to corporate law,76 lawyers' quality of life,77 and tax law.78

72. See, e.g., Haidt, supra note 19.
74. See generally The Science of Subjective Well-Being (Michael Eid & Randy J. Larsen eds., 2008); The Science of Well-Being (Felicia A. Huppert et al. eds., 2005); Well-Being: The Foundations of Hedonic Psychology (Daniel Kahneman et al. eds., 1999).
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Academic research about happiness is a recent growth industry among economists, historians, philosophers, and psychologists. A veritable plethora of trade books provide summaries of this already sizeable, but still rapidly growing literature. Several national magazines and newspapers featured happiness research as their cover story. A national morning news program included a segment about what makes people happy. Many of these and other instances of popular media coverage about happiness involved prominent depictions of a familiar yellow smiley-face icon that Massachusetts graphic artist Harvey Bell created in 1964 for a life insurance company that paid him $45 for it (but, neither he nor the insurance company copyrighted it, thus explaining in part its popularity since then).


85. Today (NBC television broadcast Sept. 1, 2006).

Several economists and psychologists conducting research about happiness recently proposed that countries adopt national well-being accounts, although other economists have criticized such proposals. Psychologist and 2002 Nobel Laureate in economics Daniel Kahneman and economist Robert Sugden recently proposed that environmental regulators evaluate policies based upon measures of experienced utility. Daniel Kahneman and economist Alan Krueger advocated supplementing traditional economic objective measures of well-being, such as market-based variables, with various psychological measures of happiness and subjective well-being. As Robert Kennedy eloquently once said:

\[ \text{Gross national product does not allow for the health of our children, the quality of their education or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages, the intelligence of our public debate or the integrity of our public officials. It measures neither our wit nor our courage, neither our wisdom nor our teaching . . . it measures everything in short, except that which makes life worthwhile.} \]

As economics professor Nancy Folbre stated, “the purpose of gross domestic product, after all, is to make lives better now and for generations to come.”

Former Chairman of the Federal Reserve, Alan Greenspan recently stated in an interview on Comedy Central’s The Daily Show that measuring fear and euphoria can revolutionize economic forecasting. On the other hand, there are concerns about the reliability of subjective well-being measures, roles for happiness in public policies, implications for policy, what exactly self-reports of happiness mean-
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sure, and use of happiness research to justify government expansion and tax increases.

C. Trust

It is quite intuitive to view a flight from U.S. stock markets as due to investors having lost confidence and trust in U.S. stock markets after the string of infamous corporate scandals. Investor confidence and trust in corporate securities markets are fragile public goods. A trust-based explanation of why investors deserted U.S. 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 does not play any role in the standard finance literature about investors’ optimal portfolio choices and rates of stock market participation. Only very recently, a financial model demonstrated analytically how people’s fears of being cheated reduce their participation in stock markets. Calibrating this model showed that mistrust in stock markets can explain why many wealthy people in the United States do not buy stocks, in addition to account for cross-country differences in stock market participation rates.

Also recently, a study conducting five experiments “found 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.” A pair of legal scholars also recently proposed a cognitive theory about optimal trust and explored its policy implications for two settings: corporate governance and doctor-patient relationships. Two psychologists conducted experiments on the World Wide Web and found that CBA can increase people’s trust in decisions that government agencies or companies make. Empirical research based upon data from the European Union revealed that institutional trust in law has positive impacts upon people’s self-reported subjective well-being. Finally, financial economist Michael C. Jensen recently advocated that fi-
nancial theory and practice develop a language for how integrity affects corporate, market, personal, and policy issues.\textsuperscript{107}

There is voluminous behavioral finance literature about investor sentiment.\textsuperscript{108} Corporate and securities law scholar Lynn Stout suggests that investor confidence and trust motivate investing.\textsuperscript{109} A number of legal scholars have addressed how to restore trust in American business.\textsuperscript{110} A recent laboratory study found that trust harmed by untrustworthy actions can be restored effectively, but that trust harmed by deception and the same untrustworthy behavior never fully recovers even after promises, apologies, and consistently trustworthy actions.\textsuperscript{111} Future research should analyze how such emotions as anxiety and frustration influence trust and its recovery.\textsuperscript{112}

It is crucial to emphasize that the goal of any financial regulator should not be to just increase trust per se unboundedly, but rather to foster an optimal equilibrium degree of trust. This amount of trust should be well-calibrated with actual trustworthiness on the part of securities and financial professionals.

\section*{III. OTHER RECENT SECURITIES LAW CONTROVERSIES}

Several other controversial securities regulations also raise these same fundamental questions about how to appraise securities regulations and if CBA should be part of appraising securities regulations. A number of contentious recent SEC rules involved regulation of mutual funds. A mutual fund pools money from many investors to purchase diverse assets, such as bonds, money market securities, and stocks.\textsuperscript{113} Harry M. Markowitz provided a theoretical rationale for mutual funds in 1952 when he pioneered modern portfolio theory,\textsuperscript{114} for which he shared the 1990 Alfred Nobel Prize in Economic Science with Merton H. Miller and William F. Sharpe. Modern portfolio theory formalized a long-standing intuition that diversification or “not putting all your eggs in one basket” is a reasonable investment

\begin{thebibliography}{99}
\bibitem{DunnSchweitzer2006} Dunn & Schweitzer, supra note 103, at 746.
\bibitem{Markowitz1952} See generally Harry M. Markowitz, \textit{Portfolio Selection: Efficient Diversification of Investments} (Cowley Found. for Res. in Econ. at Yale Univ. 1991) (1959); Harry Markowitz, \textit{Portfolio Selection}, 7 J. Fin. 77 (1952).
\end{thebibliography}
strategy to reduce financial risks. Investors today face an overwhelming plethora of retail mutual funds to help them diversify their financial investments. Over half of U.S. households own shares in mutual funds. Americans participate in stock markets primarily via mutual funds and pension plans. The U.S. mutual fund industry grew from just 73 funds in 1945 to 8,000 funds by 2002. Mutual fund shares of 401(k) assets were merely 9% in 1990, but 44% by 2001. Similarly, 67% of retirement assets were in equity mutual funds by 2004, compared to 9% in 1990. U.S. mutual funds managed assets of approximately $50 billion in 1970. American mutual funds now hold more than $7.5 trillion in assets and are continuing to increase significantly in size and importance. Mutual funds offer individuals not only investment vehicles, but also advice, education, and (mis)information. Recent mutual fund scandals led to a number of class action lawsuits, criminal prosecutions, and proposed regulations.

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, where two are required to be independent). 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 of the costs of the above two require-


ments, because "the Commission "fail[ed] adequately to consider the costs imposed upon funds by the two challenged conditions." In spite of this decision, and without providing for any further public notice or comment, the SEC affirmed its July 2004 rule only eight days later by a narrow 3-2 vote. The U.S. Chamber of Commerce, which originally challenged the SEC rule, also challenged the SEC's affirming its rule. The 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 . . . ." Both dissenting Commissioners, eight Senators, former SEC Commissioner Joseph A. Grundfest, and former SEC Chair Harvey Pitt all made pleas for a more deliberative approach.

On April 7, 2006, the U.S. Court of Appeals for the D.C. Circuit unanimously vacated both of the requirements, holding that the SEC violated the comment requirement of part 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 . . . ." 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." On June 13, 2006, the SEC issued a request for additional comments until August 21, 2006 regarding these rules.

128. Id. at 144.
133. Chamber of Commerce v. SEC, 443 F.3d 890, 909 (D.C. Cir. 2006).
134. Id. at 908.
135. Id. at 909.
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One securities law scholar believed this mutual fund regulation likely would have unknowable costs, but few knowable benefits. A recent empirical study found that strengthened corporate governance controls have no statistically significant impact on mutual fund outflows. Three additional recent empirical studies found that when directors and managers of mutual funds personally own shares in those mutual funds, those mutual funds perform better. These findings provide support for SEC rules that require mutual funds to disclose information regarding mutual fund share ownership by directors, and similarly by managers. Furthermore, most investors are likely to have no idea if directors of the board for any particular mutual fund are independent. A survey that asked investors what they would prefer is likely to find that many people would have a preference for directors with a lot of skin in the game so as to keep incentives of directors and shareholders aligned regarding fund performance.

Much of the controversy over these mutual fund governance rules involved process concerns about how genuinely and thoroughly the SEC had deliberated over these mutual fund governance rules. In particular, the SEC decided very quickly to affirm these 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 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." Not only substantive outcomes, but also procedural or process considerations motivate people's behavior, even when it comes to investment and retirement savings. 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...
not. Thus, the SEC should analyze and acknowledge not only affective impacts related to substantive outcomes, but also such affective impacts related to procedural or process considerations as emotional difficulties that many individuals and groups of people have in facing and making certain types of tradeoffs, which much of economics and many economists consider without any emotional difficulties. A hypothesis is that people who do not see the world through an economics lens are likely to experience strong negative emotions to such tradeoffs, while people who see the world through an economics lens are likely to feel no emotional reactions toward such tradeoffs, because such emotions are responses to taboo tradeoffs and protected values.

Another controversy arose in response to the SEC’s proposal to impose a mandatory 2% redemption fee on mutual fund shareholders who redeem shares within five days of their purchase. Yet another controversy arose over the SEC’s proposal to amend Rule 22c-1 by adopting a hard 4 p.m. close for mutual fund orders. A final controversial proposed SEC rule required members of the hedge fund industry to register as investment advisors. The SEC’s Director of Investor Education, Susan Ferris Wyderko, testified that the hedge fund industry invests $1.2 trillion in assets. On June 24, 2006, the U.S. Court of Appeals for the D.C. Circuit unanimously held that the SEC lacked the authority to regulate hedge funds. The SEC’s chair responded by stating that “despite the Commission’s investor protection objective[,] its rule is arbitrary and in violation of law, [the court’s finding] requires that going forward we reevaluate the agency’s approach to

151. lanthe Jeanne Dugan, Double Trouble Valuing the Hedge-Fund Industry, Wall St. J., July 8, 2006, at B3 (reporting on confusion over the size of the hedge fund industry).
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hedge fund activity. Legal scholars disagree over how much to regulate hedge funds.

All of these above controversies over the proper boundaries of SEC regulation also implicate questions about how to evaluate securities rules and whether CBA should be part of such evaluations. Even if CBA should be part of the securities regulatory process, other considerations can trump CBA. For example, one could argue 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 not participating in securities markets due to a feeling that securities markets are not a level playing field.

The SEC’s CBA of requiring independent board chairs and more independent directors for mutual funds considered, among other costs, these: (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; and, among other benefits, these: (1) enhancing quality fund governance; (2) fostering more capital formation; (3) increasing accountability by fund boards; and (4) increasing market liquidity.

Requiring independent board chairs and more independent directors for mutual funds would have these negative affective impacts: (1) a false sense of security by fund shareholders resulting in less individual vigilance; (2) additional influence costs; (3) reduced board cohesiveness; and (4) transition costs of changing board cultures; and these positive affective impacts: (1) avoiding documented perverse, psychological shortcomings to simply disclosing conflicts of interest; (2) lower decision-making anxiety for potential fund shareholders; (3) lower stress for ex-

156. Id. at 39,395-96.
158. 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 disclosing conflicts of interest can have two perverse effects: (1) disclosers behave in more biased fashion; and (2) audiences of disclosure insufficiently discount for conflict of interest); Daylian M. Cain et al., The Dirt on Coming Clean: Perverse Effects of Disclosing Conflicts of Interest, 34 J. LEGAL STUD. 1 (2005) (same).
isting fund shareholders; and (4) placebo effects. The SEC could analyze whether investor concern about mutual fund board independence supports increasing the percentage of independent directors on mutual fund boards from 50% to 75%. The SEC also could address whether and how much of a reduction in levels of mutual fund investors' anxiety justifies requiring mutual funds to retain independent board chairs. More generally, the SEC should take into account recent economic theoretical research about how anxiety and fear can affect people's consumption, investment, and savings decisions. Economists recently have begun to analyze theoretical models of how regulators can and should take into account and utilize such affect as anxiety or fear to influence people's behavior.

The first positive affective impact mentioned above requires explicitly comparing the proposed substantive regulation with the most common policy alternative in the SEC's regulatory toolkit, namely mandatory disclosure. The affirming majority of the SEC's commissioners merely and summarily asserted buzzwords and a mantra, without engaging in any real analysis of how much this rule promotes investor confidence. Both dissenting SEC commissioners criticized and questioned the affirming majority for such vague assertions. Thus, a large part of the controversy over these proposed mutual fund governance rules was over the actual size of a particular and often cited positive affective impact, namely that of more investor confidence and greater trust in securities markets. In other words, the controversy over these mutual fund governance rules can be seen in large part as differences in beliefs over whether the SEC can and should perform more formal analysis of how proposed securities regulations affect investor confidence. The SEC should obtain

161. See Andrew Caplin & Jonathan Leahy, Behavioral Policy, in 1 THE PSYCHOLOGY OF ECONOMIC DECISIONS 73, 79–85 (Isabelle Brocas & Juan D. Carrillo eds., 2003) (outlining theoretical challenges that anxiety and stress pose for analyzing such educational policies as genetic testing and providing financial retirement savings information); Andrew Caplin, Fear as a Policy Instrument, in Time and Decision: Economic and Psychological Perspectives on Intertemporal Choice 441–58 (George Loewenstein et al. 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, 631–32 (2003) (providing the first theoretical model of AIDS policy when people are fearful of AIDS testing); Andrew Caplin & John 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); Botond Kőszegi, 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).
163. Id. at 39,396.
164. Id. at 39,405, 408.
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evidence from, among other sources, a request for public comment and empirical affective data as to whether and, if so, how much proposed rules actually would promote the positive affective impact of greater investor confidence and trust in securities markets.

IV. COST-BENEFIT ANALYSIS IN SECURITIES REGULATION

A. Current Practice of CBA by the SEC and Other U.S. Financial Regulators

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 surprisingly larger percentage of pages devoted to discussing CBA. For example, the final version of the above-mentioned mutual fund governance rule contained a section III, entitled Discussion, which had a subsection A. Costs Resulting From Exemptive Rule Amendments. \(^{165}\) Both concurring and dissenting SEC Commissioners also engaged in their own additional CBA discussions. \(^{166}\) Thus, a total of 78% to 79% of the pages in the final version of this rule are 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. \(^{167}\)

Another example of an SEC proposal is a rule defining the term “nationally recognized statistical rating organization” contained in a section entitled Consideration of the Costs and Benefits of Proposed Rule, which made up approximately 12% to 13% of the pages in that proposal. \(^{168}\) A careful examination of these and other such pages reveals that as the SEC practices it, CBA is often uninformative, should not be taken seriously, and ultimately is likely counterproductive. Also, the amount, level, quality, and sophistication of CBA is extremely disappointing in those areas where affective impacts are crucial, such as those often cited by the SEC, affective positive impacts of investor confidence and trust on the integrity of securities markets.

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 and information acquisition and examination. Reasonable individuals also can 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

\(^{165}\) Id. at 39,391–95.

\(^{166}\) Id. at 39,399–401, 403–08.

\(^{167}\) Chamber of Commerce v. SEC, 412 F.3d 133, 145 (D.C. Cir. 2005).


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the practice of defensive medicine by physicians due to fears of unjustified malpractice lawsuits.

Thus, while the SEC engages in CBA in a quite haphazard and an ad hoc 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 (Fed); and the Federal Trade Commission (FTC). But, current SEC Commissioner Annette Nazareth, during a Senate Banking Committee confirmation hearing of her nomination, stated 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." Each of the aforementioned U.S. financial regulators, the SEC, CFTC, FDIC, FTC, and Fed, is exempt from those major provisions of the executive orders that require CBA by executive agencies. Their exemptions exist because they are so-called independent regulatory agencies, not executive agencies.

The phrase "independent agency" is naturally 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." 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 Environmental Protection Agency, which engages in CBA more regularly and routinely than it does not, in evaluating alternative regulations about environmental social risks. Of course, applications of CBA to environmental, health, and safety regulations understandably have generated much contentious debate and heated controversy. Some believe that, as is also possible with an increasingly influential

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Precautionary Principle, certain politicians and interest groups utilize CBA for delay, inaction, and regulatory paralysis.

B. Cost-Benefit Analysis as Rationality of Social Decision Making

In 1772, Benjamin Franklin recommended a decision procedure in a famous letter to Joseph Priestly (a British scientist, who is known for inventing soda pop water in 1772, and co-discovering oxygen in 1774):

[W]rite down the pros and cons for each alternative choice and assign a weight (0 to +10) to each pro and each con (0 to -10), indicating how important that factor is. By adding up the pros and cons (each weight) you get a total score for each alternative choice. Then, by comparing the totals for each alternative course of action, you can usually determine the best choice.

Clearly, this decision procedure is a form of CBA.

It should involve weighing the eventual effectiveness of the solution in solving the problem, your emotional well being during and after the solution, the time and effort required, and your overall personal and interpersonal well being in the end. This is a very complex process, mostly used with important decisions.

In a sense, CBA simply generalizes to social decision-making an individual decision-making procedure. If we denote total benefits to some decision, d, as TB(d) and total costs of that decision, d, as TC(d), then CBA is a procedure for solving Max [TB(d)-TC(d)]. If both total benefits and total costs are differentiable functions of the decision variable, then the first order necessary condition for an optimal d* is that value of d, d*, which satisfies MB(d*) - MC(d*) = 0, or MB(d*) = MC(d*). In other words, the value of the decision variable that maximizes the net difference between total benefits and total costs satisfies the equation marginal benefits equal marginal costs. If total benefits and total costs are twice differentiable


178. Id.

functions of the decision variable and strictly concave and strictly convex functions of the decision variable, respectively, (that is, $MB$ is a strictly decreasing function of $d$ and $MC$ is a strictly increasing function of $d$) and the decision variable belongs to a compact, convex set, then both the first and second order conditions for a strict maximum will be satisfied. This means that equating marginal benefits and marginal costs is also a sufficient condition to solve for the unique optimal $d^*$. 

A central question about CBA is at what level of detail and formality should we engage in CBA? An ever-changing apocryphal story, attributed to Howard Raiffa, a co-founder of modern decision theory, is relevant. Raiffa was discussing with his dean and friend at Columbia an employment offer that he had received from Harvard. His colleague jokingly told Raiffa to set up a decision tree analysis of his choice problem and act accordingly. Raiffa responded this was a serious decision and that formal decision analysis is a fine mechanical aid or tool for trivial decisions, but such decisions as where to live and work, whom to date and marry, and whether and how many children to have are too important for formal decision analysis because such analyses miss too much.

Raiffa's response suggests that utilizing formal CBA has diminishing marginal productivity in such personal domains. While people may informally estimate and weigh approximate pros and cons of various alternatives in making decisions about whether to date, marry, or have children with another particular individual, people also may feel that formally engaging in CBA for such important and personal choices is at best foolhardy and misguided, and at worst inappropriate and self-defeating. In the words of personal advice from a legal scholar, there is and should be neither calculating nor calculations in romantic love.

Recent psychological research finds that people utilize dual processing systems involving two different modes of valuation: valuation by calculation and valuation by feeling. Two economists recently developed a theoretical model in which people maximize a weighted sum of scalar outcomes resulting from two processes. A deliberative process corresponds to conventional non-affective rational choice. Another affective process corresponds to emotions and motivational drives. Their model analytically captures a familiar being “of two minds” experience. Their particular linear functional form for combining separate deliberation

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180. See, e.g., id. at 28, 36; KELVIN LANCASTER, MATHEMATICAL ECONOMICS 17 (1968).
181. MAX H. BAZERMAN, JUDGMENT IN MANAGERIAL DECISION MAKING 63–64 (5th ed. 2002).
182. See generally HOWARD RAIFFA, DECISION ANALYSIS: INTRODUCTORY LECTURES ON CHOICES UNDER UNCERTAINTY (2d ed. 1970).
183. Huang, supra note 147.
and affective processes is merely a heuristic representation, intended to be familiar and helpful to conventionally trained neoclassical economists.  

Presumably, what many people find annoying, disconcerting, and frustrating about CBA is that it reduces contextually rich decisions into simply a matter of doing arithmetic. As one corporate law scholar noted, calculations in both personal and commercial relationships are complicated, but even the latter are more complicated than supporters of calculations think. Another related critique of CBA is that it often involves “projections” of future values, even purely monetary figures, which seem really to be just made up, e.g., GDP growth, or stock market ups or downs over the next several years. One reason that many people find CBA exasperating is that CBA misses or significantly undervalues non-market based and subjective values. In other words, what a lot of individuals find problematic about CBA in practice often is that it excludes hard-to-measure benefits and costs or soft variables and hence overlooks important factors. A more fundamental problem with CBA is that what are or should count as benefits and costs are not necessarily clear, but are taken instead as being immutably given by policymakers. In addition, there are well-known conceptual ambiguities, practical difficulties, and theoretical challenges to eliciting truthfully an individual’s preferences or valuations in a number of non-affective contexts: agricultural economics, environmental economics, experimental economics, public economics, and marketing.

Neoclassical economics assumed that because people are rational, economists could infer an individual’s private, subjective, and unobservable preferences from that individual’s public, objective, and observable behavior in terms of market choices. This revealed preference approach requires that preference orderings are well-behaved, not only in the sense of satisfying certain mathematical axioms, such

192. See, e.g., Glenn W. Harrison et al., Experimental Methods and Elicitation of Values, 7 EXPERIMENTAL ECON. 123, 124 (2004).
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as the weak axiom of revealed preference;\textsuperscript{196} but also, more crucially in the sense of being stable across contexts and over time. Much of recent behavioral and experimental economics research empirically demonstrates how much so-called preferences are constructed from,\textsuperscript{197} and sensitive to, situational contexts.\textsuperscript{198} Experimental economist Charles Plott proposed that people discover their preferences through a process of deliberation, information gathering, and trial-and-error learning.\textsuperscript{199}

V. IS THE SEC REQUIRED BY LAW TO PERFORM ONLY CBA?

In a 2006 summer blockbuster movie, the character Lord Cutler Beckett declares that “loyalty is no longer the currency of the realm.” When another character, Elizabeth Swann, then asks him what is the currency of the realm, he replies that: “[c]urrency is the currency of the realm.”\textsuperscript{200} This Part examines whether the SEC is required by the language of its organizing statutes to utilize money and wealth as exclusive currencies for evaluating its rules, or whether that statutory language provides the SEC discretion to also utilize affective and subjective well-being impacts as currencies in promulgating securities regulations.

The organic statutes of the SEC require that the SEC rulemaking process consider some notion of “efficiency” among other desired economic objectives because the “Definitions” parts of each of its organizing statutes: the Securities Act of 1933;\textsuperscript{201} the Securities Exchange Act of 1934;\textsuperscript{202} the Investment Company Act of 1940;\textsuperscript{203} and the Investment Advisors Act of 1940;\textsuperscript{204} mandate that the SEC in promulgating rules “consider, in addition to the protection of investors, whether the action will promote efficiency, competition, and capital formation.” So, there appears to be statutory textual bases for CBA in SEC rulemaking because CBA also involves a particular economic notion of efficiency, namely Kaldor-Hicks efficiency.\textsuperscript{205} But, does promoting “efficiency” necessarily mean CBA? There are at least four competing, different concepts of economic efficiency,\textsuperscript{206} two providing differ-

\textsuperscript{196} See, e.g., Kenneth J. Arrow, Rational Choice Functions and Orderings, 26 ECONOMICA 121, 123 (1959).
\textsuperscript{198} See, e.g., Choices, Values, and Frames (Daniel Kahneman & Amos Tversky eds., 2000).
\textsuperscript{200} Pirates of the Caribbean: Dead Man’s Chest (Walt Disney Pictures 2006).
\textsuperscript{202} Id. § 78c-2(f).
\textsuperscript{203} Id. § 80a-2(c).
\textsuperscript{204} Id. § 80b-2(c).
\textsuperscript{205} See, e.g., Zerbe & Dively, supra note 5, at 12–13.
\textsuperscript{206} Two additional forms of efficiency not considered here are Keynesian efficiency (which focuses on lost potential output when an economy experiences recession and thus less than full employment of labor and resources) and Schumpeterian efficiency (which addresses technical innovation, market leadership, and industrial stabilization). See Robert Kuttner, Everything for Sale: The Virtues and Limits of Markets 24–28 (1996).
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...ing conceptions of financial or informational efficiency, and two involving alternative notions of allocational efficiency. In addition, there is Judge Richard Posner's notion of efficiency as total wealth maximization.\textsuperscript{207} In light of these multiple interpretations of what efficiency can mean, how should the SEC interpret "efficiency" from its organizing statutes?

### A. Informational Efficiencies

First, financial economists along with some corporate and securities law scholars utilize the word "efficiency" in the context of the Efficient Capital Markets Hypothesis (ECMH).\textsuperscript{208} Second, some corporate and securities legal scholars differentiate informational efficiency in the sense of the ECMH from another concept of informational efficiency known as fundamental (value) efficiency.\textsuperscript{209} The difference between these concepts is that a securities "market is 'informationally efficient' if certain classes of information are immediately incorporated into a stock's price; a market is 'fundamentally efficient' if a stock's price reflects only information relating to the net present value of the corporation's future profits."\textsuperscript{210} Recently, a number of legal scholars have questioned the relevance of informational efficiency for securities regulation\textsuperscript{211} on the grounds that securities markets might result in allocations that are socially undesirable even if informationally efficient.


\textsuperscript{210} Ayres, supra note 209, at 946-47.

\textsuperscript{211} See Donald C. Langevoort, Theories, Assumptions and Securities Regulation: Market Efficiency Revisited, 140 U. PA. L. REV. 851, 854 (1992) (contrasting the huge difference between the persistent conception of market efficiency in the dominant legal culture versus that among economists); Lynn A. Stout, The Importance of Being Efficient: An Economic Analysis of Stock Market Pricing and Securities Regulation, 87 MICH. L. REV. 613, 618 (1988) (finding "that the connection between prices in the public trading markets for stocks and the allocation of real resources is a weak one, and that stock markets may have far less allocative importance than has generally been assumed"); see also Lynn A. Stout, Inefficient Markets and the New Finance, 14 J. FIN. TRANSFORMATION 95, 96 (2005) (critiquing ideas of security market efficiency).
B. Pareto Allocational Efficiency

Third, non-financial economists outside of the contexts of CBA and the University of Chicago style of law and economics utilize the term "efficiency" to mean a concept of allocational efficiency as defined by the Italian economist, Vilfredo Pareto. An allocation of resources is termed Pareto efficient if there is no reallocation of resources that could make one person better off according to that person's own preferences and make nobody else worse off according to their own preferences. A pair of pioneering economists, the already mentioned American Kenneth Joseph Arrow, a co-recipient of the 1972 Alfred Nobel Prize in Economic Science, and the French-born American Gerard Debreu, the recipient of the 1983 Alfred Nobel Prize in Economic Science, created a mathematical model of and proved that the operation of a perfectly competitive system of markets results in equilibrium allocation of resources that is Pareto efficient. Thus, Arrow and Debreu clarified and formalized the famous metaphor of the Scottish political economist, Adam Smith, of an "invisible hand" for a system of perfectly competitive markets that is able to guide the decentralized choices of individuals pursuing their own self-interest into an aggregate outcome that is normatively and socially desirable in a precise and technical, but also limited and restrictive, sense.

C. Kaldor-Hicks Allocational Efficiency

Fourth and finally, non-financial economists and many legal scholars utilize the word "efficiency" in the context of CBA to mean another form of allocational efficiency, termed Kaldor-Hicks (KH) efficiency, named after a famous economist, Nicholas Kaldor, and another famous economist and co-recipient of the 1972 Alfred Nobel Prize in Economic Science, Sir John Richard Hicks. An allocation of resources is KH efficient if there is no reallocation of resources that makes those who gain so much better off that they remain better off even if they were to compensate those who lose from that reallocation. Kaldor's hypothetical compensation test asks, after a reallocation of resources, if the maximum amount of money that winners are willing to pay exceeds the minimum amount of money that losers are willing to accept.

A famous economist, Tibor de Scitovsky, demonstrated that there can be two allocations of resources, call them A and B, such that a move from A to B passes

\[212.\] See, e.g., Arrow, supra note 7, at 19 (defining Pareto efficiency); Guido Calabresi, The Pointlessness of Pareto: Carrying Coase Further, 100 YALE L.J. 1211, 1215 (1991) (same).

\[213.\] Kenneth J. Arrow & Gerard Debreu, Existence of an Equilibrium for a Competitive Economy, 22 ECONOMETRICA 265, 266 (1954) (providing their pioneering model of a general equilibrium and proving that under certain hypotheses, a competitive general equilibrium allocation exists and is Pareto efficient).


Kaldor's hypothetical compensation test, but so does a move from B to A.\textsuperscript{216} Scitovsky developed a different, but related hypothetical compensation test, asking if the maximum amount of money losers are willing to pay winners to prevent such a proposed reallocation is less than the minimum amount of money that winners are willing to accept as a bribe to forgo the reallocation. This hypothetical compensation test is a reallocation of resources from the viewpoint of losers. A proposed reallocation of resources passes Scitovsky's criterion if that reallocation passes both Kaldor's and Scitovsky's hypothetical compensation tests. In other words, the Scitovsky criterion is the above pair of hypothetical compensation tests. Hicks demonstrated the relationships between Kaldor's hypothetical compensation test and Scitovsky's criterion and two concepts in microeconomic applied price theory, known as compensating variations and equivalent variations.\textsuperscript{217}

Economists and legal scholars asserting efficiency of CBA typically mean efficiency in the sense of Kaldor-Hicks. Scholars criticizing efficiency of CBA typically find Kaldor-Hicks efficiency to be an unsatisfactory welfare criterion for evaluating social policy because winners do not actually compensate losers, even when those winners under a KH efficiency standard hypothetically can compensate losers and still end up better off net of such compensation. More generally, traditional law and economics scholars, like economists, are interested in efficiency. However, legal scholars concerned with questions of identity have focused their investigations on issues of subordination, identity, cultural context, and legal indeterminacy.\textsuperscript{218} In other words, efficiency of any type fails to address issues that are not related to a particular type of efficiency, including such affective concerns as those arising from envy,\textsuperscript{219} jealousy,\textsuperscript{220} and procedural or process considerations.

D. Indeterminacy of Efficiency

It makes a difference whether the SEC interprets efficiency in an informational or allocational sense because there are equilibrium allocations that result from a system of perfectly competitive markets that are informationally efficient, but not allocationally efficient, and vice versa.\textsuperscript{221} Corporate finance scholars,\textsuperscript{222} judicial opinions,\textsuperscript{223} corporate law and securities regulation scholars,\textsuperscript{224} and even the SEC

\begin{thebibliography}{99}
\bibitem{216} T. De Scitovsky, \textit{A Note on Welfare Propositions in Economics}, 9 Rev. Econ. Stud. 77, 88 (1941).
\bibitem{218} See generally Jordan & Harris, \textit{supra} note 174.
\bibitem{219} But see Hal Varian, \textit{Equity, Envy, and Efficiency}, 9 J. Econ. Theory 63 (1974).
\bibitem{220} Mui, \textit{supra} note 20, at 312.
\bibitem{222} See, e.g., Brealey et al., \textit{supra} note 115, at 337.
\bibitem{223} See Basic Inc. v. Levinson, 485 U.S. 224, 246 (1988) ("Recent empirical studies have tended to confirm Congress' premise that the market price of shares traded on well-developed markets reflects all publicly avail-
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usually employ the word "efficiency" to mean informational efficiency in the sense of the ECMM.226 This textual ambiguity means that any statutory basis for the SEC to perform CBA is attenuated in comparison with a traditional executive order standard because the notion of "efficiency" is not self-evidently the concept of Kaldor-Hicks efficiency that is routinely utilized in CBA. Also, there is no statutory textual basis providing any guidance for how the SEC should balance any particular notion of promoting efficiency in performing CBA against each of these other goals: protection of investors, promotion of competition, and encouragement of capital formation.

Finally, examining the legislative history to help determine statutory intent is unhelpful because various notions of informational efficiency arose only after passage of the organic statutes of the SEC. Although economists already developed notions of allocational efficiency before the passage of the organic statutes of the SEC, widespread regulatory adoption of CBA and Kaldor-Hicks efficiency gained momentum only during the 1980s with the rise of the modern regulatory state,227 coming several decades after passage of the organic statutes of the SEC. It is also possible that "efficiency" in the organic statutes of the SEC should be interpreted to have its plain English meaning of a lack of wastefulness. Although such a meaning is related to, it does not exactly coincide with either Kaldor-Hicks or Pareto allocational efficiency. Whatever definition of efficiency the SEC adopts, there remain problems with a lack of legislative history and statutory textual guidance about balancing efficiency against other notions of efficiency, investor protection, encouraging capital formation, and fostering competition.

VI. AFFECTIVE IMPACTS OF VARIOUS SECURITIES LAWS

Empirically, the SEC’s favorite component of its regulatory toolbox is mandatory securities disclosure.228 Both the overarching philosophy and underlying principle of U.S. federal securities regulation can be summed up by the phrase: disclosure,
more disclosure, and even further disclosure. Proposed SEC rules that mandate disclosure of director and executive compensation provide a recent example of a tried and true regulatory propensity to favor disclosure over more direct or "hands on" command and control regulation.229 In commenting on the likely impact of rules mandating disclosure of CEO compensation, former SEC Commissioner Joseph A. Grundfest quipped that the half-life of shame is much shorter than that of envy.230 Other SEC rules concern the timing of certain voluntary information provision, such as rules against gun-jumping in registered public offerings.231 An often recurring regulatory option is offering and targeting financial education designed to improve financial literacy, investment behavior, and retirement planning.232

Another perennial regulatory favorite is the use of default rules. An example is provided by default allocations in retirement plans.233 Another example is that of default provisions or contractual terms in personal credit card borrowing.234 A recent example is Larry Ribstein's "humble" approach to securities regulation235 that permits "actors to self-define their certification level,"236 or that would "impose a minimum standard but permit firms to 'comply or explain'—that is, opt out of compliance as long as they explain that they are doing so."237 Another recent example is Roberta Romano's proposal that firms be able to opt-into regulation.238 A final regulatory proposal is Robert Clark's novel idea for building into regulation a continual research and ongoing reassessment adjustment procedure.239 Securities regulators can fine-tune policies in response to feedback that analyzing ex post affective impacts provides over time. In this manner, analysis of affective impacts will help provide an empirical basis for and principled approach to evolving regulation.

A previous analysis of emotional consequences of mandatory securities disclosures provides an example of analyzing the affective impacts of securities regula-
That analysis defined irrational exuberance and anxiety and explained how both types of affect have policy and regulatory implications for a long-standing debate over the rationales for, and effectiveness of, mandatory securities disclosures. In particular, that analysis observed that even if some affect dissipates, investor euphoria or anxiety already may respectively “affect issuers of securities in terms of a lower or higher cost of capital due to such emotional reactions.” Affective impacts may be temporary or able to be learned-away; but even if they are so, that does not mean they should not be counted because they often will have irreversible and permanent consequences upon such traditional economic variables as levels of aggregate consumption, credit card debt, investment, stock prices, and stock volume. Rather than reproduce more details from that earlier analysis, the rest of this Part offers a “top ten” list of related but new thoughts about analyzing affective impacts of particular categories of securities regulations.

A. Affective Impacts of Mandatory Securities Disclosures

Standard analyses of mandatory securities disclosures, like most forms of mandated information provision, do not adequately consider emotional reactions to information. It is well-recognized that investors can suffer cognitively from information overload in terms of being unable to cognitively process and understand too much information. But people also can suffer affectively from information overload in terms of feeling anger, annoyance, apathy, boredom, frustration, helplessness, listlessness, and stress upon receipt of too much (or too little) information or information too quickly (or too slowly). Thus, mandating additional securities disclosures might produce little or no cognitive benefits in the form of better financial decision making, yet potentially large emotional impacts in the form of affective overload. Analysis of affective consequences of information regulation should not be limited to securities law. Affective impacts of regulating information provision should be considered in all of these contexts: federally mandated and standardized information disclosures provided to credit card and other open-ended credit consumers; federal regulation of specific disclosures required for such closed-end, that is, installment loans as those for automobiles and home mort-


241. Id. at 520.


gases;\textsuperscript{244} federal consumer protection statutes prohibiting deceptive advertising and misleading statements;\textsuperscript{245} products liability or tort law’s imposition on manufacturers of a duty to warn;\textsuperscript{246} and more generally our common law of contracts.\textsuperscript{247} All too frequently, regulators advocate more disclosure to remedy informational asymmetries. A noteworthy exception is a 2005 symposium entitled \textit{Federal Consumer Protection Regulation: Disclosures and Beyond} hosted by the Payment Cards Center of the Federal Reserve Bank of Philadelphia.\textsuperscript{248} A recommendation of that symposium’s participants is to seek input from marketers, researchers, and focus groups of consumers for creating and revising disclosures,\textsuperscript{249} in addition “to incorporate[ing] lessons from the field of communication theory into the disclosure creation process.”\textsuperscript{250}

B. Should the SEC Worry About Scaring Investors?

Another affective impact for some people from additional mandatory securities disclosures is what behavioral economist George Loewenstein has called the “work of worry,” a delightful phrase that captures the idea that if people engage in certain risky activities despite their experiencing fear about some possible bad consequences of such activities, their fear is a deadweight loss of suffering. Loewenstein and Ted O’Donoghue provide two important and timely examples of the work of worry.\textsuperscript{251} Their first example is a terrorist alert warning system that offers no guidance as to how individuals can alter their behavior to improve their safety, imposes privacy costs on many individuals, inconveniences most airline passengers, and terrifies a great number of ordinary individuals. Their second and more controversial set of examples are health and safety warnings that have little or no effect, except for scaring their intended target audience in addition to perhaps others. More generally, as Loewenstein and O’Donoghue noted, mandating information provision might not be an example of asymmetric paternalism or conservative regulation,\textsuperscript{252} or libertarian paternalism,\textsuperscript{253} or soft paternalism.\textsuperscript{254} Requiring provision of information can impose large negative affective psychic impacts, such as fear,


\textsuperscript{249} Id. at 10–11.

\textsuperscript{250} Id. at 11.

\textsuperscript{251} George Loewenstein & Ted O’Donoghue, “We Can Do This the Easy Way or the Hard Way”: Negative Emotions, Self-Regulation, and the Law, 73 U. Chi. L. Rev. 183, 200–01 (2006).

gilt, or shame, without producing much in the form of any countervailing benefits.

Loewenstein and O'Donoghue suggested that in the context of such medical testing as mammograms for women and prostrate-specific antigen (PSA) tests for men, scary messages are not only ineffective at convincing patients to seek testing, but also trigger worst-case scenarios or fears and personal anxieties of many patients. They also suggested that although food labeling has clear nutritional informational benefits, it also can foster a neurotic and unhealthy atmosphere towards eating. They instead supported restricting the supply of temptations, such as regulating the content and portion size of food, or banning subliminal advertising. Such supply-side restrictions could be more effective, with fewer emotional impacts in terms of negative feelings, to combat a nationwide U.S. obesity epidemic,\textsuperscript{255} if there genuinely is one,\textsuperscript{256} and if that epidemic can be fought. Recent empirical and theoretical research is burgeoning about economic and non-economic factors contributing to a rising trend in obesity.\textsuperscript{257} Two economists demonstrated empirically that variation in health behaviors is due to genetic factors and behavior-specific situational influences.\textsuperscript{258} Another pair of economists recently statistically estimated a negative relationship between obesity and self-reported happiness in the United States, but a positive correlation between obesity and self-reported happiness in Russia.\textsuperscript{259} Thus, whether dieting or even obesity is associated with depression, stress, and unhappiness not only varies across individuals, but also cultures.

C. Cultural, Diversity, and Heterogeneity in Affective Impacts of Securities Disclosures

An individual’s emotional reactions to any particular stimulus and regulatory policy are likely to be distributed non-uniformly over a population. Such individual variation presents theoretical and empirical challenges for aggregation of affective


\textsuperscript{255} See Jeff Strnad, \textit{Conceptualizing the “Fat Tax”: The Role of Food Taxes in Developed Economies}, 78 S. CAL. L. REV. 1221, 1223 (2005); \textit{Super Size Me} (Samuel Goldwyn Films 2004).


impacts as well as regulatory policy based upon affective impacts. In the context of securities regulation, there are multiple actual, intended, and potential audiences to information transmissions that securities issuers make voluntarily or because they are required to by law. Possible recipients of such messages include these groups: small individual retail investors, large sophisticated institutional investors, securities brokers, professional securities analysts, and securities fraud plaintiff's attorneys. To be sure, even within each of these above groups, there is likely to be much individual variation in affective responses to securities information. But there are likely to be predictable differences across these groups in terms of their average affective response to securities information. At least, some of these differences will be due to education, experience, and temperament. There also might be individual variation in cognitive responses to securities information, but probably less than for affective responses because people are both aware of and similarly trained in their cognitive reactions to information. There is also psychological research indicating that age-related changes in affect cause age differences in decision making processes. Finally, recent research finds that differences in people's economic attitudes can be due to differences in their educational backgrounds, and intensity of religious upbringing. Consistent and systematic differences in affective processing of information across identifiable and observable subpopulations means that disclosure should not come in a one-size-fits-all form, but should instead be tailored for effectiveness to specific categories of financial decision-makers.

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 privileges those costs and benefits that are not emotional impacts. A desirable and important feature of analyzing affective and subjective well-being is being able to explicitly acknowledge and evaluate regulations that are likely to provide different affective impacts upon people of different ages, ethnicities, genders, and races. There is a large amount of evidence that non-financial risk perceptions generally vary across gender and race.

261. Quinn Kennedy & Mara Mather, Aging, Affect, and Decision Making, in Do Emotions Help or Hurt Decision Making?: A Hedgefoxian Perspective 245 (Kathleen D. Vohs et al. eds., 2007).
In addition to explicit measures of affective variables, there is also research about people’s implicit associations, attitudes, and cognitions. Recent implicit measures of life satisfaction permit analysis of cultural and ethnic differences in subjective well-being. Similarly, implicit measures of risk attitude facilitate analysis of whether there are gender differences in risk behavior. Finally, implicit measures of law-abidingness facilitate research about gender differences in an individual’s propensity to abide by laws.

D. Regulating Timing of Voluntary Securities Disclosures

All the above considerations about affective and subjective well-being impacts of mandated securities disclosures also will apply to SEC rules that regulate the timing of certain voluntary securities information disclosures. A motivation for such rules as the prohibitions against so-called gun-jumping in registered public offerings is the propensity for people who receive more favorable information first and then less favorable information second to behave differently than if they receive both more and less favorable information simultaneously. While this is a legitimate concern, the focus of gun-jumping is on the cognitive impacts of selective versus non-selective disclosures. Analyzing affective and subjective well-being impacts of such rules should and would also incorporate such affective impacts of selective versus non-selective disclosures as fear about possibly not yet disclosed bad news and relief over learning at once about both good prospects and bad “risk factors” of a particular security.

There is experimental evidence that people accelerate negative experiences to avoid dreading them and delay positive experiences to enjoy savoring them. This data means that investors can speed up or delay their investment decisions in response to perceived bad or good news from disclosures. There is also robust experi-

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mental evidence that people utilize a peak-end rule to form global retrospective evaluations of their affective experiences over time. In other words, an individual's global retrospective affective evaluation of an experience over time is not equal to merely the sum (or integral) of momentary affective experiences, but instead equals the average of peak affective response and ending affective response. This finding suggests that investors have a preference for improving sequences of securities disclosures and outcomes. Many experimental studies in other contexts already have demonstrated that people have a preference for improving profiles of experiences.

E. Regulating Audiences of Voluntary Securities Disclosures

Related to restrictions on when securities issuers may engage in voluntary securities disclosures are regulations mandating to whom securities issuers may engage in voluntary securities information transmission. An example is Regulation FD (Fair Disclosure), which the SEC promulgated in 2000 and which prohibits securities issuers from making certain securities disclosures to selected analysts before they are made publicly. A pair of mantras often made by Congress, judges, and SEC regulators is that of keeping or making securities markets a "level playing field," and protecting or promoting the integrity of securities markets. Both of these mantras have strong emotional appeal because they suggest that a goal of securities regulation is to make securities markets a safe place for investing by apocryphal widows and orphans. These mantras also show up in the federal common law of insider trading and jurisprudence of Rule 10b-5, because outsiders fear that insiders will take informational advantage of informationally challenged outsiders. But are recitations of these mantras just merely rhetoric calculated to garner emotional appeal?

The SEC should measure and quantify affective impacts of alternative securities disclosures upon the confidence, faith, and trust of different audiences of both investors and non-investors by examining how various policies directly affect investor and non-investor anxiety or stress, and in so doing indirectly affect such traditional economic and financial variables as prices, volatility, and volume of securities. Experimental research provides insights about how trust affects investor


273. Literally and naturally, this metaphor raises a drainage problem because a level playing field will not drain by itself.

274. 17 C.F.R. § 240.10b-5.
behavior, and how to prevent fraud in laboratory settings. Empirical research finds that different potential audiences of securities disclosures exhibit different investment behavior. For example, more optimistic people invest more in individual stocks and save more, and more social people (that is, those who attend church and visit their neighbors) are more likely to purchase stocks.

F. Overall Affect from a System of Securities Regulations

The above discussion about fears over bad consequences resulting from inequities in information highlights an important feature of a system of securities regulation as opposed to a system’s constituent individual regulations. There is an emotional sense of well-being or peace of mind from knowing that an overarching regulatory system exists. Such a state of calmness is distinct from any specific emotional impacts that specific regulations might produce. Such senses of ease or uneasiness exist not only about financial risks, but also non-financial risks, such as that from the mad cow disease, Bovine Spongiform Encephalopathy. Of course, such an affective sense of security might be false and lead investors to invest only in (U.S.) securities, and insufficiently diversify their portfolios across other non-(U.S.) financial assets. What both media coverage and individual investors focus most of their attention upon is a big picture of securities regulation or its lack thereof because they lack the required interest, patience, skills, and time for closer examination and more detailed study.

Securities analysts, issuers, lawyers, and professional investors have the abilities, incentives, resources, and training required to analyze specific regulations and changes in them. But a big picture gestalt view of a system of securities regulation means that public appearances might be as or even more important than private realities in terms of affective impacts. The triumph of appearance over substance occurs not only in securities regulation, but also in matters involving foreign policy, international relations, and terrorism. A concern for keeping up appearances of doing something can explain prosecutorial decisions to investigate such high-
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profile celebrities as Martha Stewart for alleged securities fraud upon her shareholders caused by her declarations of not having committed insider trading, or Leona Helmsley for mail fraud and tax evasion.

G. Unconscious Affect and Securities Investing

The above paragraph is reminiscent of 1972 economics Nobel Laureate Kenneth Arrow’s trichotomy of decision areas or categories, namely active, monitored, and passive. Because conscious attention is a scarce resource for all humans, most individual investors are consciously processing information about very few securities, while monitoring “out of the corner of their eyes” a few more securities that are related in some way, and passively ignoring the vast majority of securities. In a world of limited attention, media coverage should affect securities prices and trading. Recent research finds empirical evidence that media coverage is correlated with stock price responses to earnings announcements. There is also empirical data indicating a relationship between media coverage and mutual fund flows. Media coverage may play an important role in corporate governance reforms because as Justice Louis Brandeis famously said: “[p]ublicity is justly commended as a remedy for social and industrial diseases. Sunlight is said to be the best of disinfectants; electric light the most efficient policemen.” There is evidence of greater pro-company bias in media coverage during stock market booms than busts.

Recent empirical research also has investigated roles that attention plays in financial investment. If people do not focus their conscious attention, they often utilize their unconscious attention. Affective responses are often automatic, reflexive, and unconscious, as opposed to deliberative responses that are controlled, reflect-

284. ARROW, supra note 7, at 50–51 (introducing this classification and providing an illustrative individual investor example).
tive, and conscious.291 In fact, "feelings of emotion provide conscious information about the results of such unconscious appraisals."292 If information processing resources are limited, spontaneously evoked affective reactions, instead of consciously deliberated cognitions, tend to have a larger impact on choice. Individuals then may invest in a security, which is superior upon some more affective dimensions, but inferior along other more cognitive dimensions. Finally, a recent model of investors paying selective attention to information predicted and found support in three Scandinavian data sets that investors will check on the value of their portfolios more frequently in rising markets, but will behave like ostriches hiding their heads in sand when markets are falling or flat.293 In this model, learning the value of an investor’s portfolio not only provides more information, but also increases the psychological impact of information on utility.

H. Financial Literacy and Securities Educational Campaigns

There is evidence of both widespread financial illiteracy in the United States and links between financial illiteracy and financial mistakes, restricted stock market participation, and lack of retirement planning.294 Recent empirical research found that people who plan for their retirement accumulate more wealth than individuals who do not.295 But, as educators, parents, siblings, aunts, uncles, and former students, we certainly should know that not everyone processes information uniformly in terms of their comprehension and pace of learning. Individuals possess different affective styles and personalities that influence the speeds at and manners in which they learn. Just as individual patients have different learning styles towards health and medical information, individual investors have different learning styles towards financial information. For example, recent empirical research found that some families filing for bankruptcy are highly motivated and optimistic to learn from a financial education course, while other families filing for bankruptcy


are quite resistant and skeptical about learning from a financial education course. Financial literacy education that is touted to be a form of investor democratization and empowerment is an example of a policy that has both positive and negative affective impacts. It induces a short-term positive affective response, but is likely to be akin to an opiate for the masses because people think that they have learned something and therefore undertake more financial risks, but in reality they really know very little still and if the value of their financial purchases crash they are likely to suffer a longer-term affective response of blaming themselves for the fallout. Professor Lauren Willis makes compelling arguments against regulators attempting to increase financial literacy. She points out quite rightly so that people “generally do not serve as their own doctors and lawyers and for reasons of efficient division of labor alone, generally should not serve as their own financial experts.” She also reviews what empirical data there is and concludes there is negligible statistically significant empirical support for financial literacy education being effective.

People range in their financial comfort level from anxiety and avoidance, to compulsion and obsession. This means that financial literacy not only has to be taught, but also learned. Because financial knowledge has public good aspects, and financial misinformation has public bad characteristics, in terms of spillover economic and financial effects on society, there are likely to be well-known market failures when private firms provide such information. There is also evidence that conducting financial education at workplaces has desirable impacts in terms of higher participation in employee-directed pension plans and greater savings.

There is recent experimental evidence that competing affective information influences less numerate people more than highly numerate people, and that highly numerate people and less numerate people retrieve different affective meaning

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297. See Lauren E. Willis, Against Financial Literacy, 94 IOWA L. REV. (forthcoming Nov. 2008), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1105384 (arguing that although the vision of an educated investing public is powerfully seductive, it also is one lacking empirical support).


299. See generally Alan B. Krueger, Are We Having More Fun Yet? Categorizing and Evaluating Changes in Time Allocation (2007) (unpublished manuscript) (documenting evidence that many Americans find household management and financial planning to be quite painful and stressful).

300. See Mad Money (CNBC television show).


Due to innumeracy, many individuals experience anxiety towards mathematics and learning subjects involving mathematics, such as economics and finance. Additionally, financial and non-financial media coverage of economic and finance matters tends to be alarmist. For example, some investors, politicians, and even financial regulators have a fear of those financial instruments that are called financial derivatives, without understanding them because they recall hearing about financial derivatives being involved with several high-profile corporate and municipal bankruptcies. To be clear, financial derivatives can be misused, but they also can be utilized for financially legitimate and sound reasons.

There are reasons to focus educational initiatives and informational campaigns especially on two particularly vulnerable populations, namely individuals who are “at-risk” of having financial problems and novel financial decision-makers, such as young people. Since 2001, the Credit Card Project of the Saint Paul Foundation has been engaging in and researching such targeted financial education initiatives. As part of this project, the University of Minnesota Department of Family Social Science Professor Virginia Zuiker developed an online one-credit course about credit card management. Another part of this project is entitled “What’s My Score,” a public awareness and educational campaign that is designed to help college students realize that credit scores are so crucial for their careers and lives that they should manage them like they manage their grade point averages.

In addition to providing optional financial education to college students, it might be sensible to provide optional or even mandatory financial education to high school students. Empirical evidence suggests that financial education even can be offered successfully to elementary school children. There are not only cognitive benefits in requiring high school students to enroll in a course in financial

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303. Id. at 411-12.
306. See generally René M. Stulz, Should We Fear Derivatives?, 18 J. Econ. Persp. 173, 190-91 (2004) (answering the question in its title in the negative).
312. Margaret S. Sherraden et al., School-Based Children’s Saving Accounts for College: The I Can Save Program, 29 Child. & Youth Servs. Rev. 294 (2007); see also Lewis Mandell, Teaching Young Dogs Old Tricks: The Effectiveness of Intervention in Pre-High School Grades, in Financial Literacy for Children and Youth, supra note 294.
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decision-making, or more generally decision-making, but also there are likely to be affective impacts in terms of less worry about financial matters from better understanding of and a sense of control over them. The Decision Education Foundation is an example of a 501(c)(3) non-profit organization dedicated to providing instruction at decision-making skills to at-risk students, low-income students, and even gifted students. An example of a private sector financial educational initiative is Visa’s website, Practical Money Skills for Life.

It also might be helpful for most high school students to learn financial judgment and skills if they practice making financial decisions in environments that simulate real-life investing. Similar concerns apply to making high school driver education occur in more realistic scenarios than is typically done, for example with the latest popular music playing, perhaps too loudly and passengers in the front and back seats talking, possibly also too loudly. Poor financial decision-making and judgment could involve habits that are very easy to pick up, but quite hard to undo due to irreversible or very costly to reverse consequences.

To be effective, teachers of basic financial ideas can and should make learning engaging, fun, and relevant. As with other types of problem solving, financial problem solving is best mastered by repeated learning involving doing, reflecting, discussing, teaching others, and repeating. Individuals can accomplish much of their investing and retirement planning via user-friendly computer software or web-based interactive programs. A possible concern is whether teachers making financial education fun could mislead students into failing to appreciate the seriousness of investing and irreversibility of financial ruin that can result from ill-conceived choices and mistaken assumptions. Such dangers exist if students treat investing like playing a video game, whose initial values they can reset by declaring

personal bankruptcy upon insolvency. As is true with education in other contexts and life in general, being mindful rather than mindless prevents accidents.320

Another concern is that people will not learn because of the black swan problem, which Nassim Taleb defined to be a random event satisfying three properties: an extremely large impact, a small but incomputable probability ex ante, and surprise effect.321 A related danger is that some youths could become addicted to taking excessive financial risks because of the adrenalin rush, visceral thrills, and similarity to gambling. There is empirical data finding that many young people start to smoke without fully understanding the consequences of doing so and become addicted to cigarettes because of affective and visceral influences.322 Such research suggests developing financial educational campaigns that go beyond just providing information for people's cognitive, deliberative systems to making visceral appeals to people's affective, emotional systems.323 Graphically and visually depicting adverse consequences of bad credit, bankruptcy costs, financial ignorance, and monetary ruin might scare people into developing financial acumen, curiosity, experience, and knowledge. Another possibility is to have adults with bad credit histories talk with financially at-risk youths. This type of targeted interactive dialogue is akin to adolescents potentially at-risk for becoming criminals being "scared straight" by visiting prison inmates in jail. In addition to direct information provision via public service advertisements, such as anti-smoking campaigns, government agencies can also disseminate such independent media coverage as an investigative public broadcasting documentary concerning the U.S. credit card industry, which won the Emmy Award for Outstanding Investigative Journalism 2004–05.324 Such a financial education "scared straight" approach uses a negative affective response of fear to induce a positive response of motivation, but fear can also lead to paralysis and rushed or truncated decision-making. In truth fear probably does both, but in different measures in different people.

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I. Financial and Securities Default Rules

There is a vast legal literature about default rules. Because of inertia, default rules are often very powerful and sticky. A natural human tendency is to not rock the boat, or at least to value compliance with rules and norms. Part of our status quo bias can be due to human satisficing and conserving on their cognitive resources. But, another reason that most people will feel complacency towards defaults or feel that there must be a reason for defaults to be set as they are is affective.

Empirical and experimental research about various default rules across countries and on-line has considered emotional costs upon those opting away from defaults in alternative organ donation programs. Experiments involving organ donations and retirement savings indicate that at least for those domains, people tend to view defaults as policymakers' implicit recommendations or decision-making advice.

Brigitte Madrian and Dennis F. Shea demonstrated the power of automatic enrollment in a company’s 401(k) plan when employee’s 401(k) plan enrollment rates jumped from 49% to 86% upon introducing automatic enrollment as their default. Behavioral economists Richard H. Thaler and Shlomo Benartzi ingeniously utilize inertia from defaults in a financial setting to develop another plan that encourages retirement saving by employees. Under their prescriptive savings plan, Save More Tomorrow, also known as the SMarT plan, employees pre-commit to dedicating 3% of all future pay raises to retirement savings. Thaler testified before a Senate Committee panel on how to help American workers save more based upon lessons from behavioral economics generally and empirical data and experience with implementing SMarT particularly.

A natural field experiment that occurred in the two neighboring states of New Jersey and Pennsylvania demonstrates very starkly how powerfully sticky defaults can be. Both state legislatures enacted tort reform laws requiring automobile insur-


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ance companies to provide coverage with particular types of default rights to sue after car accidents. In New Jersey, the default rule is that insured motorists had a limited right to sue, but could pay higher premiums to receive a full right to sue. In Pennsylvania, the default rule is that insured motorists had a full right to sue, but could pay discounted premiums if they switched to a limited right to sue. Faced with these options, approximately only 20% of New Jersey drivers opted to switch and pay for a full right to sue. In other words, an overwhelming 80% of New Jersey drivers opted to stay with their defaults. Approximately 75% of Pennsylvania drivers opted to keep a full right to sue. In other words, only 25% of Pennsylvania drivers opted to switch from their defaults. There is approximately a four hundred fifty million dollar difference in how much drivers pay for car insurance coverage in these neighboring states.

Affective reactions to particular default items may not only exacerbate, but also counteract such asymmetries if they are sufficiently strong emotional responses. Potential securities issuers can avoid those default rules in U.S. federal securities regulation that are costly in terms of compliance by financial engineering or engaging in regulatory arbitrage by taking advantage of the globalization and internationalization of securities markets. But such avoidance may have emotional impacts in terms of undesirable public relations. Ribstein’s call for humble securities regulation avoids these emotional impacts of avoidance by offering companies an option to explain why they are opting out of defaults, or allowing self-certification. A similar point is true of Romano’s proposal that permits firms to follow prescribed procedures to opt out of statutory default rules. Just as regulatory defaults may create salience, so can regulatory menus. But salience can evoke affective reactions, some of which may contribute to, while others could also counteract, a default rule’s or menu’s effectiveness. Differing affective styles across people suggests that a financial regulator should if possible customize or tailor default rules or menus to fit various types of investors and other actors in financial markets.

J. Continual Corporate Governance Reforms

Consider these reflections about Clark’s meditation on lessons that one can and should learn from the recent experience of making changes in U.S. corporate gov-

334. Eric J. Johnson et al., Framing, Probability Distortions, and Insurance Decisions, 7 J. Risk & Uncertainty 35, 48 (1993) (documenting this phenomenon); see also Camerer et al., supra note 252, at 1227 n.45 (offering possible alternative signaling or costly information explanations for this phenomenon).
336. Ribstein, Sarbanes-Oxley After Three Years, supra note 2.
337. Ribstein, Sarbox: The Road to Nirvana, supra note 2, at 296.
338. Romano, supra note 2, at 1596.
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Clark observed that a more deliberative, rational, and knowledge-based regulatory process is unlikely to be realistic in part due to widespread outrage in response to regulatory failures and loud clamoring for major changes. Clark observed that reformist impulses are based primarily upon emotions that motivate actions. Clark proposed that regulations (1) enable and require that regulators like the SEC authorize, fund, perform, and perhaps even mandate data collection and empirical analysis studying those regulations over time; (2) empower, encourage, and perhaps even require that regulators reassess some regulations periodically in light of experience and evidence and respond accordingly; and (3) spell out clear timetables for both (1) and (2).

A Chinese proverb that advocates reverence for one's elders states that: “youth is a gift of nature, while age is a work of art.” A corollary of this proposition is that we are all works in progress. Along similar lines, Clark's analysis viewed regulations as being all works in progress, which can benefit from periodic opportunities to learn and in light of such learning, revise their current particular content within longer-term general principles. As Clark noted, a serious potential practical problem with such an enlightened regulatory perspective is the strength of a deep-seated human desire for closure, which is particularly strong in the face of moral outrage and reform frenzy. Another affective difficulty that Clark discussed is that emotionally aroused individuals tend to prefer bright-line rules as opposed to vague standards. On the other hand, Clark offered some reasons to hope that his proposal can be implemented by appealing to regulators' natural and understandable desires to look rational and reasonable.

Clark's novel regulatory proposal may reallocate affective impacts over time by possibly delaying certain ones and moving others forward. As is true in general for analyzing affective impacts, it matters relative to what benchmarks affective impacts are measured. An analogue to Clark’s “revise and reconsider” procedure is the “revise and resubmit” option that reviewers at many peer-refereed journals can select instead of simply rejecting or accepting some article submission. In this way, Clark offered a compromise between those who passionately and strongly desire reform and those who passionately and strongly resist change. Clark’s proposal envisioned an ongoing process of reassessing and revising regulations that is akin to how most people feel and think science usually does and should proceed. But, just as there are scientific revolutions, there could be and perhaps there occasionally should be revolutions in regulatory policy and principles. Clark's proposal is actively experimentalist and scientific in terms of its philosophical approach. It thus appears to represent a stark departure from a legal culture of courts being bound by precedent and legal actors in general respecting stare decisis. But, even within legal culture,

340. See generally Clark, supra note 2.
341. See Lobel & Lowenstein, supra note 281, at 1046–48 (warning about dangers of emotional appeals to policy).
change sometimes occurs, albeit often slowly and only eventually. For example, landmark cases, such as the U.S. Supreme Court ruling ending school segregation, *Brown v. Board of Education*,\(^4\) often put a legal end to long-standing practices, once those practices are socially perceived no longer to be appropriate.

Clark’s proposal for incremental regulation echoed Nobel Laureate Kenneth J. Arrow’s observation that “recondite calculation of gains and losses does not lead to great enthusiasm. It does not offer magic solutions to problems. A truly rational discussion of collective action in general or in specific contexts is necessarily complex, and what is even worse, necessarily incomplete and unresolved.”\(^4\) Clark’s “live and learn” type of regulatory policy and reform is consistent with management applications of real options theory, which formally models how decision-makers can profit from opportunities to adapt behavior in light of learning new information,\(^4\) and viewing lawsuits as real options.\(^6\)

Clark’s proposed cautious regulatory gradualism is also consistent with a conceptual framework, experimental research, and empirical results by several behavioral decision theorists.\(^3\) Finally, Clark’s view that learning about and improving regulation should be ongoing resonates with recent neuroeconomic research finding that even one-shot individual human choice is a dynamic process.\(^4\) In other words, people continue to engage in evaluations and affective reactions after they already have made their choices. Such post-decision evaluations and feelings in turn influence how they make future choices. These post-decision-making evaluations and feelings also may provide neuroscientific explanations for and foundations of such observed behavioral phenomena as endowment effects and sunk cost reasoning. There is a danger that continual reassessment and reevaluation of regulatory policy might induce a ruminating and stressful organizational and political culture of seeking unattainable perfection as opposed to being satisfied if things are “good enough.” Such a danger exists whenever decision-makers are “maximizers”

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\(^4\) ARROW, supra note 7, at 17.


\(^4\) See John Dickhaut et al., *The Role of Differential Outcome Feedback on Transitivity, Heart Rate, Galvanic Skin Response and fMri*, Presentation at the Third Annual Meeting of the Society for Neuroeconomics (Sept. 15, 2005).
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instead of "satisficers." Thus, it might be fortuitous that organizations such as regulatory agencies, because of their bureaucratic, collective, deliberative, and hierarchical natures, tend to satisfice instead of maximize.

VII. CONCLUSIONS

This Article advocated an accounting, inclusion, measurement, and quantification of affective impacts of securities regulations. This Article analyzed reasons for SEC reliance upon a sort of rhetorical CBA to evaluate and promulgate securities regulations. This Article found that the organizing statutes of the SEC are inconclusive over whether considering “efficiency” mandates that CBA should be the only methodology for choosing among different proposed rules and regulations. CBA does not account for, include, measure, nor quantify affective impacts and thus ignores important information about proposed securities regulations. But, as former Commissioner of Labor Statistics Katherine G. Abraham has pointed out, “[w]ithout accurate information on overall economic conditions, workers, firms, voters, and policymakers are flying blind—or at least peering through a thick fog.” This Article addressed conceptual and measurement issues that arise with analyzing the affective impacts of alternative categories of securities and financial regulations: mandatory disclosures; so-called gun-jumping rules in public registered offerings; financial education campaigns; default rules and menus; and statutory provisions that provide for continual reassessment and revision of regulations. Although this Article has focused on incorporating affective impacts into analyzing securities regulations, 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 CBA devaluing, ignoring, or simply missing a number of affective impacts and emotional values, including morally based affect in particular. Indeed, affective reactions are likely to be just as, if not more, important for non-financial risks than financial risks. A related article analyzes affective impacts of risk regulation generally.