THE DEVIL YOU KNOW: A SURVEY EXAMINING HOW RETAIL INVESTORS SEEK OUT & USE FINANCIAL INFORMATION AND INVESTMENT ADVICE

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I. Introduction

In a perfect world, individual investors would make fully rational, wealth-maximizing decisions about money and investing. In the real world, however, investors' choices are as much about John Maynard Keynes's "animal spirits" as they are about carefully weighted probabilities. In the language of the behavioral sciences, investors regularly exhibit decisionmaking biases, suffer from misperceptions, and make mistakes. For some scholars and legal systems (including the federal securities law investor protection regime), education is seen as a key strategy for dealing with departures from rationality. Under this approach, investors become smarter by learning from their own and others' mistakes and by getting help from expert sellers of financial goods and services. Other scholars and systems are of the view that investor education, while important, may not work as efficiently or effectively as one might hope in reducing mistakes, especially in markets where investors have to make complex, time-pressured decisions.

This article summarizes the results of a survey of approximately 1,000 retail investors who were asked about their *information-seeking behavior*—i.e., how they search for and use information and investment advice when preparing to make investment decisions. The survey reveals four key insights into investor education. First, all but a handful of respondents said that they seek out and use information, tools, or advice (or some combination thereof) when preparing to make investment decisions. Second, respondents have three clear favorites for pre-transaction research: (i) their chosen financial intermediaries; (ii) trusted family members, friends, or others in the respondent's social or professional circles; and (iii) the business and financial press. Third, most respondents say the perceived credibility of a source is an important factor in deciding whether to seek out or use pre-transaction research from that source. Fourth, respondents ranked their chosen financial intermediaries highest with respect to perceived credi-

bility; other stakeholders (including government regulators) did not fare nearly as well. Using cross-tabulations, the survey also revealed a number of statistically significant differences in information seeking behavior when responses are sorted based on gender, confidence in investing skills, comfort with financial risk-taking, and age.

To place these survey findings in context, this article first examines the choice architecture, or decisionmaking environment, of modern financial markets. Then, after reporting on survey results, the article considers the current securities law investor protection regime. Finally, citing survey findings and research from the behavioral sciences and neuroscience, the article recommends an expansion of the fiduciary standard as well as tweaks to mandatory disclosure rules.

II. Overview: Retail Investors, Mistakes, and the Promise of Education

Every day, people across the United States make decisions that will affect their financial futures—e.g., borrowing money to buy a house, go to college, or start a business, investing in the stock market to save for retirement, using check cashing services or payday lenders rather than accounts at banks or credit unions for day-to-day banking needs, and the like.[1] Traditional tenets of financial economics and

[1] The author recognizes that for many Americans, these decisions are out of reach. People who are unemployed or underemployed may not have the financial resources or credit history necessary to qualify for a loan. Underemployed or unemployed individuals also may not have access to employer-sponsored retirement savings plans. Also, many financial "decisions" with potentially negative consequences—for example, obtaining a subprime mortgage or using a high-cost payday lender or check cashing service rather than an account at a bank or credit union for day-to-day banking needs—are the result of economic hardship, mistake, or lack of access to competitively-priced financial services (or some combination thereof) rather than consumer preference. *See, e.g.*, Amy Castro Baker, *Eroding the Wealth of Women: Gender and the Subprime Foreclosure Crisis*, 88 SOC. SERV. REV. 59, 59–60 (2014) ("Mortgages of any type can be in default, but homeowners with subprime loans are . . . six to nine times more likely than those with a traditional prime mortgage to be in foreclosure."); Marianne Bertrand & Adair Morse, *Information Disclosure, Cognitive Biases, and Payday Borrowing*, 66 J. FIN. 1865 (2011) (observing, in a typical payday loan transaction, a borrower receives cash in exchange for authorization for a cash advance plus a fixed fee from

investment theory assume people make fully rational, wealth-maximizing financial decisions.[2] The efficient market hypothesis (EMH), for example, is built on the idea that financial markets fully, accurately, and instantaneously incorporate all available information into market prices.[3] EMH, in turn, is based on the idea that "market participants are rational economic beings, always acting in their own self-interest and making decisions by trading off costs and benefits weighted by the statistically correct probabilities and marginal utilities."[4]

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the borrower's account on the next paycheck date, and that "[a]nnualizing this fee reveals that payday loans are indeed expensive").

[2] Andreas Fuster, David Laibson & Brock Mendel, *Natural Expectations and Macroeconomic Fluctuations*, 24 J. ECON. PERSP. 67, 68 (2010) ("The rational agent of standard economic models is assumed to use all available information in order to make statistically optimal forecasts."); *see also* Colin Camerer et al., *Regulation for Conservatives: Behavioral Economics and the Case for "Asymmetric Paternalism,"* 151 U. PENN. L. REV. 1211, 1214–15 (2003) (noting most economists would agree full rationality encompasses the following basic components: (i) "people have well-defined preferences (or goals) and make decisions to maximize those preferences;" (ii) "those preferences accurately reflect (to the best of the person's knowledge) the true costs and benefits of the available options;" and (iii) "in situations that involve uncertainty, people have well-formed beliefs about how uncertainty will resolve itself, and when new information becomes available, they update their beliefs using . . . the presumed ability to update probabilistic assessments in light of new information").

[3] Troy A. Paredes, *Blinded by the Light: Information Overload and Its Consequences for Securities Regulation,* 81 WASH. U. L. Q. 417, 424, 480–84 (2003) (observing the efficient capital market hypothesis has profoundly influenced financial economics and the development and enforcement of the federal securities laws); *see also* Andrew W. Lo, *Reconciling Efficient Markets with Behavioral Finance: The Adaptive Markets Hypothesis*, 7 J. INV. CONSULTING 1, 1 (2005) ("Much of modern investment theory and practice is predicated on the Efficient Markets Hypothesis (EMH)."); Camerer et al., *supra* note 2, at 1214–15 ("The standard approach in economics assumes 'full rationality.'").

[4] Lo, *supra* note 3; *see also* Cary Frydman & Colin F. Camerer, *The Psychology and Neuroscience of Financial Decision Making*, 20 TRENDS COGNITIVE SCI. 661, 661–62 (2016) ("In the early 1950s, Modern Portfolio Theory (MPT) began to formalize ideas of how a rational investor would invest in a set of assets . . . . This theory formed the foundation of financial economics for several decades.").

In reality, financial decisionmaking appears to be as much about Keynes's "animal spirits" as it is about weighing probabilities.[5] As documented by psychologists, experimental economists, and now neuroscientists,[6] people exhibit decisionmaking biases and routinely fall short of rational choice norms.[7] These biases and departures from rationality speak to our human nature—to the role emotions play in decisionmaking,[8] to our cognitive limitations,[9] and to our use of

[5] As Professor Lo points out, "John Maynard Keynes (1936) observed over seven decades ago that economic decisions were due more to 'animal spirits' than carefully weighed probabilities, and that financial markets operated more like beauty contests than efficient price-discovery platforms." Andrew W. Lo, *Fear, Greed, and Financial Crises: A Cognitive Neurosciences Perspective*, *in* HANDBOOK OF SYSTEMIC RISK 622, 623 (Jean-Pierre Fouque and Joseph A. Langsam eds., 2013) (citing JOHN MAYNARD KEYNES, THE GENERAL THEORY OF EMPLOYMENT INTEREST AND MONEY (1936)). As this suggests, our lack of rationality is not a recent discovery. *See* CHARLES MACKAY, EXTRAORDINARY POPULAR DELUSIONS AND THE MADNESS OF CROWDS (1841); GUSTAVE LE BON, CROWD: A STUDY OF THE POPULAR MIND (1895).

[6] *See, e.g.*, Oren Bar-Gill, *The Behavioral Economics of Consumer Contracts*, 92 MINN. L. REV. 749, 749 (2008) ("[Consumers] suffer from imperfect information and imperfect rationality, and consequently might fail to make choices that maximize their preferences."); Peter Bossaerts, *What Decision Neuroscience Teaches Us About Financial Decision Making*, 1 ANN. REV. FIN. ECON. 383, 384 (2009) ("At the individual level, normative analysis has long been known to make invalid predictions."); Donald C. Langevoort, *Selling Hope, Selling Risk: Some Lessons for Law from Behavioral Economics About Stockbrokers and Sophisticated Customers,* 84 CALIF. L. REV. 627, 699 (1996) (arguing behavioral economics explains risk mischaracterization by relying on work by economists and psychologists).

[7] *See, e.g.,* Lo, *supra* note 3, at 1 (2005) ("[P]sychologists and experimental economists have documented a number of departures from market rationality in the form of specific behavioral biases that are apparently ubiquitous to human decision-making under uncertainty, several of which lead to undesirable outcomes for an individual's economic welfare."); s*ee also* Frydman & Camerer, *supra* note 4, at 663 (noting some decisions are clearly mistakes, such as failing to invest in a company retirement plan that matches the employee contribution and failing to refinance a mortgage); Lo, *supra* note 5; Andrew W. Lo & Dmitry V. Repin, *The Psychology of Real-Time Financial Risk Processing*, 14 J. COGNITIVE NEUROSCIENCE 323 (2002) (explaining their study findings which suggest "emotional responses are a significant factor in the real-time processing of financial risks").

[8] *See, e.g.,* Lo, *supra* note 5, at 663, 641 (exploring recent neuroscience research on fear, reward learning, mirror neurons, and the link between

heuristics, or decisionmaking shortcuts, especially when decisions are complex or time-pressured.[10] Biases and departures from rationality also are linked to persistent misperceptions and mistakes.[11] For retail investors (individual investors who trade for their own accounts), mistakes may include excessive trading,[12] failing to diversify portfolios or using naïve diversification strategies,[13] over-extrapolating from past

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emotion and rational behavior in an effort to identify fundamental drivers of financial crises and strategies for dealing with crises).

[9] *See*, *e.g.*, Hazel Bateman et al., *Risk Information and Retirement Investment Choice Mistakes under Prospect Theory*, 16 J. BEHAV. FIN. 279, 279 (2015) ("[E]xisting research has highlighted the gap between the financial competence of ordinary people and the skills needed to make sound financial decisions in retirement planning.").

[10] *See, e.g.*, Gerd Gigerenzer, *Fast and Frugal Heuristics: The Adaptive Toolbox*, *in* SIMPLE HEURISTICS THAT MAKE US SMART 1, 5 (Gerd Gigerenzer et al. eds., 1999) ("Humans . . . make inferences about their world with limited time, knowledge, and computational power."); s*ee also* Anjali D. Nurismulu & Peter Bossaerts, *Risk and Reward Preferences under Time Pressure*, 18 REV. FINANCE, 999, 1019 (2014) ("Our results suggest that, when put under extreme time pressure, human decision-making is not only different (from what it is otherwise) but also biased.").

[11] *See, e.g.*, Brad M. Barber & Terrance Odean, *The Courage of Misguided Convictions*, 55 FIN. ANALYST J. 41, 41 (Dec. 1999) ("People do not always behave rationally, and although departures from rationality are sometimes random, they are often systematic.").

[12] *See, e.g.*, Brad M. Barber & Terrance Odean, *Trading Is Hazardous to Your Wealth: The Common Stock Investment Performance of Individual Investors*, 55 J. FIN. 773 (2000) (finding empirical evidence supporting the view that overconfidence leads to excessive trading, that excessive trading leads to lower net annualized geometric mean return when compared to households that trade less frequently); Terrance Odean, *Do Investors Trade Too Much?*, 89 AM. ECON. REV. 1279, 1296 (1999) (discussing how "those with discount brokerage accounts . . . trade excessively in the sense that their returns are, on average, reduced through trading [and] . . . [o]verconfident investors may trade even when their expected gains through trading are not enough to offset trading costs.").

[13] *See, e.g.*, Hersh Shefrin & Meir Statman, *The Disposition to Sell Winners Too Early and Ride Losers Too Long: Theory and Evidence*, 40 J. FIN. 777 (2008) (discussing the tendency to sell stocks appreciating in value prematurely in order to realize gain and to hold on to depreciating stocks to avoid realizing losses); *see also* JOHN NOFSINGER, THE PSYCHOLOGY OF INVESTING 84–87 (2017).

returns,[14] or excessive risk-taking. Decision-making biases and departures from rationality also may result in both economic and non-economic harms.[15] Imperfectly rational investors may end up with unsuitable products, earn lower rates of return, or incur investment losses.[16] They also may suffer economic, emotional and psychological harms at the hands of intermediaries who exploit vulnerabilities, or who turn out to be incompetent or unethical, or both.[17]

In the mid-1950s, Nobel laureate Herbert Simon proposed two related concepts—i.e., *bounded rationality* and *satisficing*—to explain why our decisionmaking so often fails to line up with rational choice norms.[18] Human rationality is bounded, according to Simon, because

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[14] *See*, *e.g.*, Fuster, Laibson & Mendel, *supra* note 2, at 67–84 (summarizing extrapolation mistakes); James J. Choi et al., *Reinforcement Learning and Savings Behavior*, 64 J. FIN. 2515, 2516 (2008) ("Our findings are explained by a model in which investors follow a naïve reinforcement-learning heuristic: increase weights on strategies in which you have personally experienced success, even if this past success does not logically predict future success.").

[15] Langevoort, *supra* note 6, at 686.

[16] *Id.* (describing how stock brokers push penny stocks and their "success is often underscored by greed gullibility of significant numbers of investors.").

[17] *See id.* at 699 ("[I]nfluences lead the investor, without realizing it, toward rationalization and wishful thinking, often triggered by the intervention of a broker who has learned to take advantage of those motivations and guide them toward the desired investment."); *see also* Stephen Lumpkin, *Consumer Protection and Financial Innovation: A Few Basic Propositions*, 2010 OECD J.: FIN. MKT. TRENDS 117, 124 (2010) ("The fact that retail consumers cannot readily discern the quality of financial products . . . makes them vulnerable to misconduct on the part of financial service providers . . . . They are also vulnerable to conflicts of interest, the possibility that an institution or its agents will put their own interests or those of affiliated parties or even another customer above those of the client in question. Even worse, service providers might engage in outright fraud."); *see infra* text accompanying notes 243–70.

[18] *See*, *e.g.*, Herbert A. Simon, *A Behavioral Model of Rational Choice*, 69 Q. J. ECON. 99 (1955) ("Broadly stated, the task is to replace the global rationality of economic man with a kind of rational behavior that is compatible with the access to information and the computational capacities that are actually possessed by organisms, including man, in the kinds of environments in which such organisms exist."); *see also* Herbert A. Simon, *Rational Choice and the Structure of the Environment*, 63 PSYCHOL. REV. 129, 136 (1956) ("Since the organism, like those of the real world, has neither the senses nor the wits to discover an 'optimal' path—even assuming the concept of optimal to be clearly defined—we are concerned only with finding a choice mech-

we operate with limited information, often under time pressure, and in the face of limits on our capacity to process and evaluate alternatives and their potential consequences.[19] Satisficing (a combination of satisfy and suffice) refers to a decisionmaking strategy or cognitive heuristic whereby we make decisions that are "good enough," given these limitations and constraints.[20] Bounded rationality and satisficing laid the foundation for behavioral models of decisionmaking pioneered by Nobel laureate Daniel Kahneman, Amos Tversky, and others.[21] These models speak to the imperfectly rational judgments, reasoning patterns, and decisionmaking processes and strategies of real people making choices in the real world.

Today, informed by the insights of the behavioral sciences, there is broad agreement that people "often make serious mistakes in deciding important matters."[22] The question for law and policy makers is whether or how to intervene. One school of thought says that the best way to address bounded rationality is to recognize our limits and make ourselves smarter: as Richard Epstein has argued, for example, "[p]art of growing up consists in the expansion of one's cognitive powers so as to reduce the costs of . . . errors. Part of it [also] consists

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anism that will lead it to pursue a 'satisficing' path, a path that will permit satisfaction at some specified level of all of its needs.").

[19] Simon, *A Behavioral Model of Rational Choice*, *supra* note 18, at 99; *see also* Nurismulu & Bossaerts, *supra* note 10, at 1019 (2014); Brad M. Barber & Terrance Odean, *All That Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors*, 21 REV. FIN. STUD. 785, 786, 812 (2008) ("When alternatives are many and search costs high, attention may affect choice more profoundly than preferences do.").

[20] Simon, *Rational Choice and the Structure of the Environment*, *supra* note 18, at 136 (defining a "satisficing" path as one that "will permit satisfaction at some specified level for all of [an organism's] needs"); s*ee* Gigerenzer, *supra* note 10, at 18 (referring to the concept of ecological rationality, meaning rationality defined by its fit with the environment, in an effort to re-combine Simon's bounded rationality with the environmental structure in which particular decisions and judgements occur).

[21] *See*, *e.g.*, Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCI. 1124, 1131 (1984) (describing three heuristics employed in making judgments and postulating that though these heuristics can be economical and effective, "they lead to systemic and predictable errors").

[22] Richard A. Epstein, *Behavioral Economics: Human Errors and Market Corrections*, 73 U. CHI. L. REV. 111, 111 (2006).

in choosing tasks that minimize the exposure to risk, perhaps by hiring individuals with formal training to work as agents on matters of particular difficulty."[23] Proponents of this approach tend not to be fans of legal interventions beyond mandatory disclosure requirements and anti-fraud rules.[24]

Others are of the view that education, while important, may not work as efficiently or effectively as one might hope in de-biasing investors, especially in markets where consumers have to make complex, time-pressured decisions involving money.[25] As Professor Bar-Gill has observed, for example, consumers may find it difficult to learn from experience when products are complicated or non-standard, or the number of transactions is low.[26] Bar-Gill and others also have observed that sellers in some markets may have incentives to exploit consumer errors rather than correct them.[27] Proponents of this school of thought favor educational initiatives and, in some cases, targeted, substantive legal interventions, as well.[28]

For the many Americans who depend on their investments to fund retirement or to pay for housing, tuition, health care expenses, or

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[23] *Id.* at 113 (explaining that exploring how people succeed in spite of their limitations, instead of assuming "pervasive human frailties," is a better way to understand rational behavior).

[24] *See, e.g.*, *id.* at 127–32 ("Anyone can enter the market on information. It does not take a government to broadcast the dangers of borrowing, any more than it takes a government to broadcast the dangers of obesity.").

[25] *See* Oren Bar-Gill, *supra* note 6, at 754–57 (arguing consumer learning and education will not always help consumers avoid mistakes because learning and education require frequency and standardization).

[26] *Id.* at 756 (pointing out Epstein chooses a "learning-friendly" standardized product to illustrate that consumers learn from their own and others' mistakes and arguing that frequency and standardized products are key to interpersonal learning).

[27] *Id.* at 761 (proposing sellers may actually invest in creating consumer misperceptions and mistakes through activities such as advertising).

[28] *Id.* at 750 ("[I]n certain markets, consumer mistakes and sellers' strategic response to these mistakes are responsible for a substantial welfare loss, potentially justifying legal intervention."); *see also* Paul Heidhues, Botond Köszegi & Takeshi Murooka, *Deception and Consumer Protection in Competitive Markets*, *in* SWEDISH COMPETITION AUTHORITY, THE PROS AND CONS OF CONSUMER PROTECTION 45 (Sten Nyberg ed., 2012) ("[T]here is a potential role for active consumer-protection policies.").

any number of other obligations,[29] debates about whether or how to respond to bounded rationality raise important questions with practical consequences for lawmakers, regulators, and investors. For example, if investors are supposed to learn from mistakes, do we have reason to believe that investors know what mistakes they are making or how to fix them? Likewise, if investors are supposed to learn from sellers of financial goods and services, are we confident investors know how to identify reliable sellers or what they should be learning from them? What would it mean for regulatory policy if investors are not able to identify or learn from mistakes, or if sellers systematically exploit investor mistakes? What if our biases, misperceptions, and mistakes are hard-wired,[30] such that even sophisticated investors are susceptible

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[29] According to a study by the Board of Governors of the Federal Reserve System, households and nonprofit organizations held the following amounts in financial assets (reported in billions) as of March 31, 2017: (i) private foreign deposits ($28.7); (ii) checkable deposits and currency ($1143.9); (iii) total time and savings deposits ($9201.9); (iv) money market mutual fund shares ($1009.8); (v) debt securities ($4219.1); (vi) treasury securities ($1361.1); (vii) agency and GSE-backed securities ($457.6); (viii) municipal securities ($1631.5); (ix) corporate and foreign bonds ($768.9); (x) corporate equities ($16148.3); and (xi) mutual fund shares ($7697.3), among other assets. *See* BD. OF GOVERNORS OF THE FED. RES. SYS., FEDERAL RESERVE STATISTICAL RELEASE: Z.1 FINANCIAL ACCOUNTS OF THE UNITED STATES—FLOW OF FUNDS, BALANCE SHEETS, AND INTEGRATED MACROECONOMIC ASSETS: THIRD QUARTER 2017, 138 (2017) [hereinafter FINANCIAL ACCOUNTS OF THE UNITED STATES], https://www.federalreserve.gov/releases/z1/current/html/l101.htm [http://perma.cc/9LB8-ZHLC]. The Investment Company Institute estimates the U.S. market for retirement savings exceeded $25 trillion dollars in 2016. INV. CO. INST., 2017 INVESTMENT COMPANY FACT BOOK: A REVIEW OF TRENDS AND ACTIVITIES IN THE INVESTMENT COMPANY INDUSTRY ii (57th ed.) (2017) [hereinafter INVESTMENT COMPANY FACT BOOK], https://www.ici.org/pdf/2017_factbook.pdf; s*ee also* CONSTANTIJN W.A. PANIS & MICHAEL J. BRIEN, BROKERAGE ACCOUNTS IN THE UNITED STATES 1 (2015), https://www.dol.gov/sites/default/files/ebsa/researchers/analysis/retirement/brokerageaccountsintheus.pdf [https://perma.cc/6EWQ-SXMU] (referencing a 2001–2013 study which found that approximately 17 million of the nation's 123 million households owned a brokerage account).

[30] *See*, *e.g.*, Frydman & Camerer, *supra* note 4, at 661 (discussing neuro-imaging work which examines the neurobiological underpinnings of financial decision making); *see also* Bossaerts, *supra* note 6, at 383; Henrik Cronqvist & Stephen Siegel, *The Genetics of Investment Biases*, 113 J. FIN. ECON. 215, 216 (2014) ("[F]or a long list of investment biases, we find that genetic

to being "manipulated by savvy architects of choice?"[31] And, what should we make of our current securities law investor protection regime, with its preference for disclosure rather than protective regulation,[32] and its assumptions about rational investor choice?[33]

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differences explain up to 45% of the remaining variation across individual investors, after controlling for observable individual characteristics."); Cary Frydman et al., *Using Neural Data to Test a Theory of Investor Behavior: An Application to Realization Utility*, LXIX J. FIN. 907, 910 (2014) (using neural data to test economic models of financial decision-making); William Gehring & Adrian Willoughby, *The Medial Frontal Cortex and the Rapid Processing of Monetary Gains and Losses,* 295 SCI. 2279 (Mar. 22, 2002) (reporting on research involving a gambling task suggesting that medial-frontal computations may contribute to mental states that participate in higher level decisions, including economic choices associated with the rapid processing of monetary gains and losses); Brian Knutson & Peter Bossaerts, *Neural Antecedents of Financial Decisions*, 27 J. NEUROSCIENCE 8174 (2007) ("[R]ecent and rapid advances in functional brain imaging suggest that individuals use some of the same subcortical circuits to process money that they use to process more tangible goods."); Richard L. Peterson, *The Neuroscience of Investing: fMRI of the Reward System*, 67 BRAIN RES. BULL. 397, 397 (2005) ("In recent years, finance theory has been greatly enhanced by the study of investor psychology and behavior, and prominent scholars have suggested that many of the 'irrationalities' demonstrated by individual investors may be related to neural substrates.").

[31] *See* Colin Camerer et al., *Regulation for Conservatives: Behavioral Economics and the Case For "Asymmetric Paternalism*,*"* 151 U. PA. L. REV. 1211, 1214 (2003) (noting "even highly competent, well-functioning people" make mistakes in predictable situations); s*ee also* Maria Hartwig et al., *Detecting Lies in the Financial Industry: A Survey of Investment Professionals' Beliefs*, 16 J. BEHAV. FIN. 173 (2015) (finding survey respondents—607 Certified Financial Analyst charter holders—subscribed to common misperceptions about deceptive behavior and may be overconfident in their ability to detect lies); Langevoort, *supra* note 6, at 628, 648–67 (examining why otherwise sophisticated investors buy investments they later claim not to have fully understood, thereby adding unanticipated risk to their portfolios).

[32] *See*, *e.g.*, Paredes, *supra* note 3, at 418 ("The logic is that by arming investors with information, mandatory disclosure promotes informed investor decision making . . . . Once they are empowered with information, the argument goes, investors can protect themselves . . . . Securities regulation is motivated, in large part, by the assumption that more information is better than less.").

[33] *See*, *e.g.*, *id.* ("The federal securities laws generally assume that investors and other securities market participants are perfectly rational, from which it follows that more disclosure is always better than less."); *see also* Emilios

With these questions and concerns in mind, this article summarizes the results of a survey examining retail investors' *information-seeking behavior*—i.e., how retail investors search for and use financial information and investment advice when preparing to make investment decisions.[34] The survey asked approximately 1,000 retail investors:[35] (i) whether they typically seek out information, tools, or advice before making investment decisions, and if so, what type of research material they prefer; (ii) where and from whom they prefer to get pre-transaction research material; (iii) whether and how they use this material when making investment decisions; and (iv) whether and to what extent perceptions of credibility matter when deciding whether to seek out or use information, tools, or advice.

The survey reveals four key topline[36] insights into investor education efforts. First, all but a handful of respondents said that they seek out and use information, tools, or advice (or some combination thereof) from third parties whom they trust when preparing to make investment decisions. Second, although respondents say they get pre-transaction research from a variety of sources, they have three clear favorites: (i) their chosen financial intermediaries; (ii) trusted family members, friends, or others in the respondent's social or professional circles; and (iii) the business and financial press. Third, most respondents say the perceived credibility of a source is an important factor in deciding whether to seek out or use information, tools, or advice from that source. Fourth, respondents ranked their chosen financial inter-

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Avgouleas, *What Future for Disclosure as a Regulatory Technique? Lessons from the Global Financial Crisis and Beyond* 6–7 (Mar. 26, 2009) (unpublished paper) (available at https://ssrn.com/abstract=1369004) ("[B]ased on the rational investor model, modern financial regulation stretched the disclosure paradigm and reliance on self-regulation way beyond its original realm of issuer disclosure and prevention of market abuse to financial services consumer (retail investor) protection . . . with mixed results.").

[34] *See* T.D. Wilson, *On User Studies and Information Needs*, 62 J. DOCUMENTATION 3 (1981) (proposing a basis for a theory of the motivations for information-seeking behavior.).

[35] We administered the same survey in 2013 and in 2017 to approximately 1,000 respondents each time. This article reports on the 2017 results, though we note responses were generally consistent across the two surveys.

[36] Topline refers to "how the aggregated sample answered a specific question." *Polling Fundamentals—Glossary of Terminology: Topline*, ROPER CTR. FOR PUB. OPINION RES., https://ropercenter.cornell.edu/support/polling-fundamentals-glossary-of-terminology/ [http://perma.cc/6C7L-A7J6].

mediaries highest with respect to perceived credibility—other stakeholders (including government regulators) did not fare nearly as well. In addition to these topline results, using cross-tabulations,[37] the survey also revealed a number of statistically significant differences in information-seeking behavior when responses are sorted based on gender, confidence in investing skills, comfort with financial risk-taking, and age.

As context for the survey and these results, this article considers the decisionmaking environment or "choice architecture" of retail investor decisionmaking in Part II. This Part identifies key choice architects (i.e., the people and institutions that shape the decisionmaking environment) and examines key features modern securities markets. Part III discusses survey design and reports on survey results. Part IV examines heuristics and biases associated with retail investor decisionmaking and considers whether these heuristics and biases might also be in play in information-seeking behavior. Part V considers the current securities law investor protection regime in light of survey results and related research and recommends an expansion of the fiduciary standard and tweaks to mandatory disclosure rules.

III. The Architects and Architecture of Retail Investor Choice

In their popular take on behavioral science and decisionmaking, *Nudge: Improving Decisions about Health, Wealth, and Happiness*, Cass Sunstein and Richard Thaler make the point that no one makes decisions in a vacuum—rather, we are surrounded and influenced by "choice architecture."[38] Choice architecture refers to the design of the environment in which people make choices.[39] Choice architects are the people and institutions behind choice environments.[40]

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[37] A cross-tabulation is "[a] table which shows the influence of an independent variable (located in the column) on a dependent variable (located in the row.) (e.g. a graph showing how income influences the likelihood of voting for a certain candidate)." *Polling Fundamentals—Glossary of Terminology: Cross-Tabulation*, ROPER CTR. FOR PUB. OPINION RES., https://ropercenter.cornell.edu/support/polling-fundamentals-glossary-of-terminology/ [http://perma.cc/6C7L-A7J6].

[38] RICHARD H. THALER & CASS R. SUNSTEIN, NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS 3–13 (2008).

[39] *Id.*

[40] *Id.*

Because choice architecture is a built environment, there is no such thing as "neutral" design or a perfectly "neutral" choice environment; every choice architect has a point of view, after all, and every decision, even if seemingly insignificant, has the power to "nudge" decision-makers in one direction or another.[41] Consequently, as a first step in understanding retail investor information-seeking behavior, Section II.A identifies key architects of retail investor choice, and examines the rules, motivations, and incentives behind their often powerful nudges.

A. The Choice Architects of Retail Investor Decisionmaking

There are five key architects of retail investor choice: (i) investors themselves; (ii) the financial services industry; (iii) the governing legal and regulatory regime; (iv) the financial and business press; and (v) issuers of securities and other financial and investment products. The following section discusses each of these choice architects.

1. Investors as Choice Architects

A foundational principle of this project is that investors are their first and most powerful choice architects: they have the power to decide whether or not to seek out information, tools, or advice before making investment decisions; they have the power to decide where and from whom to get pre-transaction research material; and they have the power to decide whether and how to use pre-transaction research material when making investment decisions.[42] This is not to say that

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[41] *Id.*; *see* Richard H. Thaler & Cass R. Sunstein, *Libertarian Paternalism*, 93 AM. ECON. REV. 175, 175 (2003).

[42] There are at least two situations where an investor may not have authority to make investment decisions. First, an investor may grant investment or trading authority to another person, say, a financial professional or trustee. Second, an investor may be a participant in a defined benefit plan (i.e., an employer-sponsored retirement plan where investment decisions are made by a trustee and benefits paid out to plan participants). *Employee Benefits Survey, National Compensation Survey: Glossary of Employee Benefit Terms*, BUREAU LAB. STAT. (Apr. 21, 2016), https://www.bls.gov/ncs/ebs/glossary20152016.htm [http://perma.cc/3M2D-28PC] ("Defined benefit pension plans provide employees with guaranteed retirement benefits based on benefit formulas. A participant's retirement age, length of service, and preretirement earnings may affect the benefits received."). Defined benefits plans are

investors are the only choice architects, that investors would do a better job making choices if only they were left alone, or that investors are immune from the persuasions of other, savvy choice architects.[43] It is simply to recognize that investors have agency and autonomy over their own information seeking choices.

2. The Financial Services Industry: A Powerful Architect of Investor Choice

Apart from investors themselves, the financial services industry is perhaps the most important and powerful architect of retail investor choice. In part, this is because of the size and economic footprint of the financial services industry. The financial services industry was the single-biggest contributor to gross domestic product (GDP) in 2016, measured by value added by industry, at approximately 20 percent, according to Bureau of Economic Analysis (BEA) data.[44] By

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increasingly rare in the private sector. The Bureau of Labor Statistics reports that as of March 2016, only 8 percent of private industry employers maintain defined benefit plans. *Employee Benefits Survey: Establishments Offering Retirement and Healthcare Benefits*, BUREAU LAB. STAT. (Mar. 2016), https://www.bls.gov/ebs/benefits/2016/ownership/private/table01a.htm [http://perma.cc/K2LE-24GA]. By comparison, as of March 2016, 46 percent of private industry employers offered access to a defined contribution plan. *Id.* Participants in defined contribution plans are typically able to choose between at least some different investment options, for example, a list of mutual funds. As the Obama-era Council of Economic Advisors noted in its 2015 study on the effects of conflicted advice on retirement savings, "[t]he shift from traditional pensions to defined contribution plans raises important policy issues about investment responsibilities and the roles of individual households, employers, and investment advisers in ensuring the retirement security of Americans." Jason Furman & Betsey Stevenson, *The Effects of Conflicted Investment Advice on Retirement Savings*, WHITE HOUSE: BLOG (Feb. 23, 2015, 9:45 AM), obamawhitehouse.archives.gov/blog/2015/02/23/effects-conflicted-investment-advice-retirement-savings [http://perma.cc/C3PP-SZPA].

[43] *See* Thaler & Sunstein, *supra* note 41, at 176 ("The presumption that individual choices should be free from interference is usually based on the assumption that people do a good job of making choices, or at least that they could do a far better job than third parties could do. As far as we can tell, there is little empirical support for this claim.").

[44] *Value Added by Industry as a Percentage of Gross Domestic Product*, BUREAU ECON. ANALYSIS, https://www.bea.gov/iTable/iTable.cfm?ReqID=

comparison, the manufacturing sector logged in at only 11.7 percent.[45] The financial services sector[46] also employed more than eight million people in 2016,[47] and reportedly spent $6.8 billion in measured ad

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51&step=1#reqid=51&step=51&isuri=1&5114=q&5102=5 (last visited June 9, 2017). Note GDP or value added in this context "is the value of the goods and services produced by the nation's economy less the value of the goods and services used up in production. GDP is also equal to the sum of personal consumption expenditures, gross private domestic investment, net exports of goods and services, and government consumption expenditures and gross investment." *Gross Domestic Product by Industry: Third Quarter 2017,* BUREAU ECON. ANALYSIS, https://www.bea.gov/newsreleases/industry/gdpindustry/gdpindnewsrelease.htm [http://perma.cc/LBH5-KJQR] (last visited June 9, 2017).

[45] *Value Added by Industry as a Percentage of Gross Domestic Product*, *supra* note 44. In fact, the financial services industry has held the number one position every quarter since at least 2014, according to BEA data. *Id.* (showing the financial, insurance, real estate, rental, and leasing industry production in terms of value added as a percentage of GDP).

[46] The North American Industry Classification System (NAICS) defines the financial services industry as follows: "The Finance and Insurance sector comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions." *Finance and Insurance Sector: NAICS 52*, *Industries at a Glance,* BUREAU LAB. STAT. (July 12, 2017), https://www.bls.gov/iag/tgs/iag52.htm [https://perma.cc/4RCW-KEZ2]. In addition, monetary authorities charged with monetary control are included in this sector. *Id.*

[47] The financial activities super sector consists of the finance and insurance (NAICS 52) and Real Estate and Rental and Leasing (NAICS 53) sectors. *Id.*; *Real Estate and Rental and Leasing: NAICS 53*, *Industries at a Glance*, BUREAU LAB. STAT. (last visited July 9, 2017) https://www.bls.gov/iag/tgs/iag53.htm [https://perma.cc/R3ZB-Y9X2] (providing a statistical oversight of the Real Estate and Rental Industry). The finance and insurance sector "comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions." *Finance and Insurance Sector: NAICS 52, Industries at a Glance*, *supra* note 46. The real estate and rental and leasing sector consists of "establishments primarily engaged in renting, leasing, or otherwise allowing the use of tangible or intangible assets, and establishments providing related services." *Real Estate and Rental and Leasing: NAICS 53*, *supra*. Data from the Bureau of Labor Statistics reflects approximately 8,364,000 people were employed in the financial activities super sector as of December 2016. *Databases, Tables & Calculators by*

spending[48] and another $90 million on lobbying during 2016.[49] Not all of these employees and dollars touched retail investors, but, given the size and economic stakes of the retail investor market[50] and the financial services industry as a whole, it is unlikely the financial services industry is agnostic as to investor choice.

3. The Financial Services Industry and the Legal and Regulatory Regime as Choice Architects

The financial services industry is an important choice architect for the additional and related reason that retail investors depend on professional financial intermediaries to access financial markets.[51] Retail investors typically do not have the expertise or the licenses, registrations, or market access necessary to effect securities transactions on their own. Instead, they must work through intermediaries (e.g., stock brokers, investment advisers, insurance agents) when buying or selling securities or making other investments.[52] As the main point of contact between investors and financial markets, the financial services industry shapes choice architecture by carefully curating, pricing, and marketing the mix of products and services made available through retail channels.[53]

Traditionally, the mix of products and services available to retail investors has turned on the legal and regulatory regimes applicable to the different types of intermediaries. For example, retail

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Subject, Employment, Hours, and Earnings from the Current Employment Statistics Survey, BUREAU LAB. STAT., https://data.bls.gov/timeseries/CES5500000001?amp%253bdata_tool=XGtable&output_view=data&include_graphs=true (last visited June 9, 2016).

[48] ADVERT. AGE, 200 LEADING NATIONAL ADVERTISERS FACT PACT 22 (2017), http://adage.com/article/datacenter/200-leading-national-advertisers/309283/.

[49] *See Securities & Investment*, CTR. FOR RESPONSIVE POL., https://www.opensecrets.org/lobby/indusclient.php?id=F07 [https://perma.cc/Z6MC-JXLD] (last visited July 11, 2017) (breaking down the industry profile of the financial sector).

[50] *See* FINANCIAL ACCOUNTS OF THE UNITED STATES, *supra* note 29.

[51] *See* Kenneth M. Rosen, *Financial Intermediaries and Principals and Agents,* 48 WAKE FOREST L. REV. 625, 628 (2013).

[52] *See generally id.*

[53] *See generally id.*

investors typically rely on broker-dealers for trade execution.[54] A broker-dealer is a person or firm that is in the business of buying and selling securities on behalf of its customers (as broker), for its own account (as dealer), or both, typically in exchange for a transaction-based fee (e.g., a commission).[55] Broker-dealer rules are set forth in the Securities and Exchange Act of 1934 and the regulations promulgated thereunder and in rules promulgated by the Financial Industry Regulatory Authority (FINRA) (the self-regulatory organization (SRO) for the broker-dealer industry).[56]

Broker-dealers traditionally have had two core legal duties when handling customer securities orders. First, they must seek the *best execution* reasonably available for customer securities orders, considering factors such as whether there is an opportunity to get a better price than what is currently quoted, the speed of execution, and the likelihood the trade will in fact be executed.[57] Best execution is not a fiduciary standard; broker-dealers are not obligated to ensure a transaction is in the customer's best interest under this standard, nor are they required to put the customer's interests first.

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[54] *See id.* at 628–29.

[55] The Securities Exchange Act of 1934 defines broker as "any person engaged in the business of effecting transactions in securities for the account of others." Securities Exchange Act of 1934, ch. 404, 48 Stat. 881, § 3(a)(4), 15 U.S.C. § 78c(a)(4) (2012). The Securities Exchange Act defines dealer as "any person engaged in the business of buying and selling securities . . . for such person's own account, through a broker or otherwise." § 3(a)(5). The people we colloquially refer to as stock brokers are technically referred to as "associated persons" of a broker or dealer by the SEC, a term which includes "any partner, officer, director, or branch manager of such broker or dealer . . ., any person directly or indirectly controlling, controlled by, or under common control with such broker or dealer, or any employee of such broker or dealer, except that any person associated with a broker or dealer whose functions are solely clerical or ministerial shall not be included in the meaning of such term for purposes of section 15(b) of [the Securities Act of 1934] . . . ." § 3(a)(18).

[56] *See* SEC DIV. OF TRADING & MKTS., INVESTOR PUBLICATION: GUIDE TO BROKER-DEALER REGISTRATION (Apr. 2008), https://www.sec.gov/reports pubs/investor-publications/divisionsmarketregbdguidehtm.html [https://perma.cc/J9JB-NFVD].

[57] *Fast Answers: Best Execution*, U.S. SEC. & EXCHANGE COMMISSION (May 9, 2011), https://www.sec.gov/fast-answers/answersbestexhtm.html [https://perma.cc/7ZLA-UVXT].

Second, until recently (see the discussion of the new DOL fiduciary rule below), broker-dealers had to comply with the "suitability rule," but only when *recommending* a securities transaction or investment strategy involving securities to a customer.[58] Under the suitability rule, a broker-dealer must "have a reasonable basis to believe that a recommended transaction or investment strategy involving a security or securities is suitable for the customer, based on the information obtained through the reasonable diligence of the [firm] or associated person to ascertain the customer's investment profile."[59] A customer's profile includes "the customer's age, other investments, financial situation and needs, tax status, investment objectives, investment experience, investment time horizon, liquidity needs and risk tolerance."[60] As with best execution, suitability is not a fiduciary standard.

The regime applicable to investment advisors—another common type of financial intermediary—is notably different. An investment advisor is a person or firm that, for compensation, is engaged in the business of providing advice to others or issuing reports or analyses regarding securities.[61] Retail investors come into contact with investment advisors when they purchase an interest in a professionally managed pooled-investment vehicle such as a mutual fund, as the fund manager is an investment advisor under applicable rules.[62] A retail investor also may hire an investment adviser for individualized

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[58] FINRA MANUAL, Rule 2111, available at http://finra.complinet.com/en/display/display.html?rbid=2403&record_id=15663&element_id=9859&highlight=2111#r15663 [https://perma.cc/26U5-4QLU].

[59] *Id.*

[60] *See id.*; *see also FINRA Rule 2111 (Suitability) FAQ*, FIN. INDUSTRY REG. AUTHORITY, http://www.finra.org/industry/faq-finra-rule-2111-suitability-faq [https://perma.cc/T5G7-ZFZ3]. Relatedly, FINRA Rule 2090 (the so-called know your customer rule) states "[e]very member shall use reasonable diligence, in regard to the opening and maintenance of every account, to know (and retain) the essential facts concerning every customer and concerning the authority of each person acting on behalf of such customer." FINRA MANUAL, Rule 2090, available at http://finra.complinet.com/en/display/display_main.html?rbid=2403&element_id=9858.

[61] *See* Investment Advisers Act of 1940 § 202(a)(11), 15 U.S.C. § 80b-2(a)(11) (2012).

[62] *See generally* Howard Schiffman, *The Relationship Between the Investment Adviser and the Mutual Fund: Too Close for Comfort?*, 45 FORDHAM L. REV. 183 (1976).

investment advice in exchange for an advisory fee, which typically is assessed as a percentage of assets under management.[63] Common names for this type of professional include asset managers, investment counselors, investment managers, portfolio managers and wealth managers.[64] Investment advisor rules are set forth in the Investment Advisers Act of 1940 and in regulations promulgated thereunder.[65] Unlike the broker-dealer industry, there is no SRO for investment advisors.[66]

As with broker dealers, investment advisors must seek the best execution reasonably available if they execute clients' securities transactions (often through a broker-dealer affiliate).[67] Unlike broker-dealers, however, investment advisors are subject to the fiduciary standard—and thus duties of care and loyalty—when they provide recommendations or investment advice.[68] To see how differences between a fiduciary and non-fiduciary standard might play out for a retail investor, consider an investor interested in purchasing mutual fund

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[63] *See* SEC OFFICE OF INV'R EDUC. & ADVOCACY, INVESTOR PUBLICATION: INVESTMENT ADVISERS: WHAT YOU NEED TO KNOW BEFORE CHOOSING ONE (Aug. 7, 2012), https://www.sec.gov/reportspubs/investor-publications/investorpubsinvadvisershtm.html [https://perma.cc/K3XK-7GDY].

[64] *See Investment Advisers*, FIN. INDUSTRY REG. AUTHORITY, http://www.finra.org/investors/investment-advisers [https://perma.cc/KYS7-AQ87].

[65] *See* 15 U.S.C. § 80b-1 (2015).

[66] Client Alert from Wilmer Cutler Pickering Hale and Dorr LLP, Franca Harris Gutierrez et al., FinCEN Proposes AML Requirements for Registered Investment Advisers, (Sept. 3, 2015), https://www.wilmerhale.com/pages/publicationsandnewsdetail.aspx?NewsPubId=17179879310 [https://perma.cc/9ZW4-4UC3].

[67] This means, for example, an investment advisor who acts as a fund manager for a mutual fund must comply with the duty of best execution when buying or selling securities on the fund's behalf. Manarin Investment Counsel, Ltd. et al., Exchange Act Release No. 70595, Fed. Sec. L. Rep. (CCH) ¶ 80,373 (Oct. 2, 2013) (charging adviser to three funds-of-funds with breaching its fiduciary duty by failing to seek best execution when it caused those funds to buy Class A shares of underlying mutual funds even though the funds were eligible to own lower cost "institutional" shares of the mutual funds, and finding the breach caused private fund-of-fund clients to pay more than $600,000 in avoidable Rule 12b-1 fees on mutual fund holdings, which were passed to the adviser's affiliated broker-dealer).

[68] *See* SEC v. Capital Gains Research Bureau, Inc., 375 U.S. 180, 194 (1963) ("Courts have imposed on a fiduciary an affirmative duty of 'utmost good faith, and full and fair disclosure of all material facts . . . .'").

shares. Under the best execution standard, the firm in charge of fulfilling the order must seek the best execution reasonably available. The execution-only firm is not required to make recommendations for particular funds or to otherwise weigh in on the substance of the investment decision. If the suitability rule applies, and the investor asks for a recommendation, the firm is obligated to recommend a fund that is merely suitable. The firm is not obligated to put the investor's interest first when making a recommendation, nor is the firm required to recommend only the most suitable fund.[69] If the fiduciary standard applies, however, the firm is legally obligated to put the investor's interest first when providing advice or recommendations.[70] This means, for example, an advisor might be required to recommend a non-proprietary fund[71] (one sold by a different company) if the non-proprietary fund is cheaper or better suited to the investor, even though this would mean less money for the advisor.[72] Firms operating under fiduciary standards would also be required to disclose conflicts of interests that may cause the firm to provide advice or recommendations that are not disinterested.[73] Advisors operating under a fiduciary

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[69] *See Suitability: What Investors Need to Know,* FIN. INDUSTRY REG. AUTHORITY, http://www.finra.org/investors/suitability-what-investors-need-know [https://perma.cc/U3LK-GM8U].

[70] *See Information for Newly Registered Investment Advisers*, U.S. SEC. & EXCHANGE COMMISSION (Nov. 23, 2010), https://www.sec.gov/divisions/investment/advoverview.htm [https://perma.cc/AG2L-DU7J].

[71] Proprietary products are products created and/or managed by the firm selling the product.

[72] *See*, *e.g.*, U.S. SEC. & EXCH. COMM'N, REPORT OF THE COMMITTEE ON COMPENSATION PRACTICES 3 (Apr. 10, 1995), https://www.sec.gov/news/studies/bkrcomp.txt [https://perma.cc/J5UE-ARBX] (finding that incentives encouraging the sale of proprietary are conflicts of interest); *see also Capital Gains Research Bureau*, 375 U.S. at 196 ("[A]ny trading by investment counselors for their own account . . . creates a potential conflict of interest . . . ."); Peter Lazaroff, *The Difference Between Fiduciary and Sustainability Standards*, FORBES (Apr. 6, 2016), www.forbes.com/sites/peterlazaroff/2016/04/06/the-difference-between-fiduciary-and-suitability-standards/#4b5d6f442556 [https://perma.cc/XEL5-F33F] ("The fiduciary standard requires that an adviser put the clients interest first and is adhered to by Registered Investment Advisors and enforced by the Securities and Exchange Commission (SEC).").

[73] *See Capital Gains Research Bureau*, 375 U.S. at 191–92 (holding one of the purposes of the Advisers Act is "to eliminate, or at least to expose, all conflicts of interest which might incline an investment adviser—consciously *or unconsciously*—to render advice which was not disinterested"). The *Capital*

standard would also be required to consider whether investing in mutual funds is a good idea in the first place.[74] None of this would be required under best execution or suitability rules.[75]

There are several reasons why these different standards matter for retail investor choice architecture. First, there is a real fear conflicts of interest will cause firms to nudge consumers towards suboptimal investment options, particularly when fiduciary standards do not apply.[76] In a 2013 Report on Conflicts of Interest in the financial services industry, FINRA observed "the history of finance is replete with examples of situations where financial institutions did not manage conflicts of interest fairly."[77] According to the Report, one of the most "fundamental" potential conflicts of interest arises in the distribution channel when broker-dealers sell "products or services to generate

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Gains Court also observed investors "must . . . be permitted to evaluate [] overlapping motivations, through appropriate disclosure, in deciding whether an adviser is serving 'two masters' or only one, 'especially . . . if one of the masters happens to be economic self-interest.'" *Id*. at 196; Julie M. Riewe, Co-Chief, Asset Mgmt. Unit, Div. of Enf't, U.S. Sec. & Exch. Comm'n, Remarks to the IA Watch 17th Annual IA Compliance Conference: The Full 360 View (Feb. 26, 2015) (text available at https://www.sec.gov/news/speech/conflicts-everywhere-full-360-view.html#_edn26 [https://perma.cc/N3UF-BVKK]).

[74] *See Information for Newly Registered Investment Advisers*, *supra* note 70.

[75] *See* Tamar Frankel, *The Failure of Investor Protection by Disclosure*, 81 U. CIN. L. REV. 421, 435–38 (2012) (discussing impact of fiduciary versus non-fiduciary rules on disclosure obligations during the sales process).

[76] FIN. INDUS. REGULATORY AUTHORITY, REPORT ON CONFLICTS OF INTEREST (2013), http://www.finra.org/file/conflict-interest-report [https://perma.cc/DLY3-65G7].

[77] *Id.* at 1–2; *see also* Donald Langevoort, *Psychological Perspectives on the Fiduciary Business*, 91 B.U. L. REV. 995, 999 (2011) ("[T]here is room to exploit in the securities business—more often in subtle ways than blatant ones—and there are rich payoffs from doing so."). In a 2015 report on the effects of conflicted investment advice on retirement savings, President Obama's Council of Economic Advisors cited a range of studies showing conflicted advice can lead to higher fees, biased advice, inappropriate risk-taking, inappropriate account rollovers, inappropriate diversification, asset misallocation, and market mistiming, and thus lower investment returns. COUNCIL OF ECON. ADVISORS, THE EFFECTS OF CONFLICTED INVESTMENT ADVICE ON RETIREMENT SAVINGS 13 (2015), https://obamawhitehouse.archives.gov/sites/default/files/docs/cea_coi_report_final.pdf.

revenue or profit without proper regard to suitability standards."[78] Conflicts in the distribution channel are "magnified," according to FINRA, when a firm favors proprietary products or products for which the firm receives revenue sharing payments to the detriment of customer interests.[79]

A firm interested in nudging customers toward proprietary products or products where the firm benefits from revenue sharing might put these products on the front page of its website or highlight them in marketing materials.[80] It might ensure these products are prioritized in search results when investors conduct pre-transaction research via their online brokerage accounts.[81] It might place these products on a "preferred" list of funds and offer incentives to marketing staff to preferentially mention these products.[82] It also might provide training and make it easier for sales staff to process orders for these products. As the Report recognized, these steps have the potential to "limit customer choice," or "adversely affect the independence of the firm's new product or review process or a registered representative's recommendations."[83] Creating a decisionmaking environment limiting choice or encouraging customers to purchase costlier products to benefit the firm increases risk of investor harm. At a minimum, these types of conflicts of interest have potential to incent financial institutions to let lie the "sleeping dogs" of consumer mistake, misperception, or lack of understanding.

Second, the different firm types and legal standards speak to the challenge of selecting skilled and trustworthy financial intermediaries. According to FINRA, there are approximately 3,743 registered broker-dealers with approximately 158,708 branch offices staffed by approximately 634,708 registered representatives as of this writing.[84] There are approximately 12,660 SEC-registered investment advisors as

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[78] REPORT ON CONFLICTS OF INTEREST, *supra* note 76.
[79] *Id.* at 23.
[80] *Id.* at 23–24.
[81] *Id.*
[82] *Id.* at 24. For another discussion of broker-influencing techniques and strategies, see Langevoort, *supra* note 6, at 648–67.
[83] REPORT ON CONFLICTS OF INTEREST, *supra* note 76, at 24.
[84] *Statistics*, FIN. INDUSTRY REG. AUTHORITY, www.finra.org/newsroom/statistics#currentmonth [https://perma.cc/U9Q6-WU7P].

of January 2018[85] and another 3,588 exempt reporting advisors,[86] according to the Securities and Exchange Commission (SEC). Other types of financial intermediaries are also involved in selling goods or services to retail investors (e.g., insurance agents). Although every investor does not, of course, have access to every financial intermediary (or every employee thereof), the number and variety of providers means choosing an individual or firm to assist with investment activity can be challenging.

Third, differences between fiduciary and non-fiduciary regimes matter because investors appear to be confused by the nomenclature and are unaware of differences in governing legal obligations. In 2008, the RAND Center for Corporate Ethics, Law, and Governance released a study reporting on the impressions and perceptions of retail advisors.[87] The study found that though the distinction between

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[85] *Information about Registered Investment Advisers and Exempt Reporting Advisers*, U.S. SEC. & EXCHANGE COMMISSION, www.sec.gov/help/foia docsinvafoiahtm.html [https://perma.cc/J2QW-26FF]. Generally, only larger advisers or advisors providing advice to investment company clients are permitted to register with the SEC. Smaller advisers (managing $25–$110 million in assets) register with state securities authorities, unless the advisor is entitled to exemption from registration, as discussed below. For a discussion of registration rules and requirements, see *General Information on the Regulation of Investment Advisers*, U.S. SECURITIES & EXCHANGE COMMISSION (Mar. 11, 2011), https://www.sec.gov/divisions/investment/iaregulation/memoia.htm [https://perma.cc/3HQ4-P8Q4].

[86] *Information about Registered Investment Advisers*, *supra* note 85. Exempt Reporting Advisors (ERA) are advisors not subject to registration requirements, but must still report certain information via the SEC's IARD system. 17 C.F.R. § 275.204-4 (2011). At the federal level, advisers can claim ERA status by using one of two exemptions: (i) the Private Fund Adviser Exemption; or (ii) the Venture Capital Fund Adviser Exemption. The Private Fund Adviser Exemption is available to advisers based in the United States only managing private funds and less than $150 million in assets. The Venture Capital Adviser Exemption is available to investment advisers advising only venture capital funds. 17 C.F.R. 275.203(l)-1 (2011); *see* Exemptions for Advisers to Venture Capital Funds, Private Fund Advisers With Less Than $150 Million in Assets Under Management, and Foreign Private Advisers, Investment Advisers Act Release No. 3222 (June 22, 2011), http://www.sec.gov/ rules/final/2011/ia-3222.pdf.

[87] ANGELA A. HUNG ET AL., INVESTOR AND INDUSTRY PERSPECTIVES ON BROKER-DEALERS AND INVESTMENT ADVISORS, RAND INST. FOR CIVIL JUSTICE 2 (2008), http://www.sec.gov/news/press/2008/2008-1_randiabdreport.

firm types is clear as a legal and regulatory matter, it is not clear to consumers. In part, this is because today's "firms tak[e] many different forms and offer[] a multitude of services and products."[88] In addition, many firms and financial professionals tend not to use the legal terms "broker-dealer," "investment advisor," or "registered representative" in customer-facing marketing materials; instead; they use generic titles such as "*advisor*, *financial advisor*, or *financial consultant.*"[89] The Rand study opined that "because of this diversity of business models and services," and nomenclature creep, "investors typically fail to distinguish broker-dealers and investment advisers along the lines that federal regulations define."[90] Confusion about entity types means investors may not always know what type of firm they are dealing with or what legal standards apply.[91] Even if an investor is aware there are different entity types or different legal standards, the investor may not appreciate the subtleties of fiduciary versus non-fiduciary rules.

The broker-dealer industry has long argued that requiring broker-dealers to operate under a fiduciary standard would increase costs and reduce choice for individual investors.[92] Presumably, this is because the industry believes it is more expensive to put the investor's interests first when recommending securities or an investment strategy versus recommending securities that are merely suitable. While the Obama-era U.S. Department of Labor (DOL) promulgated a fiduciary rule for firms (including broker-dealers) providing retirement asset-related services to certain customers, President Trump ordered a review of the rule just weeks after his inauguration.[93] Thus, although two provisions of the DOL fiduciary rule went into effect in June

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pdf [https://perma.cc/CD44-N3VE] ("The main purpose of this study was to provide the SEC with a factual description of the current state of the investment advisory and brokerage industries for its evaluation of the legal and regulatory environment concerning investment professionals.").

[88] *Id.* at xiv.

[89] *Id.* at xix.

[90] *Id.* at xiv.

[91] This confusion is, in some ways, mirrored in the law. As Professor Langevoort has observed, the legal status of broker-dealers has long been "very muddled" and while "there is a fiduciary-like dimension to their work . . . regulation has not yet been able to work through either the normative problem or the political thicket to achieve anything approaching coherence." Langevoort, *supra* note 77, at 995–96.

[92] *Id.*

[93] *Id.*

2017, review is ongoing, and the fate of the DOL fiduciary rule remains unclear.[94] At the same time, SEC Chair Jay Clayton has made it clear he intends for the SEC to engage in issues relating to a possible fiduciary standard.[95] As it stands today, consumer confusion about nomenclature and standards (still) makes it possible for broker-dealers to nudge investors towards products and services that have the "feel" of investment advice without the firm having to comply with the fiduciary standard.[96]

4. Other Ways the Legal and Regulatory Regime Shapes Investor Choice

a) Mandatory Disclosure Versus Protective Regulation

In addition to shaping choice architecture through legal and regulatory silos applicable to the various types of financial services professionals, the legal and regulatory regime also shapes choice architecture through its approach to investor protection. While the federal

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[94] On April 6, 2016, the DOL released its final rule redefining a "fiduciary" under the Employee Retirement Income Securities Act of 1974 (ERISA). Employee Benefits Security Administration, 81 Fed. Reg. 20,946 (Apr. 8, 2016) (to be codified at 29 C.F.R pt. 2550). The rule is complex, but broadly speaking, it expands ERISA's definition of "investment advice fiduciary." *Id.* It requires that fees and commissions be clearly disclosed to clients and expands the reach of the law to a wider range of financial professionals, including broker-dealers, when dealing with certain customers and their retirement savings. *Id.* The rule, which took years to develop, was finalized during President Obama's term in office. *Id.* On February 3, 2017, President Trump signed a Presidential Memorandum directing the DOL to examine the Fiduciary Duty Rule. Presidential Memorandum on Fiduciary Duty Rule, 82 Fed. Reg. 9675 (Feb. 3, 2017).

[95] *See* Public Statement, Jay Clayton, Chairman, U.S. Sec. & Exch. Comm'n, Public Comments from Retail Investors and Other Interested Parties on Standards of Conduct for Investment Advisers and Broker-Dealers (June 1, 2017), https://www.sec.gov/news/public-statement/statement-chairman-clayton-2017-05-31 [https://perma.cc/F8NM-8U8G] ("I look forward to robust, substantive input that will advance and inform the SEC's assessment of possible future actions.").

[96] *See* Frankel, *supra* note 75, at 435–38 (discussing broker "sales talk," and other communications that investors may take or understand as advice).

securities law regime contains some outright prohibitions and strict liability rules, the regime generally takes a disclosure plus buyer-beware approach to investor protection.[97] Indeed, Louis Loss and Joel Seligman have described the securities laws as requiring "disclosure, again disclosure, and still more disclosure,"[98] and several scholars have commented on the use of mandatory disclosure in lieu of substantive investor protection regulations.[99]

For example, the Securities Exchange Act of 1934 sets forth a registration and disclosure regime requiring public companies to disclose specified information before publicly offering securities[100] and to make quarterly, annual, and event-driven disclosures.[101] The regime operates on the assumption that investors who receive these disclosures are fully rational,[102] and that they are therefore "willing and able to use [disclosed information] wisely" when making investment

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[97] For a discussion of the federal securities laws' disclosure-based approach to regulation, see Paula J. Dalley, *The Use and Misuse of Disclosure as a Regulatory System*, 34 FLA. ST. U. L. REV. 1089, 1090 (2007). *See also* Paredes, *supra* note 3, at 418 ("The federal securities laws require companies to make extensive disclosures . . . . Once [investors] are empowered with information . . . investors can protect themselves against corporate abuses and mismanagement, and there is no need for the government to engage in more substantive securities regulation . . . .").

[98] Louis Loss et al., SECURITIES REGULATION 8 (2004). For an overview of the mandatory disclosure rules of the federal securities laws, see Paredes, *supra* note 3, at 421–30 (2003). *See also* Frank H. Easterbrook & Daniel Fischel, *Mandatory Disclosures and the Protection of Investors*, 70 VA. L. REV. 669 (1984) ("The securities laws . . . still have two basic components: a prohibition against fraud, and requirements of disclosure when securities are issued and periodically thereafter.").

[99] *See, e.g.*, Paredes, *supra* note 3, at 421–30 ("When the SEC has veered in the past toward more substantive regulation of corporate governance, the courts have often blocked its path.").

[100] Securities Act of 1933 § 5(a), 15 U.S.C. § 77(e) (2000); *see also Form S-1*, U.S. SEC. & EXCHANGE COMMISSION, https://www.sec.gov/files/forms-1.pdf [https://perma.cc/F4L5-MG2X].

[101] These disclosures are made via Forms 10-Q, 10-K, and 8-K. 15 U.S.C. § 78m (2012).

[102] As discussed in Section IV below, numerous commentators have remarked on this point. *See, e.g.*, Paredes, *supra* note 3, at 418–21; *see also* Langevoort, *supra* note 6, at 699 ("[M]ost doctrinal structures invoke the assumption of dominating rationality.").

decisions.[103] Rules targeting conflicts of interest likewise tend to require disclosure, but generally leave it up to the investor to decide whether or how to proceed.[104] Even in a litigation context, the regime uses informed and presumptively rational investors and markets as a baseline.[105] For example, the fraud on the market doctrine allows investors in class actions to establish a rebuttable presumption of reliance by alleging the security at issue traded in an efficient market.[106]

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[103] Langevoort, *supra* note 6, at 699. Note also that initiatives sponsored by the SEC and other regulatory and self-regulatory organization focus on disclosure and investor education as a means of avoiding securities fraud. The SEC, for example, maintains an extensive website for individual investors designed to help investors "invest wisely and avoid fraud." *Information for the Individual Investor*, U.S. SEC. & EXCHANGE COMMISSION, https://www.sec.gov/page/investor-section-landing [https://perma.cc/W9D5-AJCJ].

[104] For example, in 2010, Form ADV (the registration form for investment advisors) was amended to require SEC-registered advisers to file and begin using client disclosure brochures meeting new requirements. *See* 17 C.F.R. pt. 275, 279 (2010) (requiring investment advisers to provide new clients brochures written in plain English). Item 14A of the new Form ADV Part 2A requires an adviser to disclose receipt of economic benefits from non-clients for providing investment advice or from clients for other advisory services, as well as resulting conflicts and how the firm addresses them. *Id.* Other rules mandate disclosure in connection with potential conflicts, as well, including (i) Securities Exchange Act Rules 15c-1 and 15c1-6 (requiring broker-dealers to make written disclosures to customers if the broker-dealer has any control, affiliation or interest in a security that it is offering or in the issuer of the security); (ii) FINRA Rule 2262 (requiring broker-dealers to make disclosures to customers if the firm controls, is controlled by, or is under common control with an issuer of a security); and (iii) FINRA Rule 5121 (prohibiting a broker-dealer's participation in an offering unless the broker-dealer prominently discloses the conflict in the prospectus). 17 C.F.R. §§ 240.15c-1, 15c1-6 (2017); FINRA MANUAL, Rule 2262, http://finra.complinet.com/en/display/display.html?rbid=2403&record_id=11867&element_id=8663&highlight=2262#r11867 [https://perma.cc/Y2ZL-XA8T]; FINRA MANUAL, Rule 5121, http://finra.complinet.com/en/display/display.html?rbid=2403&record_id=15711&element_id=9456&highlight=5121#r15711 [https://perma.cc/F7VA-WV9N].

[105] *See* Amgen Inc. v. Conn. Ret. Plans & Tr. Funds, 568 U.S. 455, 460 (2013) (indicating if a market is shown to be efficient, courts may presume investors trading the securities in that market relied on public information).

[106] In securities fraud class actions under Section 10(b) of the Securities Exchange Act of 1934, a plaintiff must establish the following elements: (1) a material misrepresentation or omission by the defendant; (2) scienter; (3) a

The doctrine presumes all material public information is reflected in the price of a stock traded on a well-developed market, and that investors rely on the integrity of the market price to reflect all such information when determining whether to buy or sell a security.[107] These types of rules guarantee investors' decisionmaking environments will be information-rich, but they also place the burden on the investor to locate and figure out whether or how to use disclosed information.

b) Regulatory Arbitrage, Product Complexity, and Choice Architecture

Finally, the legal and regulatory regime impacts choice architecture through incentives for regulatory arbitrage[108] and product

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connection between the misrepresentation or omission and the purchase or sale of a security; (4) reliance upon the misrepresentation or omission; (5) economic loss; and (6) loss causation. *See id.* In the seminal case *Basic Inc. v. Levinson*, the Supreme Court held a securities fraud plaintiff can, in certain circumstances, satisfy the reliance element of a Rule 10b–5 action by invoking a rebuttable presumption of reliance. Basic Inc. v. Levinson, 485 U.S. 224, 246 (1988). The *Basic* Court based that presumption on what is known as the "fraud-on-the-market" theory, which holds "the market price of shares traded on well-developed markets reflects all publicly available information, and, hence, any material misrepresentations. *Id.* Under this theory, a plaintiff must make establish: (1) the alleged misrepresentations were publicly known, (2) the misrepresentations were material, (3) the stock traded in an efficient market, and (4) the plaintiff traded the stock between the time the misrepresentations were made and when the truth was revealed. *Id*. at 248 n.27. The Supreme Court upheld the fraud-on-the-market presumption in 2014. Halliburton Co. v. Erica P. John Fund, Inc., 134 S. Ct. 2398 (2014).

[107] *Amgen*, 568 U.S. at 460.

[108] In his analysis of regulatory arbitrage in the context of capital requirements applicable to financial institutions, Erik F. Gerding describes two forms of regulatory arbitrage—i.e., "investment switching" and "investment structuring." Erik F. Gerding, *The Dialectics of Bank Capital: Regulation and Regulatory Capital Arbitrage*, 55 WASHBURN L.J. 357, 360 (2016). Focusing first on investment switching, Gerding notes, "In the face of regulatory restrictions that might lower or foreclose investment returns, investors and financial institutions divert to alternative channels for making investments or obtaining credit that are subject to lower regulatory taxes. Investment switching often involves moving capital to parallel financial markets or other legal jurisdictions that offer close economic substitutes for a loan or investment but

complexity. As noted above, the current regulatory regime is a complex "crazy quilt," with overlapping regulatory jurisdiction and regulatory gaps.[109] There is evidence some firms have leveraged gaps with an eye towards minimizing the impact of regulatory requirements.[110] For example, Erik Gerding has commented on regulatory capital arbitrage at banks, or efforts by banks to "game" (meaning, avoid or

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impose lower regulatory taxes." *Id.* (citations omitted). With respect to investment structuring, Gerding notes:

> [F]inancial institutions or sophisticated investors also engage lawyers and other advisers (accountants, bankers, etc.) to develop legal structures to exploit the incompleteness of financial regulation. Legal innovation provides these parties with regulatory "work-arounds." These legal structures creatively interpret legal definitions and exemptions to avoid the application of regulatory restrictions to a particular investment or source of credit. Work-arounds allow market participants to enjoy the same economic benefits of a loan or investment at a lower regulatory "tax rate." Developing regulatory "work-arounds" for clients represents an essential role of transactional and regulatory attorneys, whom Professor Ronald Gilson famously called "transaction cost engineers." By lowering transaction costs, Gilson argues that lawyers facilitate the efficient pricing of assets.

Id. (citations omitted).

[109] *See,* e.g., *Crazy Quilt Chart of Regulation*, U.S. SEC. & EXCHANGE COMMISSION, https://www.sec.gov/news/statement/crazy-quilt-chart-of-regulation.html [http://perma.cc/NF5E-3P2Q].

[110] *See*, *e.g.*, Gerding, *supra* note 108, at 357–58 (examining regulatory capital arbitrage, or strategies financial institutions use to avoid capital requirements, and observing that opportunities for arbitrage "stem[] in part from the 'incompleteness' of legal rules," or the ways in laws have jurisdictional boundaries); *see also* Benjamin Munyan, *Regulatory Arbitrage in Repo Markets,* (Office of Fin. Research and Vanderbilt Univ., Working Paper No. 15-22, 2015), https://www.financialresearch.gov/working-papers/files/OFRwp-2015-22_Repo-Arbitrage.pdf [https://perma.cc/X46R-YTFY] (discussing the phenomenon of "window dressing" in repo markets); Nicole M. Boyson, Rüdiger Fahlenbrach, & René M. Stulz, *Why Do Banks Practice Regulatory Arbitrage? Evidence from Usage of Trust Preferred Securities* (Nat'l Bureau of Econ. Research, Working Paper No. 19984, 2014), http://www.nber.org/papers/w19984.pdf [https://perma.cc/B84Y-6MKY] (finding trust preferred securities create a valuable regulatory arbitrage opportunity for banks constrained by capital requirements).

limit the impact of) regulatory capital requirements.[111] Other firms have leveraged gaps in regulatory coverage to create and sell complex new products in unregulated or lightly regulated spaces.[112] In the lead-up to the financial crisis, for example, some firms traded in credit default swaps, a product designed to act like insurance (or to otherwise mitigate certain risks) but not regulated as such.[113] Credit default swaps reportedly played a role in the legal and economic challenges of at least one prominent financial institution, American International Group (AIG), leading to a taxpayer-funded bailout.[114] Other firms traded in complex securities based on residential mortgages; these products also contributed to the collapse, forced merger, or bailout of

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[111] Gerding, *supra* note 108, at 357–58. During the 2007–08 Financial Crisis, this type of behavior caused some financial institutions to become more fragile and less resilient than expected. *Id.* at 358 ("The gaming of regulation meant that the effective leverage of these banks and their actual fragility may have been much higher than they appeared."); *see also* Lynn A. Stout, *Derivatives and the Legal Origin of the 2008 Credit Crisis*, 1 HARV. BUS. L. REV. 1, 26 (2011) (discussing financial institutions "brought down" by losses in OTC derivatives, including AIG).

[112] As Steven L. Schwarcz outlines, complexity in financial products and markets occurs for a variety of reasons, including in response "to demand by investors for securities that meet their investment criteria and their appetite for even higher yields, in order to facilitate the transfer and trading or risk, and because financial innovators see new products (often highly customized and complex new products) as a means of staying competitive in the market place." Steven L. Schwarcz, *Regulating Complexity in Financial Markets*, 87 WASH. U. L. REV. 211, 213–14 (2009) (internal citations and quotations omitted).

[113] Stout, *supra* note 111, at 7 ("In other words, bets are useful for insurance.").

[114] *See id.* at 26. Billions of taxpayer dollars that propped up AIG went to AIG's derivatives counterparties. CONG. OVERSIGHT PANEL, JUNE OVERSIGHT REPORT: THE AIG RESCUE, ITS IMPACT ON MARKETS, AND THE GOVERNMENT'S EXIT STRATEGY 82, 85 (2010); *see also* Michael Lewis, *The Man Who Crashed the World, in* THE GREAT HANGOVER 105–25 (Graydon Carter ed., 2010); Joe Nocera, *Propping Up A House of Cards*, N.Y. TIMES: DEALBOOK (Mar. 2, 2009, 6:39 AM), https://dealbook.nytimes.com/2009/03/02/propping-up-a-house-of-cards/ ("So far the government has thrown $150 billion at the company, in loans, investments and equity injections, to keep it afloat.").

once-storied institutions.[115] Still, other firms made huge bets using lightly regulated investment vehicles.[116] For retail investors, these behaviors can lead to confusion about investment options or the risk of investment losses when complicated or unstable products, strategies, or vehicles (or the institutions that trade in them) fail, or both.[117] At a minimum, arbitrage and product complexity contribute to a crowded, confusing, and at times unstable marketplace for investors trying to figure out what to buy, sell, or hold.[118]

5. The Business Press: Print, Online, Televised, and Radio-Based Pundits, Publishers

In addition to investors, the financial services industry, and the governing legal and regulatory regime, the business and financial press—defined broadly to include journalists, pundits, and others who comment on money, investing, and financial markets—also acts as a choice architect by shaping the informational environment investors encounter when preparing to make investment decisions. Researchers have found media coverage "directly affects the way in which investors collect, process, and interpret information" making investment decisions.[119] For example, in one study, researchers examined 2.2 million articles from 45 national and local U.S. newspapers between 1989 and 2010, and found firms particularly covered by the media exhibited significantly stronger momentum effects compared to firms

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[115] *See* Gretchen Morgenson, *How the Thundering Herd Faltered and Fell*, N.Y. TIMES (Nov. 8, 2008), http://www.nytimes.com/2008/11/09/business/09magic.html?mcubz=1; *see also* Stout, *supra* note 111, at 26 ("Possible culprits include loose monetary policy, weakened lending standards in the mortgage industry . . . .").

[116] *See In re Bear Stearns Cos., Sec., Derivative & ERISA Litig.*, 763 F. Supp. 2d 423 (S.D.N.Y. 2011) (holding that valuation of mortgage-backed assets using outdated models the securities fraud claim).

[117] Lumpkin, *supra* note 17 ("Innovative products can be particularly difficult for retail consumers to understand and better financial education is needed to help address financial illiteracy.").

[118] *Id.*

[119] Alexander Hillert, Heiko Jacobs & Sebastian Muller, *Media Makes Momentum*, 27 REV. FIN. STUDIES 3467, 3468 (2014). The momentum effect refers to a tendency for rising asset prices to rise further and for falling asset prices to keep falling. *Id.*

that did not receive such coverage.[120] In another study, researchers found individual investors were more likely than institutional investors to be net buyers of stocks that are in the news.[121] These researchers found individual investors are "net buyers on high-volume days, following both extremely negative and extremely positive one-day returns, and when stocks are in the news."[122]

Other studies also show connections between investor attention, transaction decisions, and stock market trends.[123] For example, researchers behind one study used the frequency of Google searches for individual stock ticker symbols as a proxy for investor attention.[124] Examining a sample of Russell 3000 stocks from 2004 to 2008, researchers found search frequency captured investor attention in a more timely fashion than other measures of attention.[125] These researchers also found an increase in Google searches predicted higher stock prices in the next two weeks but an eventual price reversal within the year.[126] In another study, researchers examining the impact of news announcements on securities pricing, found stock prices adjust less to corporate earnings announcements that are released on Fridays compared to other days of the week.[127] Collectively, this literature suggests media coverage may play into the availability heuristic, the tendency of people to evaluate the probability of events by the ease with which relevant instances come to mind, may shape investor

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[120] *Id.*

[121] Brad M. Barber & Terrance Odean, *All That Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors*, 21 REV. FIN. STUDIES 785, 801, 813 (2008) ("[I]nvestors buy attention grabbing stocks."). The researchers, Professors Barber and Odean, used three proxies for when investors are paying attention: "(i) a stock's abnormal daily trading volume; (ii) the stock's (previous) one-day return; and (iii) whether the firm appeared in the day's news." *Id.* at 788. They found individual investors solve the "search" problem of having many investment options by "considering for purchase only those stocks that have recently caught their attention." *Id.* at 813.

[122] *Id.*

[123] Zhi Da et al., *In Search of Attention*, 66 J. FIN. 1461 (2011).

[124] *Id*. at 1463.

[125] *Id.* at 1461.

[126] *Id.* at 1464.

[127] Stefano DellaVigna & Joshua M. Pollet, *Investor Inattention and Friday Earnings Announcements*, 64 J. FIN. 709, 709 (2009).

behavior.[128] The recency bias, or the "tendency to over-emphasize recent data or events," believing something is more likely to happen again because it occurred in the recent past, also may be in play.[129]

6. Securities Issuers

Finally, securities issuers, such as corporations, are another important choice architect.[130] They shape choice architecture by making disclosures (e.g., quarterly, annual, and event-driven SEC filings) and through press releases, marketing materials, and other print, online, oral, and written communications.[131]

B. The Choice Architecture of Modern Securities Markets

Having identified key choice architects, this section examines how these architects have shaped the financial markets that retail investors encounter when preparing to make investment decisions. In a nutshell, a combination of market forces, technological advancements, and regulatory reforms have yielded complex and confusing securities markets, with a huge number and variety of investment options and a seemingly endless supply of information and advice. For retail investors, these market conditions create substantial search and sorting challenges.[132] For example, as Professors Barber and Odean have observed,

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[128] John Nofsinger & Abhishek Varma, *Availability, Recency, and Sophistication in the Repurchasing Behavior of Retail Investors*, 37 J. BANKING & FIN. 2572, 2572 (2013).
[129] *Id.* at 2573.
[130] *See* ROBERT H. ROSENBLUM, INVESTMENT COMPANY DETERMINATION UNDER THE 1940 ACT: EXEMPTIONS AND EXCEPTIONS (2003).
[131] *See* Legal Insight from K&L Gates LLP, Website Disclosure for Municipal Issuers, http://www.klgates.com/files/Publication/6733aa64-00aa-41cd-bc14-427def637e6e/Presentation/PublicationAttachment/4757bf36-da29-489f-99ec-428ab4b1ad5d/Website_Disclosure_for_Municipal_Issuers.pdf [https://perma.cc/QWT2-WTAE].
[132] Barber & Odean, *supra* note 19, at 785 ("Attention-driven buying results from the difficulty that investors have searching the thousands of stocks they can potentially buy.").

> [w]hen buying a stock, investors are faced with a formidable search problem. There are thousands of common stocks from which to choose. Human beings have bounded rationality. There are cognitive—and temporal—limits to how much information we can process. We are generally not able to rank hundreds, much less thousands, of alternatives. Doing so is even more difficult when the alternatives differ on multiple dimensions.[133]

In practical terms, modern choice architecture means even experienced and sophisticated investors have difficulty knowing how to proceed.

1. Fragmented Market Structure

Some of the most important characteristics of modern securities markets, and thus modern retail investor choice architecture, relate to market structure. Market structure is an umbrella term referring to how markets are organized, including the "unseen plumbing" of the markets and forces dictating how and why securities trade.[134] Although retail investors tend not to be aware of or, deal directly with market structure, market structure and trading impacts liquidity, transparency, pricing, and fees charged by financial services firms, all of which can affect retail investor choice and, ultimately, investment returns.[135]

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[133] *Id.* at 786.

[134] *See also* Kara M. Stein, Comm'r, Sec. & Exch. Comm'n, Remarks Before the Securities Traders Association's 82nd Annual Market Structure Conference: Market Structure in the 21st Century: Bringing Light to the Dark (Sept. 30, 2015) (transcript available at https://www.sec.gov/news/speech/ stein-market-structure.html) [https://perma.cc/W8ZU-KNXS] (emphasizing transparency and accountability because only certain participants benefit from the market).

[135] *See, e.g.*, Luis Aguilar, Comm'r, Sec. & Exch. Comm'n, U.S. Equity Market Structure: Making Our Markets Work Better for Investors (May 11, 2015) (transcript available at https://www.sec.gov/news/statement/us-equity-market-structure.html) [https://perma.cc/LJD3-P32H].

a) Increased Number of Trading Venues Sparks Competition and Market Fragmentation

From the mid-1970s (when Congress first called for a national securities market)[136] until the mid-2000s, trading in U.S. equities was *concentrated*—meaning trading occurred at a small number of exchanges[137] isolated from one another—and *manual*—meaning trading occurred via face-to-face (or telephone or electronically) interactions between human traders, usually via floor trading (e.g., trading on the floor of the New York Stock Exchange (NYSE)) or through the so-

[136] In 1975, Congress amended the Securities Exchange Act of 1934 to "foster the development of a national securities market system." Securities Acts Amendments of 1975, Pub. L. No. 94-29, 89 Stat. 97. Congress presented five goals in the 1975 Amendments. "It is in the public interest and appropriate for the protection of investors and the maintenance of fair and orderly markets to assure (i) economically efficient execution of securities transactions; (ii) fair competition among brokers and dealers, among exchange markets, and between exchange markets and markets other than exchange markets; (iii) the availability to brokers, dealers, and investors of information with respect to quotations for and transactions in securities; (iv) the practicability of brokers executing investors orders in the best market; and (v) an opportunity, consistent with the provisions of clauses (i) and (iv) . . . for investors' orders to be executed without the participation of a dealer." 15 U.S.C. § 78k-1 (2012). In furtherance of these objections, Congress found "the linking of all markets for qualified securities through communication and data processing facilities will foster efficiency, enhance competition, increase the information available to brokers, dealers, and investors . . . and contribute to best execution of such orders." § 78k-1(D).

[137] By way of background, Section 3(a)(1) of the Securities Exchange Act of 1934 defines an exchange as "any organization, association, or group of persons, whether incorporated or unincorporated, which constitutes, maintains, or provides a marketplace or facilities for bringing together purchasers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange as that term is generally understood . . . ." Securities Exchange Act of 1934 § 3(a), 48 Stat. 881, 15 U.S.C. § 78(c)(a)(1) (2012). In the early days of the national market system, trading was concentrated at registered exchanges. *See* COMM. ON CAPITAL MKTS. REGULATION, THE U.S. EQUITY MARKETS: A PLAN FOR REGULATORY REFORM, 4 (2016) [hereinafter COMM. ON CAPITAL MKTS. REPORT] ("From the 1970s until the mid-2000s, U.S. equity markets were predominately manual markets with exchange-based floor trading.").

called "upstairs" market."[138] As a result of this market structure, there was little competition for order flow[139] and trading volume tended to be consolidated at a stock's listing exchange.[140] In addition, trade execution speeds were comparatively slow.[141]

Beginning in the 1980s and accelerating during the 1990s and 2000s, however, advances in trading technologies and associated regulatory reforms (including the adoption of Regulation Alternative Trading System (ATS)) reshaped modern markets.[142] One important change was an increase in the number and of types of trading venues.[143] More trading venues led to competition for order flow.[144] As

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[138] Generally, an upstairs market transaction refers to the trading of securities occurring within a broker-dealer firm instead of at an exchange or between two broker-dealers in the over-the-counter (OTC) market. Broker-dealers contacted other broker-dealers off the trading floor (via telephone) to negotiate and obtain execution of larger block trades and program trades. *See* COMM. ON CAPITAL MKTS. REPORT, *supra* note 137; *Upstairs Market*, NASDAQ, http://www.nasdaq.com/investing/glossary/u/upstairs-market [https://perma.cc/7SJP-XVXG]. This allowed broker-dealers to avoid publicly displaying large orders from institutional investors, thereby minimizing the price impact of a large order. *See* COMM. ON CAPITAL MKTS. REPORT, *supra* note 137, at 4.

[139] Concept Release on Equity Market Structure, Release No. 34-61358, 5 (2010) [hereinafter Concept Release]; *see also* COMM. ON CAPITAL MKTS. REPORT, supra note 137, at 13–15.

[140] By way of example, as late as 2006, NYSE-listed stocks "were traded primarily on the floor of the NYSE in a manual fashion." Concept Release, *supra* note 139, at 5.

[141] Concept Release, *supra* note 139, at 15–16. ("[T]he time required for NYSE to execute a market order was nearly 100 seconds in 2001. By autumn 2014, NYSE had become roughly 10,000 times faster, executing market orders in less than .01 seconds.").

[142] COMM. ON CAPITAL MKTS. REPORT, *supra* note 137, at xii ("Once automated electronic communication systems developed in the late 1990s, broker-dealers began to implement electronic and automated trading systems that challenged the dominance of the manual model . . . . In 1998, the SEC passed Regulation Alternative Trading Systems ('Reg ATS'), subjecting these automated trading venues (alternative trading systems or 'ATSs') to certain core elements of exchange regulation.")

[143] "In 1998, the SEC passed [Reg ATS] and established a new type of trading venue, the ATS." Regulation ATS "was designed to respond to the proliferation of automated trading platforms" that had begun to provide order matching and trading platforms, previously the exclusive domain of registered

venues competed for order flow, equity markets *fragmented*—trading volume became dispersed among many different markets and trading venues, some "lit"[145] and some "dark."[146]

Today, there are approximately 21 registered exchanges,[147] 36 alternative trading systems (ATS),[148] and 250 broker-dealer internali-

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exchanges. COMM. ON CAPITAL MKTS. REPORT, *supra* note 137, at xvii. Regulation ATS provided an exemption for trading venues to avoid registration with the SEL as an exchange, allowing for the growth of non-exchange trading venues. To qualify as an alternative trading system under Regulation ATS, a venue must register as a broker-dealer and ATS, avoid the exercise of SRO powers, avoid the use of words such as "exchange" or stock market in its name, and meet fair access, resiliency and other requirements at designated volume thresholds. *See id.* at xvii.

[144] *Id.* at 7 ("Automation spurred a rapid increase in competition.").

[145] A "lit" trading venue is one where a limit order "is immediately visible to all market participants and thus has an immediate price impact as market participants revise their beliefs about the fundamental value." Carole Comerton-Forde & Talis J. Putnins, *Dark Trading and Price Discovery*, 118 J. FIN. ECON. 70, 72 (2015); *see also* IRENE ALDRIDGE, HIGH FREQUENCY TRADING: A PRACTICAL GUIDE TO ALGORITHMIC STRATEGIES AND TRADING SYSTEMS 221 (2013).

[146] If an order is placed in a dark market, "no one except the order submitter can observe the order and none of the information contained in the limit order can be impounded into prices until a trade occurs." *Id.* at 6; *see also* ALDRIDGE, *supra* note 145, at 222; COMM. ON CAPITAL MKTS. REPORT, *supra* note 137, at 26.

[147] *See National Securities Exchanges*, U.S. SEC. & EXCHANGE COMMISSION, www.sec.gov/fast-answers/divisionsmarketregmrexchangesshtml.html [https://perma.cc/G86P-3R39] (last visited June 6, 2017).

[148] *See Alternative Trading System ("ATS") List*, U.S. SEC. & EXCHANGE COMMISSION, www.sec.gov/foia/docs/atslist.htm [https://perma.cc/3G9L-4ML6]. An alternative trading system is a non-exchange trading venue that matches buyers and sellers for securities transactions. *See also* Aguilar, *supra* note 135; LAURA TUTTLE, U.S. SEC. & EXCH. COMM'N, DIV. OF ECON. & RISK ANALYSIS, ALTERNATIVE TRADING SYSTEMS: DESCRIPTION OF ATS TRADING IN NATIONAL MARKET SYSTEM STOCKS (2013); LAURA TUTTLE, U.S. SEC. & EXCH. COMM'N, DIV. OF ECON. & RISK ANALYSIS, OTC TRADING: DESCRIPTION OF NON-ATS OTC TRADING IN NATIONAL MARKET SYSTEM STOCKS (2014), https://www.sec.gov/marketstructure/research/otc_trading_march_2014.pdf; Mary Jo White, Chairwoman, U.S. Sec. & Exch. Comm'n, Speech at the Sandler O' Neill & Partners, L.P. Global Exchange and Brokerage Conference: Enhancing Our Equity Market Structure (June 5,

zers, or mechanisms for executing trades within the firm or with an affiliate rather than through an outside trading venue, all of which compete for order flow by offering a "wide range of services that are designed to attract different types of market participants with varying trading needs."[149] While it is difficult to precisely know at any given time the size of the dark market versus the lit market, the SEC Staff estimated that as of 2013, approximately 35 percent of trading in U.S.-listed securities occurred via dark venues.[150] To get a sense of the impact of these developments, consider trading volume at the NYSE. The NYSE's share of listed stock trading volume declined from approximately 79 percent in 2005 (which was prior to the enactment of certain regulatory reforms associated with Regulation National Market System (NMS)) to approximately 20 percent to 25 percent by 2009.[151] Over the same time period, the total volume in NYSE-listed stocks increased by 181 percent.[152]

b) Automation Slashes Trade Execution Speeds, Giving Rise to New Trading Strategies, Techniques, and Products

Along with increasing the number of trading venues, automation also has reshaped modern equity market structure. In the 1990s, broker-dealers began to roll out electronic and automated trading systems that allowed equity securities sellers and buyers to communicate directly over electronic platforms.[153] These trading platforms made it

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2014), (transcript available at https://www.sec.gov/news/speech/2014-spch060514mjw) [https://perma.cc/R54Q-THS7].

[149] Concept Release, *supra* note 139, at 4.

[150] *See id.* at 5–6; COMM. ON CAPITAL MKTS. REPORT, *supra* note 137, at 14; *see also* SEC DIV. OF TRADING & MKTS., EQUITY MARKET STRUCTURE LITERATURE REVIEW PART I: MARKET FRAGMENTATION 7 (2013) [hereinafter EQUITY MARKET STRUCTURE LITERATURE REVIEW]. By way of background, until 2000, NYSE Rule 390 prohibited NYSE members from using off-exchange venues to execute trades. *See* Memorandum from U.S. Sec. & Exch. Comm'n, Div. of Trading & Mkts., to U.S. Sec. & Exch. Comm'n, Mkt. Structure Advisory Comm. 2 (Apr. 30, 2015) (available at https://www.sec.gov/spotlight/emsac/memo-rule-611-regulation-nms.pdf).

[151] Concept Release, *supra* note 139, at 6.

[152] *Id.* at 7.

[153] For example, one type of automated trading platform is Electronic Communications Networks (ECN). "ECNs, as defined in Rule 600(b)(23) of

technologically possible for buyers and sellers to match with one another anonymously and far more efficiently than manual markets of the past.[154] Associated regulatory reforms[155] also enabled faster and more efficient matching of buyers and sellers.[156] Taken together, these developments led to a drastic decrease in trade execution times: According to NYSE disclosures, for example, the time required to execute a market order declined from nearly 100 seconds in 2001 to less than .01 seconds by 2014.[157]

Automation and faster trade execution reshaped markets in several important ways. First, these innovations are associated with the appearance of new products—notably, exchange traded funds, or ETFs.[158] U.S.-registered ETFs now hold an estimated $2.5 trillion in

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Regulation NMS, are electronic trading systems that automatically match buy and sell orders at specified prices. ECNs register with the SEC as broker-dealers and are subject to Regulation ATS. Subscribers, which are typically institutional investors, broker-dealers, and market makers can place trades directly with an ECN. Individual investors must currently have an account with a broker-dealer subscriber before their orders can be routed to an ECN for execution." *ECNs/Alternative Trading Systems*, U.S. SEC. & EXCHANGE COMMISSION, www.sec.gov/divisions/marketreg/mrecn.shtml [https://perma.cc/9AJA-U8BA].

[154] *See id.*

[155] Regulation NMS, adopted in 2005, encouraged faster trade execution speeds by taking away certain protections and advantages previously available only to certain manual orders. *See* Regulation NMS, Release No. 34-51808, 1 (2005) ("Regulation NMS includes new substantive rules that are designed to modernize and strengthen the regulatory structure of the U.S. equity markets.").

[156] Improvements in automation technologies also allowed market participants to update positions with greater frequency, resulting in an increase in quotes per trade compared to manual updating. COMM. ON CAPITAL MKTS. REPORT, *supra* note 137, at 19.

[157] *Id.* at 15–16 (citing NYSE Rule 605 disclosures).

[158] ETFs are SEC-registered investment companies offering investors a way to pool money in funds that invest in stocks or other assets, and, in return, receive an interest in that investment pool. In contrast to mutual funds, ETFs do not sell individual shares directly to retail investors. Instead, ETF sponsors enter contractual relationships with "authorized participants"—typically large broker-dealers—that purchase and redeem shares directly from the ETF. Once an authorized participant receives the block of ETF shares, it may sell the shares to investors in the secondary market. SEC OFFICE OF INV'R EDUC. & ADVOCACY, INVESTOR PUBLICATION: MUTUAL FUNDS AND EXCHANGE-

net assets.[159] Second, automation paved the way for new trading techniques and strategies—notably, algorithmic trading and high frequency trading (HFT).[160] Algorithmic trading refers to the use of computers programmed with algorithms, or mathematical formulae, to execute pre-programmed trading instructions.[161] For example, whereas large institutional investors used to rely on human traders to "work" large orders, now they often use execution algorithms to parcel out and execute large orders across trading venues.[162] The "quant" community (i.e., investors and traders who design and use mathematical models to price securities, build portfolios, assess risk, or predict market movements) also uses preprogrammed algorithms to search for and execute trades when pre-identified market conditions appear.[163]

Although there is no single accepted definition of HFT,[164] the term generally is understood to refer to an automated trading strategy which uses algorithms to enter (and often cancel) orders with exceptional frequency.[165] As explained by the Committee on Capital Markets Regulation in a 2016 report:

> [C]haracteristics often attributed to proprietary firms engaged in HFT are: (1) the use of extraordinarily high-speed and sophisticated computer programs for generating, routing, and executing orders; (2) use of co-location services and individual data feeds offered by exchanges and others to minimize network and other types of latencies; (3) very short time frames for

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TRADED FUNDS (ETFS)—A GUIDE FOR INVESTORS (2017), https://www.sec.gov/reportspubs/investor-publications/investorpubsinwsmfhtm.html [https://perma.cc/59KW-6TE3]; *see also* INVESTMENT COMPANY FACT BOOK, *supra* note 29, at 56–57.

[159] INVESTMENT COMPANY FACT BOOK, *supra* note 29, at 58.

[160] *See* EQUITY MARKET STRUCTURE LITERATURE REVIEW, *supra* note 150.

[161] See *id.*

[162] *Id.* ("[A]lgorithmic trading . . . takes institutional investor orders, which typically are too large to be executed all at once without excessive price impact, and slices them into many small orders that are fed into the marketplace over time.").

[163] See COMM. ON CAPITAL MKTS. REPORT, *supra* note 137, at 5.

[164] Aldridge, *supra* note 145, at 13–15 (2013) (noting different market participants have different views as to the definition of HFT).

[165] *See* COMM. ON CAPITAL MKTS. REPORT, *supra* note 137, at xv; *see also* Concept Release, *supra* note 139, at 45.

> establishing and liquidating positions; (4) the submission of numerous orders that are cancelled shortly after submission; and (5) ending the trading day in as close to a flat position as is possible (that is, not carrying significant, unhedged positions overnight.)[166]

The SEC's 2010 Concept Release on Equity Market Structure characterized HFT as one of the most significant market structure developments in recent years, and observed that, "[b]y any measure, HFT is a dominant component of the current market structure and is likely to affect nearly all aspects of its performance."[167] The Concept Release also noted estimates of HFT volume in equities markets vary widely, but typically were 50 percent of total volume or higher as of 2010.[168] In more recent work, researchers have found that HFT varies as a percentage of activity depending on strategy and market-cap category.[169] Among other effects, algorithmic trading and HFT strategies are associated with an increase in trading volume for securities subject to Regulation NMS transaction reporting plans.[170]

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[166] *See* COMM. ON CAPITAL MKTS. REPORT, *supra* note 137, at xv ("Common functional characteristics of HFT strategies include: (1) use of high speed programs to generate, route, and execute orders; (2) use of high speed execution services and proprietary data feeds offered by exchanges; and (3) short timeframes for establishing and liquidating positions."); *see also* Concept Release, *supra* note 139, at 45.

[167] Concept Release, *supra* note 139, at 45.

[168] *Id.*

[169] *See* Allan Carrion, *Very Fast Money: High-Frequency Trading on the NASDAQ*, 16 J. FIN. MKTS. 680, 680–81 (2013) (finding across a sample of NASDAQ Datasets that HFT firms had a trade participation rate of 68.3 percent of dollar volume). Other studies have noted variations in HFT across different size categories of equities. For example, a 2013 paper found HFTs were more active in large-cap stocks. Jonathan Brogaard, Terrence Hendershott & Ryan Riordan, *High Frequency Trading and Price Discovery*, 27 REV. FIN. STUD. 2267 (2014) (concluding HFTs are more active than other financial instruments due to their role in market stability); *see also* EQUITY MARKET STRUCTURE LITERATURE REVIEW, *supra* note 150, 22–34 (reviewing literature concerning impact of HFT strategies and trading on market quality).

[170] *See* COMM. ON CAPITAL MKTS. REPORT, *supra* note 137, at 17 ("[T]rading volume in securities that are subject to NMS transaction reporting plans . . . grew rapidly as the markets became increasingly automated during the 1990s and 2000s."). To get a sense of how these and related changes have affected the NYSE, see Concept Release, *supra* note 139, at 6–7. Figure 1 shows the

c) Impact on Retail Investors

What do these competitive, technological, and regulatory developments mean for retail investors? Certainly, competition, technological innovation, and regulatory reform have the potential to "benefit investors through, among other things, lower fees and innovative trading services."[171] There are some encouraging metrics of market quality suggesting investors enjoy these benefits.[172] Quoted bid-ask spreads are comparatively low, displayed market strength has grown, average daily trading volumes generally have rebounded to pre-financial crisis levels, intraday volatility is generally low compared to earlier periods, and transaction costs have fallen substantially in recent years.[173] As these modern market characteristics suggest, despite the

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NYSE executed approximately 79.1 percent of the consolidated share volume in its listed securities in January 2005, but only 25.1 percent of the consolidated share volume in October 2009. *Id.* Figure 2 shows NYSE's average speed of execution for small, immediately executable orders was 10.1 seconds in January 2005 versus 0.7 in October 2009. *Id.* Figure 3 shows consolidated daily average share volume in NYSE-listed stocks was 2.1 billion shares in 2005 versus 5.9 billion shares in January through October 2009. *Id.* Figure 4 reflects the consolidated average daily trades in NYSE-listed stocks was 2.9 million trades in 2005, versus 22.1 million trades in January through October 2009. *Id.* Figure 5 shows the consolidated average trade size in NYSE-listed stocks was 724 shares in 2005 versus 268 shares from January through October 2009. *Id.*

[171] EQUITY MARKET STRUCTURE LITERATURE REVIEW, *supra* note 150, at 6.

[172] Aguilar, *supra* note 135.

[173] *Id.* (describing how "[q]uoted bid-ask spreads for the largest stocks remain pegged at the minimum level of one cent, and overall spreads, including those for smaller stocks, are near historic lows" while "[d]isplayed market depth for the median stock has, according to one study, grown nearly 300% in the past eight years . . . ."). "Institutional investors also appear to be faring well. One study estimates that average costs for block trade transactions have fallen by approximately 66% since 2001. Another study shows that institutional trading costs for U.S. large cap stocks are among the lowest in the world, and that these costs have fallen more than 19% since 2010 alone. And, while small cap stocks continue to face serious challenges, there is some good news here, as well: displayed market depth for these securities has nearly doubled in the last ten years. Taken together, these figures portray a vibrant equities market that is working well for many market participants." *Id*.

occasional hiccup, U.S equities markets are among the most "liquid, transparent, efficient, and competitive . . . in the world."[174]

And yet, as observed by SEC Commissioner Kara Stein and others, these developments also mean "today's markets are also complicated, interconnected, and fragmented . . . . [H]ow complex products and strategies operate within the market is often not well understood by investors, by the public, and by regulators."[175] And, while competition, automation, and related developments have the potential to benefit investors, they also have the potential to detract from efficient execution of transactions, the best execution of orders, price transparency, and the opportunity for orders to interact.[176] Research suggests fragmentation may cease to be beneficial at a certain point, impact dark versus lit markets in different ways, or may not benefit all market participants equally.[177] Research on the impact of algorithmic trading and HFT remains complicated and, at times, conflicting as well.[178] At a minimum, these developments have contributed to a crowded, confusing trading environment, making it difficult for retail investors to understand or distinguish between investment options, or monitor the quality of trade execution or other services provided by financial intermediaries.

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[174] *The Role of Regulation in Shaping Equity Market Structure and Electronic Trading: Hearing Before the S. Comm. on Banking, Hous., & Urban Affairs*, 113th Cong. 63 (2014) (statement of Joe Ratterman, Chief Executive Officer, BATS Global Markets, Inc.).

[175] Kara M. Stein, Comm'r, U.S. Sec. & Exch. Comm'n, Remarks Before the Securities Traders Association's 82nd Annual Market Structure Conference: Market Structure in the 21st Century: Bringing Light to the Dark (Sept. 30, 2015) (transcript available at https://www.sec.gov/news/speech/stein-market-structure.html [https://perma.cc/ZDW5-B3AU]).

[176] *See* Aguilar, *supra* note 135, at 24–32.

[177] *See*, *e.g.*, Hans Degryse, Frank de Jong & Vincent van Kerval, *The Impact of Dark Trading and Visible Fragmentation on Market Quality*, 19 REV. FIN. 1587 (2015) ("Dark trading has a detrimental effect on liquidity. Visible fragmentation improves liquidity aggregated over all visible trading venues but lowers liquidity at the traditional market, meaning that the benefits of fragmentation are not enjoyed by investors who choose to send orders only to the traditional market."); *see also* Aguilar, *supra* note 135.

[178] *See* EQUITY MARKET STRUCTURE LITERATURE REVIEW, *supra* note 150, at 10 (noting HFT encompasses a diverse range of trading strategies and summarizing research reflecting different strategies can have varying effects on market quality).

2. A Sea of Products

Along with fragmentation and automation and associated regulatory reforms, modern markets also are characterized by a huge number and variety of investment options. In a survey conducted for FINRA's Investor Education Foundation, retail investors reported owning the following types of investments in non-retirement accounts: individual stocks (74 percent of respondents); mutual funds (64 percent of respondents); whole life insurance or similar investment product (43 percent of respondents); individual bonds (35 percent of respondents); annuities (fixed, indexed, or variable) (33 percent of respondents); exchange-traded funds (22 percent of respondents); other investments (e.g., Real Estate Investments Trusts (REITS); options, private placements, or structured notes) (15 percent of respondents); and commodities or futures (12 percent of respondents).[179] Retirement accounts tend to be more heavily weighted towards mutual funds and other investment company products.[180] (These results are consistent with the purchasing patterns of our survey respondents, as discussed below).

Within many of these categories, there are thousands of individual offerings from which to choose. For example, according to the World Bank, there were approximately 4,331 domestically listed public companies in the United States as of December 31, 2016.[181]

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[179] *See* FINRA INV'R EDUC. FOUND., INVESTORS IN THE UNITED STATES 2016 4 (2016), http://www.usfinancialcapability.org/downloads/NFCS_2015_Inv_Survey_Full_Report.pdf [https://perma.cc/554P-GCPT] [hereinafter FINRA Survey]. A non-retirement account refers to a brokerage account that is not an IRA, 401(k), 403(b), or other retirement savings account.

[180] According to the Investment Company Institute, "94 percent of [mutual fund-owning] households held mutual fund shares inside employer-sponsored retirement plans, individual retirement accounts (IRAs), and other tax-advantaged accounts." INV. CO. INST., *supra* note 29, at 121. Also, mutual funds managed 47 percent of individual retirement account (IRA) assets and 55 percent of the assets in 401(k) and other defined contribution plans as of December 31, 2016, according to the ICI. *See id.* at 11.

[181] *See Listed Domestic Companies, Total (United States)*, WORLD BANK, https://data.worldbank.org/indicator/CM.MKT.LDOM.NO?end=2016&locations=US&start=1975&view=chart [https://perma.cc/6FGJ-XGR2]. There has been a decline in the number of listed stocks in recent years for a variety of reasons, including merger and acquisition activity and weakness in the IPO market. *See* MICHAEL J. MAUBOUSSIN ET AL., CREDIT SUISSE GRP. AG, THE

According to data released by the Board of Governments of the Federal Reserve, U.S. public companies had approximately $31.6 trillion in issued and outstanding equity securities as of December 31, 2016.[182] Non-U.S. issuers added nearly another $7 trillion in outstanding corporate equities as of year end, as well.[183] While individual retail investors do not have access to 100 percent of the equity securities represented in these totals (especially securities of closely held companies and non-U.S. companies), these totals nevertheless reflect that U.S. investors have trillions of dollars in outstanding corporate equity securities from which to choose when making investment decisions.

Investor options for mutual funds and other investment company products are robust, as well. According to the Investment Company Institute (ICI), there were a total of 16,860 registered investment companies in the United States as of December 31, 2016: 9,511 mutual funds, 530 closed-end funds, 1,716 ETFs, and 5,103 unit investment trusts.[184] Taken together, these investment companies held assets worth approximately $19.2 trillion at 2016 year end.[185] There are trillions of dollars in other types of securities available to investors, as well. According to data aggregated by the Securities Industry and Financial Markets Association (SIFMA), as of December 31, 2016, there were $8.5 trillion in corporate bonds, $1.3 trillion in asset-backed securities, $8.9 trillion in mortgage-related securities, $13.9 trillion in treasury securities, $1.9 trillion in federal agency securities, $3.8

INCREDIBLE SHRINKING UNIVERSE OF STOCKS: THE CAUSES AND CONSEQUENCES OF FEWER U.S. EQUITIES 1 (2017), www.cmgwealth.com/wp-content/uploads/2017/03/document_1072753661.pdf [https://perma.cc/2T3Y-P2HM]. Even so, there are still thousands of public companies in the United States, and thus thousands of public company equity securities from which to choose. *See Listed Domestic Companies*, *supra* note 181. Also, some commentators have suggested ETFs have filled part of the "list gap." *See* MAUBOUSSIN ET AL., *supra* note 181.

[182] FINANCIAL ACCOUNTS OF THE UNITED STATES, *supra* note 29, at 130. The most recent data available as of this writing (Q3 2017) reflects nearly $43.7 trillion in outstanding corporate equity securities. *Id.*

[183] *Id.* at 111. The most recent data available as of this writing (Q3 2017) reflects almost $8.6 trillion in corporate equities outstanding outside of the United States. *Id.*

[184] INV. CO. INST., supra note 29, at 22.

[185] *Id.* at 8.

trillion in municipal bonds, and $885 billion in money market instruments outstanding.[186]

3. A Sea of Information and Advice

Finally, in addition to the large number of financial intermediaries and investment options, retail investors also encounter a vast sea of information and advice when preparing to make investment decisions. Consider, for example, an investor considering whether to buy or sell the equity securities of a single U.S. publicly publicly-traded company. The investor might seek out stock market data (e.g., current and historical price and trading volume), issuer-generated information (e.g., quarterly and annual reports, press releases), investing tools (e.g., charts, graphs), and/or advice or commentary prepared by third-parties (e.g., journalists, market analysts, etc.) before making an investment decision. To obtain this information, an investor might consult newspapers,[187] magazines, books, television programs, newsletters, websites, blogs, message boards, or radio programs. An investor also might consult with a chosen financial intermediary, friends, family members, or others in their social or professional circles. An investor might do all these things, or none of them, with respect to any given transaction. An investor's preferences respecting information and advice may change from trade to trade or over time. Each of these decisions will have an impact on the investor's choice architecture.

IV. The Survey: Retail Investor Information-Seeking Behavior

A. Research Framework

Keeping in mind rich and potentially overwhelming choice architecture and powerful choice architects of modern securities mar-

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[186] SEC. INDUS. & FIN. MKTS. ASS'N, 2017 FACT BOOK (2017), https://www.sifma.org/wp-content/uploads/2016/10/US-Fact-Book-2017-SIFMA.pdf [https://perma.cc/H8HG-HRGJ].

[187] *The Wall Street Journal*, for example, describes itself as "America's largest print newspaper," reporting it has an average circulation of 1,180,499 each weekday, as well as approximately 35.8 million mobile users per month for its online platform. *Products*, WALL ST. J., http://www.wsjmediakit.com/products [https://perma.cc/N5MP-2737].

kets, this project developed particular questions as a framework for inquiring into retail investor information-seeking behavior:

(i) Do investors seek out information, tools, or advice before making investment decisions?
(ii) If so, what kinds or type of pre-transaction research materials do investors prefer?
(iii) Where do investors get their pre-transaction research material?
(iv) Do investors' perceptions about credibility (considering both the source and content of pre-transaction research material) affect investors' information seeking or use behaviors?

The survey focused on retail investor information-seeking behavior for several reasons.[188] First, modern securities markets are crowded, complex, and potentially confusing for retail investors. This choice architecture makes it both important and challenging for investors to perform pre-transaction research. Second, probably in response to choice architecture, investors say they perform at least some research before "pulling the trigger" on buy/sell decisions, suggesting investors care about pre-transaction research.[189] Third, investors report they consider pre-transaction research when making investment decisions.[190] Finally, some research and scholarship argues

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[188] For additional research in this area, see Jinkook Lee & Jinsook Cho, *Consumers' Use of Information Intermediaries and the Impact on Their Information Search Behavior in the Financial Market*, 39 J. CONSUMER AFF. 95 (2005) (analyzing intermediary information search behavior); Joel Peress, *Wealth, Information Acquisition, and Portfolio Choice*, 17 REV. FIN. STUD. 879 (2004) (analyzing information acquisition and portfolio choice.).

[189] In our survey, for example, 92 percent of investors reported they engaged in at least some pre-transaction research. These findings are consistent with other work examining retail investor information preferences. *See, e.g.*, FINRA Survey, *supra* note 179, at 15 ("[W]hen making investment decisions, more than half of respondents say they use information from the company being invested in . . . .").

[190] In our survey, a comfortable majority of respondents said they at least consider pre-transaction research materials and advice when making investment decisions. *See also* Peress, *supra* note 188; Pauline Shum & Miquel Faig, *What Explains Household Stock Holdings*, 30 J. BANKING & FIN. 2579 (2006).

for education and learning as a strategy to deal with bounded rationality in financial decisions. Other research and scholarship suggests education and learning may not work as well as hoped in de-biasing investors or reducing misperceptions and mistakes.[191]

The survey examines trust and credibility as potential drivers for information-seeking behavior for several reasons. First, trust has been described the "mother of all rules of thumb," and the presence (or absence) of trust is foundational to our willingness to participate in financial markets.[192] Second, there is a large body of literature examining biases, misperceptions, and mistakes reflecting investors' preference for the trusted and familiar when making investment decisions. Third, participants in pre-survey focus groups identified trust as a driver of their information-seeking behavior.[193] Fourth, the author is aware (through research and experience as Branch Chief in the U.S. SEC Enforcement Division) of the role of trust in affinity fraud, or "investment scams that prey upon [the trust often accorded to] members of identifiable groups, such as religious or ethnic communities, the elderly, or professional groups."[194]

B. Survey Logistics and Characteristics, Attributes and Attitudes Respondents

1. Recruitment

Respondents were recruited for a web-based survey from a double opt-in panel of U.S. respondents.[195] Respondents were invited to

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[191] *See*, *e.g.*, Simon Gervais & Terrance Odean, *Learning to be Overconfident*, 14 REV. FIN. STUD. 1, 1 (2001) (internal citations omitted) (describing the attribution bias in which people "tend to overestimate the degree to which we are responsible for our own successes . . . [and] '[w]e are prone to attribut[ing] success to our own dispositions and failure to external forces'").

[192] GERD GIGERENZER, RISK SAVVY: HOW TO MAKE GOOD DECISIONS 99 (2015); *see infra* notes 242–44 and accompanying text.

[193] Prior to launching our survey, we conducted a series of eight focus groups and individual interviews, totaling 25 subjects.

[194] SEC OFFICE OF INV'R EDUC. & ADVOCACY, INVESTOR PUBLICATION: AFFINITY FRAUD: HOW TO AVOID INVESTMENT SCAMS THAT TARGET GROUP (Oct. 9, 2013), https://www.sec.gov/investor/pubs/affinity.htm [perma.cc/5TWU-8JB6].

[195] As the Pew Research Center observed, "surveys of the general population that rely only on the internet can be subject to significant biases resulting from

participate in the survey via email invitations. Respondents responding to the invitation had to answer "yes" to the following two questions to be eligible for our survey: (1) "Do you make investment decisions for yourself or others?"; and "Have you made at least four investment decisions for yourself or others in the past four (4) years?"[196] We collected approximately 1,000 complete responses ("complete" defined to include respondents who answered all required questions).

2. Characteristics and Attitudes of Respondents

a) Age, Gender, Educational Attainment, and Race-Ethnicity

Survey respondents meeting all qualifications were drawn from a range of age brackets: (i) 8.1 percent under-30; (ii) 19.3 percent from 30–39; (iii) 13.7 percent from 40–49; (iv) 19 percent from 50–59; (v) 25.6 percent from 60–69; and (vi) 14.2 percent 70 plus. The sample population skewed slightly male (53 percent male vs. 47 percent female). Qualified survey respondents had a higher level of educational attainment than typical of the general population—more than 80

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undercoverage and nonresponse. Not everyone in the U.S. has access to the internet and there are significant demographic differences between those who do have access and those who do not. People with lower incomes, less education, living in rural areas or age 65 and older are underrepresented among those who use the internet and those with high-speed internet access . . . ." *Internet Surveys*, PEW RES. CTR. (Sept. 1, 2017), http://www.people-press.org/methodology/collecting-survey-data/internet-surveys/ [perma.cc/96GX-ZZXT]. The author is aware of these limitations, but it is important to note this study was not designed to examine the preferences and habits of the general population with respect to investing. Instead, the survey examined the behavior of respondents who reported making at least four investment decisions for themselves or other people over a two-year period. As discussed in Section III.B, the investing population tends to be less diverse and skew towards a population that is older, richer, and has a higher level of educational attainment compared to the general population. As a result, certain concerns relating to the use of web surveys may not be as acute in this case.

[196] Eligible respondents completing the survey received incentive points to be redeemed for items such as gift cards, subscriptions, airline frequent flyer points, etc.

percent of survey respondents had a post-secondary school degree.[197] Though the survey did not assess respondents' financial literacy, survey respondents reported studying the following subjects in college or graduate school: accounting (25.9 percent); math (24.3 percent); business (33.2 percent); finance (11.5 percent); economics (24.9 percent); tax (9 percent); and business law (13.8 percent). 40.9 percent checked "none of the above." Finally, the survey sample was considerably less racially diverse than the general population: 84.9 percent identified as white, 5.3 percent as Hispanic or Latino, 4.9 percent as black, 5.6 percent as Asian, 1.5 percent as American Indian, and 1.2 percent as other (write-in). These demographic characteristics are consistent with research examining the investing population in the United States.[198]

b) Portfolio Characteristics

Respondents reported owning portfolios of various sizes. Specifically, 23.3 percent of respondents report managing a portfolio or portfolios worth less than $50,000; 13 percent report managing a portfolio worth $50,000–$99,999; 15.1 percent report managing a portfolio worth $100,000–$199, 999; 19.3 percent report managing a

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[197] Approximately 19 percent of survey respondents reported having an associate degree; 35 percent reported having a bachelor's degree; 26 percent reported having a graduate or professional degree. *See* CAMILLE L. RYAN & KURT BAUMAN, U.S. CENSUS BUREAU, EDUCATIONAL ATTAINMENT IN THE UNITED STATES: 2015 1–2 (Mar. 2016), https://www.census.gov/content/dam/Census/library/publications/2016/demo/p20-578.pdf [https://perma.cc/EN5U-Z3XQ] (reporting 88 percent of the adult population has at least a high school degree, 59 percent has at least some college, 42 percent has at least an associate's degree, 33 percent has at least a bachelor's degree, and 12 percent has a graduate degree).

[198] *See, e.g.*, FINRA Survey, *supra* note 179, at 3. Note, our survey respondents were instructed to check all applicable designations. Households owning taxable investment accounts tend to be older and more affluent than households with only retirement accounts or households without any investment accounts. *Id.* at 1. Investors with taxable investment accounts are slightly more likely to be male, and are considerably more likely to be white, older, and college educated. *Id.* Although researchers found certain demographic groups were significantly under-represented among investor households, including blacks and Hispanics, the FINRA Survey also found these differences narrowed after controlling for factors such as income, education and age. *Id.* at 1, 3.

portfolio of $200,000–$499,999; 13.9 percent reported managing a portfolio worth $500,000–$1,000,000; 15.4 percent reported managing a portfolio worth more than $1,000,000.

There were some statistically significant differences when responses were sorted by age and gender. Sorting responses first by age, older respondents were more likely to report having larger/more valuable portfolios compared to their younger counterparts: 31 percent of respondents in the 70-plus age group reported holding portfolios worth more than $1 million. None of the respondents in the under-30 bracket reported holding portfolios worth this much. By comparison, 60 percent of respondents in the under-30 bracket reported holding portfolios worth less than $50,000. Only 10 percent of respondents in the 70-plus age group reported holdings worth less than $50,000. This is not surprising, as older investors have generally been in the work-force longer, and thus have had more time to invest and accumulate wealth.

There were also statically significant differences when responses were sorted by gender. Female respondents were more likely to report portfolio values in the lower ranges, with 30 percent of female respondents reporting portfolio holdings worth less than $50,000 compared to 17 percent of male respondents. By comparison, 22 percent of male respondents reported holding portfolios worth more than $1,000,000 compared to only 9 percent of female respondents.[199] (Note, however, that female respondents skewed younger, as well, and younger respondents tended to fall on the lower end of the portfolio value range.)

3. Holdings

Respondents reported buying, selling, or holding over the past two years: corporate stock (59.7 percent), mutual funds (54.8 percent), insurance (term or whole) (27.9 percent), money market funds (37.8

[199] In the FINRA Survey, approximately one-third of respondents reporting having less than $50,000 in non-retirement investments. FINRA Survey, *supra* note 179, at 4. Approximately one-third of those reporting have $50,000–$250,000 in non-retirement investments, and slightly less than one-third of those reporting have more than $250,000 in non-retirement investments. *Id.* Our survey did not distinguish between retirement and non-retirement investments.

percent),[200] and certificates of deposit (29.6 percent). ETFs (16.4 percent), municipal bonds (12.5 percent), and annuities (18.6 percent) also were well-represented in survey results. Other asset classes showed up less often—corporate bonds or other debt instruments (8.3 percent), municipal bonds (12.5 percent), U.S. Treasury securities (7.1 percent), asset backed securities (2.4 percent), partnerships/LLC (4.7 percent), derivatives (1.6 percent), and options (4.4 percent). These figures are generally consistent with FINRA's 2016 Investor Survey.[201]

There were some differences in reported holdings when responses were sorted by age. For example, 18 percent of respondents who reported buying, selling, or municipal bonds over the past twenty-four months fell into the 70-plus age bracket whereas only 4 percent fell into the under-30 age bracket. This is not surprising, as municipal bonds offer tax advantages for certain investors, income in the form of yield payments, and a comparatively safe investment, making municipal bonds well-suited to investors at or near retirement age.[202]

There were also statistically significant differences when responses were sorted by gender. 54 percent of female respondents reported they purchased, sold, or held stock within the past two years compared to 65 percent of male respondents. 46 percent of female respondents reported they purchased, sold, or held mutual fund shares compared to 63 percent of male respondents. Only 10 percent of

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[200] In many cases, money market funds function as a "holding pen" for cash yet to be reinvested. *See, e.g.*, Edward Wyatt, *A Low-Key Fund Group Nears a Limelight Level*, N.Y. TIMES (Feb. 2, 1997), http://www.nytimes.com/1997/02/02/business/a-low-key-fund-group-nears-a-limelight-level.html.

[201] FINRA Survey, *supra* note 179, at 4 ("Individual stocks and mutual funds are the most commonly owned investments in non-retirement accounts . . . . Only a small minority of investors own commodities or futures, or other investments such as REITs, options, private placements, or structured notes.") Respondents in the FINRA survey reported the following with respect to their non-retirement investment holdings: individual stocks (74 percent); mutual funds (64 percent), whole life insurance or other similar investment product (43 percent), individual bonds (35 percent), annuities (33 percent), ETFs (22 percent); other investments (e.g., REITs) (15 percent), and commodities or futures (12 percent). *Id.*

[202] Respondents in the 70-plus age bracket also were more likely than their under-30 counterparts to report buying, selling, or holding annuities. Younger respondents were more likely to report buying, selling, or holding insurance products (term or whole) compared to older respondents.

female respondents reported they purchased, sold, or held exchange traded funds compared to 22 percent of male respondents.

4. Attitudes Towards Risk, Perceptions of Investing Skill: Perception of Investing Skill/Risk Tolerance

On a topline basis, a majority of survey respondents characterized themselves as "middle of the road" with respect to comfort with risk and investing skill. Just 50.9 percent of respondents described themselves as "somewhat confident" investors. By comparison, 33.4 percent of respondents described themselves as confident and 15.7 percent described themselves as not confident.[203] Responses concerning risk tolerance track these results, with just 54.6 percent of respondents saying they are "somewhat comfortable" with financial risk compared to 24.6 percent who say they are comfortable with financial risk and 20.8 percent who say they are uncomfortable with financial risk.[204]

Our survey revealed statistically significant differences in perception of skill and attitudes toward risk-taking when responses are sorted by gender. Male respondents were more likely than female

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[203] This is consistent with FINRA's 2016 survey, in which 47 percent of respondents said they were willing to "take average financial risks expecting to earn average returns." FINRA Survey, *supra* note 179, at 11. Only 12 percent of respondents in the FINRA survey reported they were willing to "take substantial financial risks expecting to earn substantial returns" and 30 percent were willing to "take above average financial risks expecting to earn above average returns." *Id.* at 11–12.

[204] Perception of investing skill and willingness to take risks appear to move in tandem. 49 percent of respondents who said they are confident in their investing skills also said they are comfortable with financial risk. This compares to only 14 percent from the middle-of-the-road group and 6 percent from the group who said they are not confident. Likewise, respondents who say they are comfortable with financial risk are correspondingly more likely to say they are confident in their investing skills, with 67 percent of risk takers saying they are confident in their investing skills, compared to only 27 percent and 11 percent of middle-of-the-road and risk-averse respondents, respectively. These results are consistent with FINRA's Survey, which found that about 47 percent believe they are willing to take average risks for average returns, 30 percent are willing to take above average risks, and 12 percent report are "willing to take substantial risks in pursuit of substantial returns." *Id*. at 11.

respondents to describe themselves as confident investors (41 percent (M) versus 25 percent (F)), and female respondents were more likely to say they are not confident (23 percent (F) versus 9 percent (M)). Male respondents were more likely to say they are comfortable with financial risk and describing themselves as aggressive investors (30 percent (M) versus 19 percent (F)), while female respondents were more likely to say they are uncomfortable with financial risk and describing themselves as conservative investors (28 percent (F) versus 15 percent (M)).[205]

Sorting responses by age also reveals statistically significant differences between survey populations. Unsurprisingly, given their longer investment time horizon, younger respondents (particularly those in the 30–39 bracket) report a higher degree of comfort with risk compared to their older counterparts. Of the respondents describing themselves as comfortable with financial risk and aggressive investors, 35 percent fell into the 30–39 age bracket, compared to only 13 percent in the 60–69 age bracket and 9 percent in the 70-plus age bracket.

C. Information-Seeking: Research Choices, Strategies, and Behaviors

1. An Overwhelming Majority of Survey Respondents Report That They Seek Out Information, Tools, Advice Before Making Investment Decisions

An overwhelming majority (approximately 93 percent) of survey respondents said they seek out information, tools and/or investment advice prior to making investment decisions.[206] About 56 percent

[205] This too is consistent with existing literature. *See* Lisa G. O'Connor, *Duct Tape and WD-40: The Information Worlds of Female Investors*, 33 LIBR. & INFO. SCI. RES. 228, 228–29 (2011).

[206] Only 83 of 1049 (7.9 percent) respondents reported they do not seek out information, tools, or advice before making investment decisions. Note that the survey did not assess the intensity of respondents' research efforts. The Survey of Consumer Finances (SCF) conducted by the Board of Governors of the Federal Reserve System contains a "self-assessment of families' intensity of shopping for borrowing or investing services." JESSE BRICKER ET AL., BD. OF GOVERNORS OF THE FED. RES. SYS., 100 FED. RES. BULLETIN, CHANGES IN U.S. FAMILY FINANCES FROM 2010 TO 2013: EVIDENCE FROM THE SURVEY OF CONSUMER FINANCES 1, 15 (2014). According to the Survey, in 2013, only 29 percent of families reported shopping "a great deal" for loan terms, and 24

(56.3 percent) of respondents said they typically seek out technical data—i.e., data reflecting patterns and trends in the performance of a particular investment or market segment. Almost as many respondents (45.5 percent) said they seek out company-specific information (e.g., information about the ownership, management team and/or financial performance of an issuer whose securities the respondent is considering buying or selling). 29.2 percent of respondents reported seeking tools such as charts or trading models before. 46.8 percent of respondents reported seeking investment advice before making investment decisions.[207]

There are some statistically significant differences when responses are sorted by gender. Male respondents were more likely than female respondents to report seeking market data (e.g., price and volume information) (63 percent (M) versus 49 percent (F)) and company-specific information (53 percent (M) versus 37 percent (F). This is consistent with existing literature, which finds female investors are less likely than male investors to use mediated resources and to leverage technology (e.g., the internet) but more likely to use unmediated, personal, and experiential information.[208]

Age appears to matter as well. Sorting responses by age, younger respondents (the under-30 bracket) were more likely to report typically seeking out charts, models, or algorithms compared to older investors (38 percent of respondents in the under-30 bracket and 34 percent of respondents in the 30–39 bracket reported they seek out this material compared to 21 percent of respondents in the 70-plus bracket). Older respondents were more likely to report seeking investment advice (59 percent of investors in the 70-plus bracket, 40 percent of investors under-30, and 35 percent of respondents in the 30–39 age bracket).

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percent reported shopping "a great deal" for investment terms . . . ." *Id.* Survey data revealed, however, the rate of shopping "a great deal" for both loan and investment terms has increased in each wave of the SCF from 2007 to 2013, and "the percent of families who reported shopping either 'a moderate amount' or 'almost none; declined from 2010 to 2013." *Id.*

[207] Respondents were instructed to select all applicable choices.

[208] *See* O'Connor, *supra* note 205, at 228 (finding "[w]omen are particularly at risk in this environment because they are significantly less likely than men to practice multi-source, diversified, high information-use strategies, including using technology, for investing").

Finally, there are statistically significant differences in research preferences when responses are sorted by relative comfort with financial risk. Respondents who describe themselves as comfortable with financial risk are more likely than middle-of-the-road and risk-averse respondents to report seeking out market data (78 percent versus 54 percent and 36 percent), company-specific information (55 percent versus 45 percent and 28 percent), and tools (37 percent versus 29 percent and 21 percent), but less likely to seek out investment advice (30 percent versus 52 percent and 53 percent). The same holds true of respondents who describe themselves as confident in their investing skills.

2. What Questions Do Investors Ask Before Investing?

The SEC recommends investors ask a number of questions before investing, including inquiries relating to risk, liquidity, and fees.[209] We asked respondents about a number of these questions. A

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[209] A SEC investor education brochure suggests investors ask the following before purchasing an asset or other investment product:

> (i) Is this investment product registered with the SEC and my state securities agency?; (ii) Does this investment match my investment goals? Why is this investment suitable for me?; (iii) How will this investment make money? (Dividends? Interest? Capital gains?) Specifically, what must happen for this investment to increase in value? (For example, increase in interest rates, real estate values, or market share?); (iv) What are the total fees to purchase, maintain, and sell this investment? Are there ways that I can reduce or avoid some of the fees that I'll pay, such as purchasing the investment directly? After all the fees are paid, how much does this investment have to increase in value before I break even?; (v) How liquid is this investment? How easy would it be to sell if I needed my money right away?; (vi) What are the specific risks associated with this investment? What is the maximum I could lose? (For example, what will be the effect of changing interest rates, economic recession, high competition, or stock market ups and downs?); (vii) How long has the company been in business? Is its management experienced? Has management been successful in the past? Have they ever made money for investors before?; (viii) Is the company making money? How are they doing compared to their competitors?;

majority of respondents reported they ask (i) how the investment is supposed to make money for investors (57.6 percent), (ii) questions about the fees associated with the investment (64.4 percent), and (iii) questions about the risks associated with the investment (65.5 percent).[210] A fewer numbers of respondents said they considered whether the investment is registered with the SEC or a state agency (34.1 percent), the ease of selling the investment if they needed the money right away (44.2 percent), who the investor should contact for more information (21.7 percent), and what the background is of the person or institution offering the investment (24.5 percent).

Notably, however, when asked to describe in narrative form the steps taken to research a typical investment decision from the past few years, respondents did not report having asked these questions with the frequency or degree of specificity one might expect given the survey results. We note, other research also suggests investors may not ask some of the questions on the SEC's recommended list.[211] Instead ticking off a list of questions, survey respondents said they more typically asked financial professionals for advice or recommendations,

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> (ix) Where can I get more information about this investment? Can I get the latest reports filed by the company with the SEC: a prospectus or offering circular, or the latest annual report and financial statements?

SEC OFFICE OF INV'R EDUC. & ADVOCACY, ASK QUESTIONS: QUESTIONS YOU SHOULD ASK ABOUT YOUR INVESTMENTS (2011), https://www.sec.gov/files/sec-questions-investors-should-ask.pdf [https://perma.cc/KH45-CKST].

[210] Investors comfortable with financial risk were comparatively less likely to report asking about risk before investing—48 percent—versus 73 percent and 68 percent for the middle-of-the-road group and not-comfortable-with-risk groups, respectively.

[211] For example, in a 2007 study conducted for FINRA's Investor Education Foundation, researchers conducted an investment fraud risk survey and found many older investors engage in risky behaviors. FINRA INV'R EDUC. FOUND., SENIOR FRAUD RISK SURVEY (2007), https://www.finra.org/sites/.../Senior%20Fraud%20Risk%20Survey%20Findings_0.pdf [https://perma.cc/4M8D-E8AD]. Researchers found, for example (i) 78 percent of respondents did not check their broker for previous violations; (ii) 68 percent of respondents did not check to see if their investment was registered; (iii) about 40 percent of the national sample—and almost 60 percent of the victim sample—chose a broker based on the recommendation of a relative, friend, neighbor, or co-worker; and (iv) nearly three times as many victims went to a free lunch seminar compared to national sample respondents. *Id.* at 1.

spoke with friends or family members, did internet research, or used some combination of these strategies. Of course, our results do not mean respondents never ask the SEC's recommended questions, nor do our results mean respondents never independently track down answers to these questions. It may be that independently researching an investment and getting advice from a chosen financial intermediary or a trusted friend or family member are typical investor strategies when preparing to make investment decisions rather than using a list of questions prepared by the SEC.

3. A Substantial Majority of Respondents Say That They Consider Investment Advice from Third Parties When Making Investment Decisions

A comfortable majority of respondents said if they seek out investment advice, they tend to rely upon it (24.6 percent), or at least consider it (50 percent), when making investment decisions; only 25.4 percent reported they rarely consider advice from third parties when making investment decisions. Once again, cross tabulations reveal statistically significant differences between survey populations. Respondents who describe themselves as comfortable with risk were less likely to report seeking advice, but more likely to say that when they do seek out advice, they rely upon it (38 percent for comfortable-with-risk respondents, 20 percent for middle-of-the-road, and 22 percent for risk-averse respondents). The same holds true of respondents describing themselves as confident—they were less likely to say they seek out advice, but more likely to say that if they do, they rely upon it when making investment decisions.

Surprisingly, investors who describe themselves as uncomfortable with risk are more likely than other respondents to say they rarely use advice from third parties when making financial decisions. In particular, 35 percent of those describing themselves as risk-averse (not comfortable with financial risk, a conservative investor) say they rarely use investment advice, versus 24 percent for middle-of-the-road investors and 21 percent for risk-takers (comfortable with financial risk, an aggressive investor). When asked why they tend not to use financial advice, risk-averse investors were considerably more likely to cite a lack of trust in information providers. Specifically, 40 percent of investors who described themselves as uncomfortable with risk and said they tend not to use third-party investment advice said they eschew advice because they do not trust anyone to give them unbiased advice. Only 17 percent of the risk-takers and 24 percent of the

middle-of-the-road respondents who said that they rarely use investment advice cited lack of trust in advice providers as their motivation.[212] By comparison, respondents who described themselves as comfortable with financial risk and rarely use advice were far more likely to cite a desire to do their own analysis and a belief that advisors are not necessarily smarter. 75 percent of risk-takers who said they rarely use third party advice cited these reasons, versus 45 percent and 30 percent of middle-of-the-road and risk-averse groups who rarely use advice, respectively.

4. Top Sources and Channels for Pre-Transaction Research

While survey respondents said they get information, tools, or advice from a variety of sources, there were three clear favorites: (i) financial intermediaries; (ii) trusted family members and other members from social or professional circles; and (iii) the business and financial press. In particular, on a topline basis, 55 percent of respondents said they typically seek out information, tools, or advice from their chosen financial intermediaries. More than 40 percent (42.1 percent) reported they typically seek out information, tools, or advice from family members, friends, co-workers, or other members of the respondents' social circles. Just over 40 percent (41.9 percent) reported they tend to consult books, newspapers, and magazines focused on money and investing (e.g., *The Wall Street Journal*). Approximately 45 percent reported they typically consult online publishers and service providers focused on money and investing. By comparison, only 19.1 percent of respondents said they typically consult websites operated by government agencies (e.g., the SEC) or SRO (e.g., FINRA),[213] only

[212] Respondents who said that tend not to use third party advice and also said that someone had abused their trust in connection with financial matters in the past also were more likely to cite a lack of trust as the reason for eschewing third party advice.

[213] These results are generally consistent with FINRA's 2016 Survey, where respondents reported using: information from the company (68 percent); information from financial services firms (62 percent); financial advisors other than stock brokers (56 percent); friends, colleagues, family members (47 percent); the media (44 percent); stockbrokers (30 percent); regulators (23 percent); the respondent's employer (18 percent); and investment clubs or membership organizations (17 percent). FINRA Survey, *supra* note 179 at 16.

17.9 percent of respondents said that they typically seek out information from TV pundits or programs before making investment decisions, and only 12 percent reported seeking out pre-transaction research material from investor relations departments of companies whose securities the respondent was considering whether to buy, sell, or hold.[214]

Once again, there are some statistically significant differences when responses are sorted by gender. Female respondents were more likely than male respondents to report they seek information, tools, or advice from family members, friends, co-workers, or members of the respondent's social circle before making investment decisions (50 percent (F) versus 35 percent (M)). Male respondents were more likely to report they seek information, tools, or advice from (i) financial intermediaries (58 percent (M) versus 51 percent (F)); (ii) books, newspapers, and magazines focused on money and investing (46 percent (M) versus 37 percent (F)); (iii) online publishers and service providers (51 percent (M) versus 38 percent (F)); and (iv) television pundits or programs (22 percent (M) versus 14 percent (F)). As noted, these results are consistent existing literature which finds female investors are (i) less likely than male investors to use formal, mediated information sources; (ii) less likely than male investors to adopt tech-

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Our survey responses also are consistent with FINRA Survey with respect to information channels, where investors reported receiving information from information channels about investing: newspapers, magazines, or books (47 percent); free online services (47 percent); brochures or newsletters (39 percent); television/radio programs (35 percent); paid online services (14 percent); and paid seminars or group meetings (10 percent). *Id.* The survey responses also are consistent with the 2013 SCF with respect to channels, with respondents reporting using information from: (i) calling around (13.1 percent); (ii) advertisements and media (21.3 percent); (iii) internet (35.3 percent); (iv) friends, relatives, and associates (40.8 percent); (v) bankers, brokers, and other sellers of financial services (31.8 percent); (vi) lawyers, accountants, other financial advisors (31.8 percent); or (vii) not borrowing or investing. *See* BRICKER ET AL., *supra* note 206, at 14. The 2013 SCF specifically noted an increase in the use of online sources from 2010 to 2013, finding the amount of people reporting they used "the Internet as a source of information for investing also rose . . . from 33.0 percent to 35.3 percent." *Id.*

[214] Respondents describing themselves as confident investors were more likely to say they seek out information from TV-based sources: 26 percent of the confident group compared to 15 percent and 9 percent of the middle-of-the-road and the "not confident" group, respectively.

nology for information searches; and (iii) more likely to use personal and experiential information through friends, colleagues, and other personal associations.[215]

Along with gender, comfort with risk appears to matter. Respondents who describe themselves as comfortable with financial risk were more likely than their more risk-averse counterparts to say that they tend to seek out information, tools, or advice from family members, friends, co-workers or other members of the respondent's social circle—52 percent of risk-takers reported seeking information from these sources, compared to 37 percent and 44 percent of the middle-of-the-road and risk-averse groups, respectively. Risk-takers were also slightly more likely than other respondents to say they get information, tools, or advice from television programs focused on money and investing—25 percent of risk-takers identified TV programs as a source, versus 18 percent and 9 percent of middle-of-the-road and risk-averse respondents, respectively.

5. Credibility and Trustworthiness as Factors in Pre-Transaction Research Preferences

a) An Overwhelming Majority of Respondents Consider Credibility in Deciding Whether to Seek or Use Investment Advice

On a topline basis, respondents said they often (36 percent) or very often (45.7 percent) think about credibility when deciding whether to seek or use financial advice; 14.1 percent said they sometimes and 2.5 percent said they rarely think about credibility. Respondents' chosen financial intermediaries earned highest marks on perceived credibility, with 48 percent describing their chosen intermediaries as "very credible." No other individual or organization listed in our survey came close to this figure—including family members (23

[215] O'Connor, *supra* note 205, at 229 (studying the information-seeking behavior of female members of an investment club); *see also* TAHIRA HIRA & CÄZILIA LOIBL, GENDER DIFFERENCES IN INVESTMENT BEHAVIOR 37–46 (2006) ("While women showed less interest in using the Internet (10%), they gathered financial information at the workplace or from friends and colleagues more often than men."); Cäzilia Loibl & Tahira Hira, *Investor Information Search*, 30 J. ECON. PSYCHOL. 24 (2009) (confirming males are more likely to engage in "high-information" investing behavior).

percent ranked family as very credible); friends (12 percent ranked as very credible); co-workers (8 percent ranked as very credible); pundits and other commentators (only 8 percent ranked as very credible); large financial institutions (18 percent ranked as very credible); smaller, local investment firms (15 percent ranked as very credible); company management (13 percent ranked as very credible); stock exchanges/ markets (21 percent ranked as very credible); government regulators (12 percent ranked as very credible);[216] journalists (only 7 percent ranked as very credible); and online posters (only 5 percent ranked as very credible).

Once again, statistically significant differences arise when responses are sorted by gender. Female respondents were more likely than male respondents to describe family members as very credible (28 percent (F) versus 20 percent (M)), and male respondents were more likely to describe family members as not credible (24 percent (M) versus 14 percent (F)). Male respondents were also more likely to rate pundits and commentators appearing on TV, in print, or in online publications as not credible (40 percent (M) versus 30 percent (F)). Finally, male respondents were more likely to rate government regulators as not credible (31 percent (M) versus 24 percent (F)).

There were also statistically significant differences when responses are sorted by comfort with risk. Respondents who describe themselves as comfortable with risk were more likely to describe family members as very credible (35 percent versus 19 percent for middle-of-the-road and 22 percent for risk-averse respondents). Risk-takers also were more likely to rank as very credible: friends (20 percent versus 10 percent and 7 percent); large financial institutions (31 percent versus 14 percent and 12 percent); company management (23 percent versus 10 percent and 9 percent); government regulators (23 percent versus 9 percent and 7 percent); and pundits and commen-

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[216] This finding is consistent with other research concerning trust in government. The Pew Research Center conducted a national survey among 1,501 adults which found "the overall level of trust in government remains near historic lows; just 20% say they trust the government to do what's right always or most of the time. Far more say they trust the government only some of the time (68%); 11% volunteer that they never trust the government to do what's right." PUBLIC TRUST IN GOVERNMENT REMAINS NEAR HISTORIC LOWS AS PARTISAN ATTITUDES SHIFT, PEW RESEARCH CTR. (2017), http://www.people-press.org/2017/05/03/public-trust-in-government-remains-near-historic-lows-as-partisan-attitudes-shift/ [https://perma.cc/VE7X-EQ7N].

tators who appear on TV, in print, or online publications (20 percent versus 5 percent and 3 percent). Sorting responses by relative confidence in investing skills yields similar results.

Finally, age appears to matter as well. Although 53 percent of the 70-plus age group ranked their financial professionals as very credible (compared to 49 percent overall), older respondents were far less likely than under-30 respondents to rate other institutions and individuals as very credible. For example, only 9 percent of 70-plus respondents rated large financial institutions as very credible compared to 35 percent of under-30 respondents and 18 percent of all respondents. Likewise, only 5 percent of 70-plus respondents bracket described company management as very credible compared to 26 percent of under-30 respondents. Only 4 percent of 70-plus respondents rated government regulators as very credible compared to 26 percent of under-30 respondents and 12 percent of overall respondents. The sample size of the 70-plus population was small; nevertheless, this group demonstrated a consistent skepticism respecting the credibility of market participants.

b) Respondents Rank Factors Used to Assess Credibility of Sources and Content of Research Material

On a topline basis, when asked to rank a series of factors used to assess credibility, 45 percent of respondents said the recommendation of a third party who the respondent believes to be credible is "very important." Almost half of respondents also said independently verifying the credibility of the source of the research material (48 percent) or the content of the research material (45 percent) is very important. Just over one third (35 percent) of respondents said having a personal relationship with the source of the information is "very important."

Once again, survey responses revealed statistically significant differences when sorted by gender. Female respondents were slightly more likely to rate a personal relationship with the source of information as very important to their assessment of a source's credibility (38 percent (F) versus 32 percent (M)). Female respondents were slightly more likely to rate a recommendation from a trusted person as very important in assessing the credibility of the source or content of financial information (49 percent (F) versus 41 percent (M)). Respondents who describe themselves as confident investors were also comparatively more like to say that having a personal relationship with

the source of information, tools, or advice is very important in assessing credibility (41 percent of respondents who comfortable with financial risk characterized a personal relationship as very important, compared to 32 percent of middle-of-the-road, 34 percent of not-comfortable investors). Confident investors also were comparatively more likely to say it is very important to verify the credibility of the content and source of financial information through independent research (54 percent of those comfortable with financial risk, compared to 47 percent of middle-of-the-road and 42 percent of risk-averse respondents).

c) Digging into the Investor/Financial Intermediary Relationship

With so many respondents turning to their chosen financial intermediaries for information and advice, the survey explored the investor/intermediary relationship. Almost 60 percent of respondents (58.1 percent) said they use a financial intermediary when making investment decisions.[217] Approximately 75 percent of these respondents said their financial intermediaries provide advice or recommendations (not just trade execution services).[218] Three quarters of the respondents (75.5 percent) who use a financial intermediary describe themselves as "generally happy" with their intermediary, and another 21 percent said their intermediaries are "good enough." Only 3.0 percent said they are "not thrilled" and only 0.5 percent said they are unhappy and plan to make a change.[219]

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[217] This matches the results of FINRA's 2016 study almost to the decimal point, where 56 percent of respondents said "they use a broker or professional advisor for at least some investment decisions." FINRA Survey, *supra* note at 179, at 6.

[218] FINRA's Survey found 56 percent of respondents said they use a broker or professional advisor for at least some investment decisions. *Id.* Note, however, in this survey, respondents describing themselves as confident are less likely than the less confident to say they get advice from financial professionals. Instead, confident investors are more likely to report they use financial professionals only for trade execution.

[219] One additional cross tabulation note: 16.5 percent of respondents said someone had abused their trust in financial matters in the past. These respondents were considerably less likely to report that they are happy with the current advisor, compared to respondents who did not report past financial abuse (59 percent versus 79 percent).

Personal and affinity ties appear to matter to investors when looking for a financial intermediary. Almost 40 percent (38.8 percent) of respondents said they first met their intermediary through a friend, family member, co-worker, or member of the respondent's social circle. Another 28 percent said they met their financial professional through the investment firm where the respondent maintains an account. By comparison, only 16.8 percent of respondents said they met their financial professional through employers or an employer-sponsored plan. Even smaller percentages met their financial professionals through sales calls (3.5 percent), investment seminars (3.7 percent), or advertisements (2.0 percent).

Personal and affinity ties also play a role in respondents' decisions to work with their chosen financial intermediaries over time. Just over 40 percent (41 percent**)** of respondents said the recommendation of a friend, family, co-worker, or member of the respondent's social circle was an important factor in deciding to work with the intermediary. By comparison, 33.9 percent cited the strength of a professional's initial recommendation as an important factor. 32.8 percent of respondents cited their financial professional's educational background, experience, or training as important considerations.[220] 29 percent said it was important that the financial professional was assigned to the respondent by the firm where the respondent maintains accounts. Approximately 25 percent of respondents said it was important that a financial professional's fees were reasonable, and roughly the same percentage (25.1 percent) said it was important that an advisor is a friend, family member, co-worker, or member of the respondent's social circle.

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[220] Both the survey and earlier research suggest there may be a disconnect (or at least an imperfect alignment) between what investors say is important and what they actually do. For example, although 58 percent of the respondents who use professional investment advisors in FINRA's 2016 survey said professional designations or certifications are very important, fewer than a quarter of these respondents (23 percent) have checked with a regulator on a financial professional's background. FINRA Survey, *supra* note 179, at 7. Similarly, only 7 percent of the FINRA Survey respondents reported having ever used BrokerCheck, a free FINRA online tool allowing investors to research the licensing and professional backgrounds of brokers and brokerage firms. *Id.* at 16.

The SEC Investor Education Office recommends investors ask a number of questions of people selling investments, including questions relating to the seller's background, training, and disciplinary history and compensation.[221] Although approximately 32 percent of respondents said their intermediary's background, education, or training was an important factor in the decision to work with the intermediary, it is not clear that investors routinely perform the degree of diligence recommend by the SEC. FINRA's 2016 Investor Survey suggests investors do not always investigate the background, training, or disciplinary history of financial professionals to the degree recommended by the SEC.[222]

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[221] Specifically, the latest version of the SEC's relevant investor education brochure suggests that investors ask the following questions:

> Are you registered with our state securities regulator? Have you ever been disciplined by the SEC, a state regulator, or other organization (such as FINRA) or one of the stock exchanges)? How long has your firm been in business? How many arbitration awards have been filed against your firm? What training and experience do you have? How long have you been in the business? What other firms have you been registered with? What is the status of those firms today? Have you personally been involved in any arbitration cases? What happened? What is your investment philosophy? Describe your typical client. Can you provide me with some names and telephone numbers of your long term clients? How do you get paid? By commission? By the amount of assets you manage? By another method? Do I have any choices on how to pay you? Should I pay you by the transaction? Or a flat fee regardless of how many transactions I have? Do you make more if I buy this stock (or bond, or mutual fund) rather than another? If you weren't making extra money, would your recommendation be the same? Are you participating in a sales contest? Is this purchase really in my best interest, or are you trying to win a prize? You've told me what it costs me to buy this stock (or bond, or mutual fund); how much will I receive if I sell it today? Where do you send my order to be executed? Can we get a better price if we send it to another market? If your broker changes firms, ask: Did they pay you to change firms? Do you get anything for bringing me along?

ASK QUESTIONS, *supra* note 209, at 8–9.

[222] FINRA Survey, *supra* note 179, at 7.

d) Survey Summary and Key Takeaways

Taken together, survey responses reveal several topline takeaways about retail investor information-seeking behavior:

- Investors overwhelmingly say they seek out information, tools, or advice before making investment decisions;
- Investors prefer getting pre-transaction research from three sources: (i) their chosen financial intermediaries; (ii) the business and financial press; and (iii) trusted friends, family members, or other members of their social or professional circles;
- Investors say trust and perceived credibility matter when deciding whether to seek or use information, tools, or advice; and
- Investors' chosen financial intermediaries earn highest marks for perceived credibility; regulators rank well below financial intermediaries on this list.

Cross tabulations reveal statistically significant differences between and among respondent populations:

- Female versus male respondents:
  - Male respondents are more likely than female respondents to report that they are very confident in their investing skills and comfortable taking risks. Female respondents are more likely to report they are not confident in their investing skills and not comfortable with financial risk.
  - Male respondents are more likely than female respondents to say they seek out market data, company-specific information, and information or advice from formal, mediated sources such as books, newspapers, and online sites focused on money and investing. Female respondents are more likely to seek information or advice from family, friends, co-workers, or members of their social circles.

- Relative confidence in investing skills and risk-taking:
  - Male respondents are more likely to be confident in their investing skills and tend to report they are more comfortable with risk-taking.
  - Generally, confident respondents are more likely to say they are comfortable taking financial risks.[223]
  - Confident respondents are more likely to say they seek market data, company-specific information, and tools before making investment decisions, but less likely to say they seek out investment advice.[224]
- Age:
  - Older respondents are less likely to report that they are comfortable with financial risk.
  - Older respondents are more likely to report they seek information, tools and advice from financial intermediaries, and less likely to report they seek information, tools, or advice from online sources.
  - Except for their chosen financial intermediaries, older respondents report they are skeptical about the perceived credibility of a range of institutions and individuals involved in financial markets and market regulation compared to younger respondents.

[223] Almost half of the respondents who said they are confident (49 percent) said they are comfortable with financial risk, compared to only 14 percent and 6 percent of middle-of-the-road respondents and respondents who say they are not comfortable with financial risk, respectively. Interestingly, however, confident investors were less likely to report asking about potential risks before making investment decisions compared to other groups (59 percent of confident respondents, compared to 69 percent and 68 percent of middle-of-the-road and not confident respondents, respectively).

[224] Confident respondents also were less likely to use a financial professional for investment advice (62 percent versus 82 percent and 80 percent of middle-of-the-road and not confident investors, respectively) and more likely to use financial professionals only for trade execution services.

V. Heuristics, Biases, and Survey Results

With these results in mind, the next section identifies biases and heuristics associated with financial and investment decision-making and considers whether these biases and heuristics might also play a role in information-seeking behavior.[225]

A. Trust, Familiarity, and Financial Decisionmaking

1. The Trust Heuristic and Financial Decisionmaking

Whenever we do business with a counterparty, there is always risk the counterparty will not perform as promised: a debtor might default, a seller may fail to deliver promised goods or services, or a buyer of goods or services might fail to pay.[226] There is also a risk the market in which the exchanges at issue take place will turn out to be corrupt or otherwise unfair.[227] Trust refers to "the subjective probability individuals attribute to the possibility of being cheated."[228] When we trust a counterparty or a market for goods and services, we believe that probability of being cheated is low and that the "playing field" is fair. When we lack trust in a counterparty or in a market, we perceive the risk of getting cheated as higher, and we are less likely to believe the playing field is fair.[229]

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[225] *See, e.g.*, Lauren Cohen, *Loyalty Based Portfolio Choices*, 22 REV. FIN. STUD. 1213, 1213 (2009) (discussing home bias); Gervais & Odean, *supra* note 191 (discussing the behavioral bias of overconfidence in investing); Luigi Guiso, Paola Sapienza & Luigi Zingales, *Trusting the Stock Market*, 63 J. FIN. 2557, 2557 (2008) (discussing trust heuristics).

[226] Guiso, Sapienza & Zingales, *supra* note 225, at 2557 (discussing market risks faced by consumers).

[227] *Id.* (arguing people need to "have trust in the fairness of the game and in the reliability of the numbers to invest").

[228] *Id.*; *see also* Zhan Hu & X.T. Wang, *Trust or Not: Heuristics for Making Trust-Based Choices in HR Management*, J. BUS. RES. (2014) ("[M]ost researchers agree that trust is fundamentally a psychological state of perceived vulnerability or risk that is derived from individuals' uncertainty regarding the motives, intentions, and prospective action of others on whom they depend.").

[229] *See also* Lumpkin, *supra* note 17, at 5 ("Financial transactors must have some assurance that financial markets and institutions are safe and, sound, and operate according to rules and procedures that are *fair*, *transparent*, and *free from conflicts of interest* and other agency problems.").

The *trust heuristic* is a decisionmaking short-cut; it speaks to our preference for doing business with people we trust because we instinctively believe they are more likely to deliver on promises and less likely to take advantage of us, compared to a stranger.[230] The decision to trust (or not) appears to be both an art and a science: although we consider facts and data when assessing credibility and trustworthiness, we remain vulnerable to emotional appeals and potential manipulation by "those who promise us what we want" or tell us what we want to hear.[231] There is an enormous amount of literature on trust in the context of a variety of social, political, and economic interactions. Here, we focus on trust and its impact on financial and investment decisionmaking.[232] In a nutshell, trust is foundational to our willingness to participate in financial markets.[233] For example, researchers have found that "trusting individuals are significantly more likely to buy stocks and risky assets and, conditional on investing in stock, they invest a larger share of their wealth in it."[234] When "mistrust is deeply rooted," demand for equities is lower.[235] In their 2009 Financial Trust Index survey, Professors Sapienza and Zingales asked respondents how much they trusted a variety of people and institutions on a scale ranging from 1 to 5, 1 meaning "I do not trust at all" and 5 meaning "I

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[230] As Gerd Gigerenzer argues, trust is part of the "fast and frugal" decisionmaking tool box. It offers investors a rule-of-thumb—do business with people you trust—as a strategy for reducing the risk of fraud, disappointment, or loss. *See* Gigerenzer, *supra* note 10, at 3; *see also* GIGERENZER, *supra* note 192, at 99; Hu & Wang, *supra* note 231, at 1710 (stating "[r]eal-world decisions under uncertainty are better captured and guided by fast and frugal heuristics than normative and complex decision models such as Bayesian models, multiple regressions, and expected utility functions," and combining a "trust-as-choice approach with fast and frugal choice heuristics" to examine certain human resources practices.).

[231] Langevoort, *supra* note 6, at 997 (citing Tiffany Barnett White, *Consumer Trust and Advice Acceptance: The Moderating Roles of Benevolence, Expertise and Negative Emotions*, 15 J. CONSUMER PSYCHOL. 141, 141–43 (2005)).

[232] Note, however, both general literature and our survey results suggest the inclination to trust (and decisions about what and who to trust) varies both within and across different demographic populations. *See generally* Edward Glaeser et al., *Measuring Trust*, 115 Q. J. ECON. 811 (2000).

[233] Lumpkin, *supra* note 17, at 5 ("Economic exchange, in general, and financial transactions in particular rely on trust and confidence.").

[234] *See* Guiso, Sapienza & Zingales, *supra* note 225, at 2558.

[235] *Id.*

trust completely."[236] "On average, people reported they trust "other people" the most (3.33), followed by banks (2.95), bankers (2.60), the government (2.37), large corporations (2.22), and finally the stock market (2.13).[237] Among respondents who said they planned to divest from the stock market, the average trust in the market measured in at 1.62.[238] By contrast, the trust level for those who planned to leave their investment unchanged was 2.13.[239] The level of trust increased to 2.90 for people who planned to increase their stock investment.[240]

Because assessing trustworthiness can be difficult or time consuming, particularly in complex areas (like investing), people often rely on proxies or simplifying heuristics to assess credibility—e.g., a title, professional certification, employment by a trusted institution, or shared professional, social, or personal ties—in lieu of personally examining "detailed, complex, and reliable information that cannot be accessed either at all or except at substantial economic and time costs."[241] For example, an investor considering whether to purchase a bond might consider whether the bond has been rated by a rating agency (e.g., Standard & Poor's) versus personally examining the financial condition of the issuer, the terms of the offering, or market conditions.[242] A bond buyer also might decide to purchase a professionally managed bond fund versus taking the time to locate and perform due diligence on a list of potentially suitable options. Likewise, when choosing a financial intermediary, an investor might rely upon the recommendation of a family member or friend, or the intermediary's employment at a reputable firm, rather than personally

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[236] Paola Sapienza & Luigi Zingales, *The Results: Wave 1*, FIN. TR. INDEX (Jan. 27, 2009), http://www.financialtrustindex.org/resultswave1.htm [https://perma.cc/2UAU-XPUX].

[237] *Id.*

[238] *Id.*

[239] *Id.*

[240] Sapieza and Zingales found highly significant differences in trust among these groups. *Id.*

[241] H. KENT BAKER & VICTOR RICCIARDI, INVESTOR BEHAVIOR: THE PSYCHOLOGY OF FINANCIAL PLANNING AND INVESTING 48 (2014).

[242] *Id.*; *see also* Steven L. Schwarcz, *Regulating Complexity in Financial Markets*, 87 WASH. U. L. REV. 211, 222 (2009) (observing even professional investment analysts "often resort to simplifying heuristics, such as credit ratings, as substitutes for attempting fully to understand the investments being analyzed," especially for complex investments or markets).

reviewing the intermediary's background, training, experience, or disciplinary history.[243]

Doing business in trusted markets and with a trusted counterparty is not, of course, a bad idea. The trust heuristic may well be "an efficient decision-making tool," after all, and some scholars argue it "appears to achieve economic results that are often superior to those obtained when relying on conventional search and information gathering processing decision-making tools."[244] The problem with the trust heuristic as a decisionmaking strategy, however, is that fraudsters behind so-called affinity investment scams know how to exploit "the trust and friendship that exist in groups of people who have something in common."[245] In an affinity scam, a fraudster targets a particular group, preying on the tendency of investors to use kinship and shared group membership as a proxy for trustworthiness.[246] Affinity scammers have long used this strategy to target victims based on kinship, social, or professional ties;[247] religious ties;[248] shared membership in groups associated with ethnicity, race, or national origin; and shared military background,[249] among other connections.[250] For example,

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[243] BAKER & RICCIARDI, *supra* note 241, at 48 ("Individuals often will invest with family, friends, and members of their community or religious groups because they believe that these individuals can be trusted.").

[244] *Id.*; *see also* GERD GIGERENZER, GUT FEELINGS: THE INTELLIGENCE OF THE UNCONSCIOUS 26–39 (2007) (arguing that more information is not better under certain conditions).

[245] SEC OFFICE OF INV'R EDUC. & ADVOCACY, INVESTOR ALERT: AFFINITY FRAUD (June 2014) [hereinafter AFFINITY FRAUD], https://www.sec.gov/files/ia_affinityfraud.pdf [https://perma.cc/32ZM-7WV2] (defining affinity fraud and warning against fraud in the securities market); *see also* BAKER & RICCIARDI, *supra* note 241, at 48 (arguing that people seek trust and relationships rather than financial metrics when making investment decisions).

[246] AFFINITY FRAUD, *supra* note 245.

[247] *See, e.g.*, Complaint, SEC v. Lion Capital Mgmt., No. C 12 5116, 2012 WL 4628029 (N.D. Cal. 2013) (setting forth a SEC enforcement action alleging a hedge fund manager used the fund to misappropriate over $350,000 from a retired schoolteacher who considered the manager a close family friend and believed him to be a successful money manager).

[248] *See Fleecing the Flock: The Big Business of Swindling People Who Trust You*, ECONOMIST (Jan. 28, 2012), http://www.economist.com/node/21543526 (describing a scheme where fraudsters posed as Mormons to swindle others into giving them money).

[249] *See, e.g.*, Carol Kando-Pineda, *Are They Your Battle Buddy—Or Just Unbelievable?*, FED. TRADE COMMISSION (Aug. 27, 2015), https://www.

Bernard Madoff, one of the most notorious fraudsters of recent years, exploited his connections to Jewish charitable and philanthropic organizations and his victims' shared sense of communal Jewish identity to recruit victim/investors for his Ponzi scheme.[251]

As the SEC Staff has observed, because of the tight-knit nature of some groups, victims may be reluctant to report affinity fraud, particularly where fraudsters have used respected leaders within the group to recruit investors.[252] Because affinity frauds involve a breach of trust as well as financial loss, they can have devastating financial and non-financial consequences for investor/victims.[253] In the Madoff case, for example, victims were emotionally devastated by Madoff's betrayal.[254] As one victim of Madoff's fraud explained in her victim impact statement, "I can't tell you how scattered we feel—it goes beyond financially. It reaches to the core and affects your general

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consumer.ftc.gov/blog/are-they-your-battle-buddy-or-just-unbelievable [perma.cc/L2YT-MJY2] (outlining ways veterans can be tricked into affinity fraud scams); *Scams that Target Veterans*, WOUNDED WARRIOR PROJECT, www.woundedwarriorproject.org/media/2603/scams-that-target-veterans.pdf [perma.cc/M9RR-CNLM] (warning veterans of affinity fraud and outlining reasons veterans are vulnerable).

[250] *See*, AFFINITY FRAUD, *supra* note 245.

[251] *See* Emily G. Owens & Michael Shores, *Informal Networks and White Collar Crime: Evidence From the Madoff Scandal* (Aug. 2010) (unpublished paper) (available at http://ssrn.com/abstract=1742363) (observing there were more investors in Madoff's vehicles in areas where residents were more likely to share informal ties—e.g., shared religious faith—with Madoff); *see also* Harold A. Pollack, *Why Were So Many Madoff Victims Jewish?*, ATLANTIC (Feb. 28, 2016), https://www.theatlantic.com/business/archive/2016/02/madoff-jewish-affinity-fraud/460446/ [https://perma.cc/3Z69-ZU94].

[252] *See* AFFINITY FRAUD, supra note 245.

[253] *See, e.g.*, APPLIED RESEARCH & CONSULTING, NON-TRADITIONAL COSTS OF FINANCIAL FRAUD: REPORT OF SURVEY FINDINGS 5 (2015), https://www.saveandinvest.org/sites/default/files/Non-Traditional-Costs-Of-Financial-Fraud-Survey-Findings.pdf [https://perma.cc/36EZ-DPF4] ("Non-financial costs of fraud (e.g., stress, health problems, etc.) are widespread among victims of financial fraud. Nearly two-thirds (65 percent) report experiencing at least one type of non-financial cost to a serious degree.").

[254] *See* Letter from Lev L. Dassin, Acting U.S. Att'y., to Denny Chin, Judge, U.S. Dist. Court S.D.N.Y. 11 (June 12, 2009), https://sc.cnbcfm.com/applications/cnbc.com/resources/editorialfiles/2012/05/03/2226636_Madoff.pdf [https://perma.cc/PH7Q-UW33] (providing victim impact statements for use at Madoff's sentencing).

faith in humanity, our government and basic trust in our financial system."[255] Others spoke of "indescribable" "emotional, physical and psychological devastation."[256] One used "rape" to describe Madoff's fraud.[257]

2. *Other Biases, Heuristics, and Behaviors Reflecting Investor Preference for the Known, Familiar, and Like-Minded*

Apart from the trust heuristic, there are other decisionmaking biases and heuristics reflecting our preference for the known, trusted, and familiar. For example, researchers have observed individual investors exhibit a *home bias* or *local bias*, meaning a tendency to invest in home markets, companies located near investors' homes, and even in the stock of their own corporate employers.[258] The home bias may result in portfolios that are less diversified and potentially riskier than recommended by standard models.[259]

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[255] *Id.*

[256] *Id.* at 5; *see also id.* at 30 ("The agony and the stress . . . has been unbelievable. I don't know which emotion is more destructive, the fear and anxiety or the major depression that I experience daily.").

[257] Mark Seal, *Madoff's World*, VANITY FAIR (Mar. 4, 2008), https://www.vanityfair.com/news/2009/04/bernard-madoff-friends-family-profile [https://perma.cc/M925-3WJ3] ("'Whether it's Latino or black or Jewish or Christian, everybody wants to trust their own. Bernie Madoff took our trust and raped it,' said Borovitz. 'He took advantage of every vulnerability, because he knew our vulnerable spots.'").

[258] Lauren Cohen, *Loyalty Based Portfolio Choices,* 22 REV. FIN. STUD. 1213, 1213 (2009) (finding employees bias the allocation of their 401(k) plans in favor of their employer's stock); Gur Huberman, *Familiarity Breeds Investment*, 14 REV. FIN. STUD. 659, 659 (2001) (finding shareholders of Regional Bell Operating Companies tended to live in areas served by the company); John R. Graham et al., *Investor Competence, Trading Frequency, and Home Bias* 1 (May 29, 2006) (Am. Fin. Ass'n 2006 Meetings, Working Paper), http://ssrn.com/abstract=620801; *see also* NOFSINGER, *supra* note 13, at 88–93; Guiso, Sapienza & Zingales, *supra* note 225, at 2562 (arguing the home bias may be linked to their trust-based explanation for participation in equity markets).

[259] *See* NOFSINGER, *supra* note 13, at 92–93; K.R. French & J.M. Poterba, *Investor Diversification and International Equity Markets,* 81 AM. ECON. REV. 222–26 (1991).

Our preference for the familiar may also be reflected in our tendency (these days aided and abetted by social media algorithms) to make decisions in echo chambers, online communities, or venues where decisions-makers both seek out and are surrounded only by others voicing like-minded views.[260] This can skew—sometimes dramatically—the available mix of information and, potentially, decision-makers' choices. Consider the example of the 2016 presidential election. In a post-election study of over 1.25 million stories published online between April 1, 2015 and Election Day, researchers examined how voters interacted with traditional and non-traditional media sources about the candidates. Researchers found a "right-wing media network anchored around Breitbart developed as a distinct and insulated media system, using social media as a backbone to transmit a hyper-partisan perspective to the world."[261] Whereas pro-Clinton audiences were "highly attentive to traditional media outlets, which continued to be the most prominent outlets across the public sphere, alongside more left-oriented online sites," pro-Trump audiences "paid the majority of their attention to polarized outlets that have developed recently, many of them only since the 2008 election season."[262] Breitbart thus became the "center of a distinct right-wing media ecosystem, surrounded by Fox News, the Daily Caller, the Gateway Pundit, the Washington Examiner, Infowars, Conservative Treehouse, and Truthfeed."[263] With Breitbart as its anchor, the "pro-Trump media sphere appears to have not only successfully set the agenda for the conservative media sphere, but also strongly influenced the broader media agenda, in particular coverage of Hillary Clinton."[264] The perception of Secretary Clinton as dishonest by some voters and the media focus on her email server and events in Benghazi appear to have shaped both the choice environment and the decisions of some voters.

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[260] Shiliang Tang, et al., *Echo Chambers in Investment Discussion Boards*, (Apr. 10, 2017) (unpublished paper) (available at www.microsoft.com/en-us/research/wp-content/uploads/2017/03/investment-echo-chambers.pdf [https://perma.cc/94V3-4F94]).

[261] Yochai Benkler et al., *Study: Breitbart-Led Right-Wing Media Ecosystem Altered Broader Media Agenda*, COLUM. JOURNALISM REV. (Mar. 3, 2017), https://www.cjr.org/analysis/breitbart-media-trump-harvard-study.php [https://perma.cc/LY3Y-YUTZ].

[262] *Id.*

[263] *Id.*

[264] *Id.*

Researchers have observed a similar tendency to create self-reinforcing echo chambers in the investment community anchored around particularly loud voices.[265] For example, one study examined the quality of information and communication in online investment decision boards and found "positivity bias and skewed risk/reward assessments, exacerbated by the insular nature of the community and its social structure, contribute to underperforming investment advice and unnecessary trading."[266] As was the case with Breitbart and its network of ideologically-affiliated outlets in the lead-up to the election, researchers found a "majority of market sentiment [on investor message boards] is produced by a small number of community leaders."[267] Researchers also found members "actively resist negative sentiment, thus minimizing viewpoint diversity."[268] Researchers found the tendency to cluster around dominant voices and minimize viewpoint diversity caused 50–70 percent of users to underperform the market average.[269] Mindful of these consequences, researchers recommended a variety of steps to improve the information content of online message boards, including "minimiz[ing] friction around incorporating new information and provid[ing] performance feedback for self-correction."[270]

The tendency to surround ourselves with like-minded people and downplay or dismiss dissenting voices may also be reflected in so-called *herding* behavior and *confirmation bias*, both of which have been observed with investors.[271] Herding refers to the tendency of investors to follow or mimic the actions of a larger group, such as an investment club or circle, when deciding whether to buy or sell a particular asset.[272] Investors tend to "herd" around dominant voices,

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[265] Tang et al., *supra* note 260.
[266] *See id.*
[267] *Id.*
[268] *Id.*
[269] *Id.*
[270] *Id.*
[271] David Scharfstein & Jeremy Stein, *Herd Behavior and Investment*, 80 AM. ECON. REV. 465, 465 (1990) (detailing the roots of herding theory and the example effect it has on stock trading).
[272] *See, e.g.*, *id.*; Kenneth A. Froot et al., *Herd on the Street: Informational Inefficiencies in a Market with Short-Term Speculation*, 47 J. FIN. 1461, 1464 (1992) (showing short-term investments herding can be focused on particular sources of information); Russ Wermers, *Mutual Fund Herding and the Impact*

and herding occurs even though individual investors might make different decisions if not part of the group.[273] Likewise, *confirmation bias* refers to the tendency of investors to look for confirming facts and to overlook or discount facts or narratives that do not match up with what the investors believes to be the "truth."[274] Both herding and confirmation bias have been linked to suboptimal investment returns.

3. Trust, Familiarity, and Survey Results

Survey results suggest, just as with investing, trust and perceived credibility may also drive information-seeking behavior. As noted above, approximately 82 percent of survey respondents say they think about perceived credibility when deciding whether to seek or use pre-transaction research or advice. Additionally, 55 percent of respondents say they get pre-transaction research material from their chosen financial intermediaries, the group that earned the highest marks for perceived credibility. These findings line up with what Gerd Gigerenzer describes as our tendency to use trust as the "mother of all rules of thumb."[275] As Gigerenzer notes, we first "establish a relationship of trust or distrust" with a source.[276] Once we decide to trust a source, we tend to follow that source's advice[277] even in situations where we have not confirmed whether the source actually knows what they are talking about.[278] With investing, this means once we decide to trust a source, we are more likely to seek information or advice from the source and less likely to question its relevance or reliability.

There are many potential consequences of this behavior. Retail investors who use trust as a rule of thumb when making choices about financial information or investment advice may become less

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on Stock Prices, 59 J. FIN. 581, 583 (1994) (explaining an inquiry can look at the effect of mutual fund herding on stock prices).

[273] Scharfstein & Stein, supra note 271.

[274] *See* Raymond S. Nickerson, *Confirmation Bias: A Ubiquitous Phenomenon in Many Guises*, 2 REV. GEN. PSYCHOL. 175, 175 (1988) (explaining confirmation bias "refers usually to unwitting selectivity in the acquisition and use of evidence").

[275] GIGERENZER, *supra* note 192, at 99.

[276] *Id.* Gigerenzer notes we often use surface clues (e.g., eye contact or demeanor) to assess trustworthiness. *Id.* at 101–02.

[277] *Id.* at 99.

[278] *Id.*

vigilant around sources who they already trust. As a result, investors may be less attuned to conflicts of interest involving these sources or less likely to notice a source is incompetent, unethical, or both. The tendency to be less vigilant around trusted sources may pave the way for affinity fraudsters and other wrongdoers to conceal misconduct or exploit trust relationships for financial gain. Investors using trust as a rule of thumb in information-seeking behavior may also be more likely to ignore or discount educational programming or investor protection initiatives from the SEC or other regulators deemed less credible by these investors. These investors may be systematically losing out on a wealth of unbiased information about money and investing in favor of information and advice from sources that, while trusted, may suffer from conflicts of interest, may not have an obligation to put the investor's interest first, or both.

B. Optimism and Confidence/Overconfidence

1. The Overconfidence Bias

Another well-documented behavioral bias relates to confidence/over-confidence. Literature demonstrates people tend to be unreasonably optimistic and overconfident in their decisionmaking skills, including their investing skills.[279] Overconfidence in this context refers to overestimating one's abilities, the precision of one's knowledge, and one's future prospects, while also believing one can affect future outcomes to a greater extent than is actually possible.[280] Overconfidence may involve self-attribution bias, whereby people

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[279] *See, e.g.*, Barber & Odean, *supra* note 12, at 790 ("It is well documented that people tend to be overconfident . . . ."); Gervais & Odean, *supra* note 191, at 22 ("A large literature demonstrates that people are usually overconfident . . . .").

[280] *See*, *e.g.*, Barber & Odean, *supra* note 12, at 773; Brad Barber & Terrance Odean, *Boys Will Be Boys: Gender, Overconfidence, and Common Stock Investing*, 116 Q. J. ECON. 261, 261 (2001); Kent Daniel & David Hirshleifer, *Overconfident Investors, Predictable Returns, and Excessive Trading*, 29 J. ECON. PERSP. 61, 62 (2015); Gervais & Odean, *supra* note 191, at 2; Terrance Odean, *Volume, Volatility, Price and Profit When All Traders Are Above Average*, 53 J. FIN. 1887, 1888 (Dec. 1998).

"credit their own talents and abilities for past successes, while blaming their failures on bad luck."[281]

While confidence is not, of course, a bad thing in investing, *over*confident investors are more likely to take excessive risk and trade excessively, believing their skill will enable them to navigate risks and trading transaction costs.[282] While risk-taking can lead to outsized returns, excessive risk-taking can also result in volatility, reduced returns, or investment losses if risks do not pan out.[283] Moreover, since investors may be charged a fee per transaction, excessive trading can cause fees and expenses to eat away at investment returns.[284] Researchers have found male investors, particularly young male investors, are more likely to fall into the overconfidence trap compared to their female counterparts.[285]

2. Confidence, Risk-Taking, and Survey Results

The survey did not evaluate whether respondents were appropriately confident (versus over-confident), nor did it seek to evaluate whether confidence was linked to trading frequency, volatility, or returns. That said, survey results suggest respondents who self-identi-

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[281] Daniel, *supra* note 280, at 62.

[282] Barber & Odean, *supra* note 12, at 774. According to Barber and Odean, "[o]verconfidence increases trading activity because it causes investors to be too certain about their own opinions and to not consider sufficiently the opinions of others." Barber & Odean, *supra* note 11, at 47. "Overconfident investors also perceive their actions to be less risky than generally proves to be the case." *Id.*

[283] Terrance Odean, *supra* note 12, at 1280.

[284] *See, e.g.*, Barber & Odean, *supra* note 12, at 774 (finding "overconfidence leads to excessive trading" and higher frequency retail investors earn lower returns versus lower frequency traders); *id.* at 800 (concluding that high-turnover trading households underperform averages due to costs associated with trading and "high levels of trading can be at least partly explained by a simple behavioral bias: People are overconfident, and overconfidence leads to too much trading.").

[285] *See, e.g.*, Barber & Odean, *supra* note 12, at 51 ("We expected men, the more overconfident group, to trade more actively than women and, in doing so, to detract more than women from their net return performance . . . . [M]en traded 45 percent more actively than women (76.9 percent versus 52.8 percent turnover annually), and men reduced their net annual returns through trading by 0.94 pps more than women.").

fied as confident share certain characteristics with investors who have been shown to take more risks or to trade more frequently. Specifically, respondents who described themselves as confident are more likely to be male, more likely to say they are comfortable taking financial risks, and less likely to seek out third-party advice. To the extent scholars and legal systems point to education by third party sellers of financial goods and services (here, advice) as a mistake-reducing force, these survey results raise questions about whether confident investors are less likely to seek out or benefit from this material.

VI. Limits on Education and Learning as De-Biasing Tools or Mistake-Reducing Forces?

Faced with the reality of decisionmaking biases, misperceptions, and mistakes, some scholars and legal regimes (including the federal securities laws) focus on consumer learning and education by sellers as de-biasing strategies and mistake-correcting forces. There are three key assumptions underlying this approach: (i) sellers will, in fact, seek to educate consumers;[286] (ii) consumers can and do learn from both sellers and their own past mistakes (and the mistakes of others); and (iii) education and learning have the potential to change behavior and/or improve outcomes. While these assumptions have merit, there are problems and challenges, too.

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[286] Sanford J. Grossman, *The Informational Role of Warranties and Private Disclosure About Product Quality*, 24 J. LAW & ECON. 461, 461–83 (1981); Sanford J. Grossman & O.D. Hart, *Disclosure Laws and Takeover Bids*, 35 J. FIN. 323, 323–34 (1980); W. Kip Viscusi, *A Note on "Lemons" Markets With Quality Certification*, 9 BELL J. ECON. 277, 277–79 (1978); Ginger Zhe Jin et al., *Is No News (Perceived As) Bad News? An Experimental Investigation of Information Disclosure* 2 (2015) (Nat'l Bureau Econ. Res., Working Paper 21099), http://www.nber.org/papers/w21099.pdf [https://perma.cc/6CTN-HNRQ] ("A central tenet of the economics of information is that market forces can drive firms to voluntarily and completely disclose . . . information . . . . The mechanism behind this idea is simple: consumers treat all non-disclosing companies the same, so the best businesses among those will have an incentive to separate themselves through disclosure.").

A. In Some Markets, Sellers Are Likely to Exploit Consumer Misperceptions and Mistakes

When it comes to investment products and services, there are undoubtedly sellers seeking to educate consumers to capture "the gains of correction" in the form of market share, business, and the like. Unfortunately, however, this is not always the case. Instead, in some markets, sellers may respond strategically to consumer misperceptions and mistakes in pursuit of financial gain.[287] Professors Gabaix and Laibson argue firms have an incentive to hide (or, as they put it, "shroud") negative information about their products or services in markets where "myopic" consumers [288] incompletely analyze future preferences, choices, and behaviors.[289] In such markets, sellers are more likely capitalize on the mistakes consumers inevitably make than to correct them.[290] Gabaix and Laibson describe this as the "curse of debiasing" or the "curse of education," because from the perspective of the sellers, educating consumers makes them less profitable. Gabaix and Laibson argue in markets where de-biasing is a curse from the seller's perspective, sellers tend not to educate consumers about their mistakes and they are not likely to root out consumer misperceptions or errors.[291]

Not surprisingly, many of the markets where curse of debiasing appears to exist involve financial decisions, complex goods or services, or both. For example, Professor Bar-Gill has argued cell phone carriers "design their contracts in response to systemic mistakes

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[287] Xavier Gabaix & David Laibson, *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*, 121 Q. J. ECON. 505, 505–06 (2006) (explaining competition may allow some firms to use another firm's exploitation of consumers for financial gain).

[288] Myopia in true context refers to a "tendency in decision makers to focus on information immediately related to their choice or judgment and to ignore other (e.g., background) information." Christopher K. Hsee et al., *Medium Maximization*, 30 J. CONSUMER RES. 1, 2 (June 2003).

[289] Gabaix & Laibson, *supra* note 287, at 501.

[290] *Id.* at 502 (explaining in some markets, firms are more likely to hide information from consumers). Oren Bar-Gill argued "such a strategic response to consumer misperception gives sellers a strong incentive to create multidimensionality." Oren Bar-Gill, *supra* note 6, at 769.

[291] Gabaix & Laibson, *supra* note 287; *see also* Heidhues, Köszegi & Murooka, *supra* note 28, at 45 (pointing out "server limitations" to "safety in-markets" argument and arguing "that there is a potential role for active consumer protection policies.").

and misperceptions of their customers," resulting in complex cell phone contracts that are difficult to compare, thus "impos[ing] welfare costs on consumers, [and] reducing the net benefit that consumers derive from wireless service."[292] Bar-Gill argues credit card providers also have incentives to shape products and services around consumer's "systematic deviations from perfect rationality," and "[a]bsent legal intervention, the sophisticated seller will often exploit the consumer's behavioral biases."[293] Bar-Gill identified incentives for complexity and exploitation in the mortgage market as well,[294] noting existing structures disincentivize mortgage brokers from being loyal agents,

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[292] Oren Bar-Gill & Rebecca Stone, *Mobile Misperceptions*, 23 HARV. J. L. & TECH. 49, 51 (2009).

[293] *See also* Oren Bar-Gill, *Seduction by Plastic*, 98 NW. U. L. REV. 1373 (2004).

> The contracts are designed so that borrowers who underestimate their taste for immediate gratification both pay the penalties and repay in an ex ante suboptimal back-loaded manner more often than they predict or prefer. To make matters worse, the same mis-prediction leads nonsophisticated consumers to underestimate the cost of credit and borrow too much—despite borrowing being for future consumption. And because the penalties whose relevance borrowers mis-predict are large, these welfare implications are typically large even if borrowers mis-predict their taste for immediate gratification by only a little bit and firms observe neither borrowers' preferences nor their beliefs. Accordingly, for any positive proportion of nonsophisticated borrowers in the population, a policy of disallowing large penalties for deferring small amounts of repayment—akin to recent new US regulations limiting prepayment penalties on mortgages and certain interest charges and fees on credit cards—can raise welfare.

Paul Heidhues & Botond Köszegi, *Exploiting Naïvete about Self-Control in the Credit Market*, 100 AM. ECON. REV. 2279, 2280 (2010).

[294] *See* Oren Bar-Gill, *The Law, Economics and Psychology of Subprime Mortgage Contracts*, 94 CORNELL L. REV. 1073, 1122 (2009) ("Increased complexity may be attractive to lenders, as it allows them to hide the true cost of the loan in a multidimensional pricing maze."); *see also id*. at 1126–27 (arguing lenders' incentive to increase complexity and hide fees will be stronger in a market with imperfectly rational borrowers).

and also noting the complexity of mortgage products means that both consumers and "so-called experts often get it wrong."[295]

As is true of cell phone users, credit card holders, and those paying off mortgages, retail investors may well be the sort of myopic consumers that Gabaix, Laibson, and Bar-Gill describe, since product complexity and investors' bounded rationality may make it difficult to estimate or perform the calculations needed to chart the most economically rational path forward. In addition, as discussed in Section II, financial intermediaries are incentivized to favor complexity over simplicity in financial products and services. These incentives may be magnified—or at least left largely unchecked—by generally low levels of financial literacy and a governing legal and regulatory regime that does not always require the intermediary to put the interests of the investor first. For such reasons, there is reason to believe the debiasing curse may exist in the financial services market. Thus, financial intermediaries may have incentive to strategically respond to consumer misperceptions and mistakes rather than educate consumers about investment matters.

B. Challenges for Consumers Seeking to Learn from Experience

For similar reasons, investors seeking to learn from their mistakes or the mistakes of others also face challenges. As Bar-Gill has observed, the speed with which a consumer learns about latent risk associated with a product depends on how frequently he or she uses the product and how frequently the risk materializes. If a risk is remote or the number of transactions is low, it may take many years before a consumer learns about the risk.[296] Learning may also be slower than anticipated if goods and services are non-standard because "the information obtained by one consumer might not be relevant to another consumer who purchased a different version of the nonstandard good."[297] The attribution bias may also interfere with learning.[298]

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[295] *Id.* at 1128–29.

[296] Bar-Gill, *supra* note 6, at 755–56.

[297] *Id.* at 756–57; *see also* Bar-Gill, *supra* note 294, at 1128 (arguing learning is slower in the mortgage market because transactions are not frequently repeated).

[298] Gervais & Odean, *supra* note 191, at 1 (internal citations omitted); *see also id.* at 2; Barber & Odean, *supra* note 12, 773 (finding, to the extent trading by

Finally, mistakes in consumer estimates of use patterns also can impact consumer learning.[299] For example, research suggests consumers regularly mis-predict use patterns involving credit cards.[300] In one study, a majority of consumers who accepted credit offers with low (but limited duration) teaser rates did not switch to a new card with a low (teaser) rate when the initial teaser period expired, even though their debt did not decline and their payments therefore increased.[301] Another study showed consumers paid high interest rates on credit card balances while holding liquid assets yielding low returns.[302] Yet another study found that individuals borrow more on their credit cards than they "actually would prefer to borrow given their long-term objectives."[303]

There are a number of possible reasons for these mistakes. It may be consumers did not fully understand the terms at issue, and thus did not appreciate the economic consequences of their decisions.[304] It

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individual investors is motivated by overconfidence, higher trading will correlate with lower profits).

[299] Bar-Gill, *supra* note 6, at 756–58.

[300] *Id.* at 761–65; *see also* Stefano DellaVigna & Ulrike Malmendier, *Paying Not to Go to the Gym*, 96 AM. ECON. REV. 694 (2006) (finding consumers tend to mis-predict gym usage).

[301] Bar-Gill, *supra* note 6, at 761–62 (citing Haiyan Shui & Lawrence M. Ausubel, *Time Inconsistency in the Credit Card Market* 2–3 (May 3, 2004) (unpublished paper) (available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=586622)). This study also found consumers preferred credit cards with lower rates, though the rate was only good for six months, over cards with a slightly higher rate, but one that was good for 12 months—even if the decision to select the credit card with the six-month teaser rate meant the consumer paid more in interest over the course of a year. *Id.* at 762–63.

[302] *Id.* at 764 (citing David B. Gross & Nicholas S. Souleles, *Do Liquidity Constraints and Interest Rates Matter for Consumer Behavior? Evidence from Credit Card Data*, 117 Q. J. ECON. 149 (2002)).

[303] *Id.* at 765 (citing Stephen Meier & Charles Sprenger, *Impatience and Credit Behavior: Evidence from a Field Experiment* (Fed. Reserve Bank of Bos., Working Paper No. 07-03, 2007), https://www.econstor.eu/bitstream/10419/55628/1/568822617.pdf [https://perma.cc/AQP6-727J]). Other studies also point to systematic and persistent consumer mistakes regarding credit cards. *See*, *e.g.*, Sumit Agarwal et al., *Do Consumers Choose the Right Credit Contracts?*, 4 REV. CORP. FIN. STUD. 239 (2015) (finding 40 percent of consumers chose suboptimal contracts).

[304] As with credit cards users, imperfectly rational mortgage borrowers also find it difficult (if not impossible) to accurately assess the nuances of their

may be consumers did not appreciate the lower teaser rate would or had expired while they still carried a balance from month to month.[305] Consumers may have also underestimated how frequently they would carry a balance from month to month and, thus, how often they would be required to pay interest on credit card debt.[306] Consumers with liquid assets earning low return rates may not have realized or understood they would have been better off financially had they used those assets to pay down their high interest credit card debt.[307] Whatever the reason, mistakes regarding use patterns or ignorance of the economic consequences of actual use patterns (or both) resulted in higher costs or fees.[308]

Many of these potential learning barriers exist for retail investors, as well. As is true of the market for cell phones, credit cards, and residential mortgages, securities and other investments are complex products that require investors to make estimates and perform complicated calculations to understand financial impact over time.[309] Low levels of financial literacy mean some investors may have difficulty making these estimates and performing necessary calculations.[310]

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mortgage contracts. *See* Bar-Gill, *supra* note 294, at 1121. Several empirical studies suggest borrowers often do not understand mortgage terms and make decisions one would not expert of perfectly rational decisionmakers. *Id.* at 1124.

[305] *See id.* at 1119 ("When future costs are underestimated, contracts with deferred-cost features become more attractive to borrowers and thus to lenders.").

[306] *See id.* at 1120 (discussing reasons for systematic underestimation of future costs).

[307] *See id.* ("Escalating-payments contracts are similarly attractive to myopic borrowers, who place excessive weight on the initial low payments and insufficient weight on the future high payments.").

[308] *See id.* at 1121 ("Myopia and optimism explain why short-term affordability, rather than rational, long-term affordability, took center stage in the subprime and Alt-A markets.").

[309] *See* Thomas Lee Hazen, *Public Policy: Rational Investments, Speculation, or Gambling?—Derivatives Securities and Financial Futures and Their Effect on the Underlying Capital Markets.*, 86 NW. U. L. REV. 987 (1992) (showcasing the speculation required by investors in securities to understand financial impacts over time).

[310] The author notes the generally low level of financial literacy in the United States, particularly "among younger Americans, those with household incomes below $25,000 per year, and those with no post-secondary educational experience." FINRA INV'R EDUC. FOUND., FINANCIAL CAPABILITY IN THE

Moreover, because financial products and services tend to be both complex and heterogeneous, investors may find it difficult to compare products or to learn from their own mistakes or the mistakes of others.[311] Learning from experience may be slower than anticipated for the additional reason that retail investors may not invest or trade frequently, and thus may not have much experience upon which to draw. Any of these biases or potential misperceptions or mistakes has the potential to increase fees or to reduce investor returns, or both.[312]

C. Limits of Disclosure as a De-Biasing Tool, Investor Protection Strategy

Finally, literature suggests education and learning via disclosure—the foundation of the securities law investor protection regime[313]—may not always be as effective as one might hope in debiasing investors or in reducing misperceptions and mistakes. The underlying assumption of the disclosure-based regime of the federal securities laws is that investors are rational[314]—that is, that investors will make rational use of disclosed material to make optimal, wealth-

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UNITED STATES 2016 3 (2016), http://www.usfinancialcapability.org/downloads/NFCS_2015_Report_Natl_Findings.pdf [https:// perma.cc/344G-UXAQ]. Financial literacy (or the lack thereof) has been linked to several outcomes, including wealth accumulation, stock market participation, retirement planning, and using high-cost alternative financial services like payday lending and auto title loans. *See* Gary R. Mottola, *In Our Best Interest: Women, Financial Literacy, and Credit Card Behavior*, 6 NUMERACY 1 (2013).

[311] *See* Bar-Gill, *supra* note 294, at 1122 ("Limited processing ability might prevent borrowers from accurately aggregating the different price components into a single, total expected price that would serve as the basis for choosing the optimal loan.").

[312] *See id.* at 1122.

[313] *See*, *e.g.*, Dalley, *supra* note 97, at 1094-99 (explaining that the purposes of disclosure-based systems include reducing information asymmetries and regulating lawful conduct, among other objectives); Paredes, *supra* note 3, at 422 ("Our federal securities laws are designed to protect investors and the integrity of the capital markets by mandating disclosure . . . ."); *see also* Avgouleas, *supra* note 33, at 6–7 (explaining six reasons why disclosure has been thought of as a potent tool of financial market regulation).

[314] Paredes, *supra* note 3, at 444–45.

maximizing decisions.[315] There are two problems with this approach: investors do not always make rational use of available information, and even when armed with information, they also do not always make optimal, wealth-maximizing decisions.[316]

There are many reasons why investors may find it difficult to make efficient, rational use of disclosure information or advice. Once again, low levels of financial literacy and lack of understanding of financial and investment concepts may make it difficult for some investors to make sense of disclosed material or to know how to use it.[317] Relatedly, disclosures may be confusingly drafted or ill-timed, causing investors to overlook, misunderstand, or ignore them.[318] These risks may be magnified when the underlying product or service is complex, as is generally the case for investments and other financial goods and services.[319] (William O. Douglas argued years ago that because equity investments are by their nature risky and complicated, it is difficult (if not impossible) to write understandable disclosure documents in the first place.[320]) Finally, disclosures may run up against

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[315] *See id.* at 418; *see also id.* at 424 (discussing the link between the federal mandatory disclosure regime and efficient capital market hypothesis). *But cf.* Avgouleas, *supra* note 33, at 2–3.

[316] *See*, *e.g.*, Paredes, *supra* note 3, at 418 (positing that the assumption that investors are perfectly rational is in fact not true). For an overview of investors' use of disclosed information under the securities laws, given bounded rationality and limited cognitive abilities, see *id.* at 434–43.

[317] *See* FINANCIAL CAPABILITY IN THE UNITED STATES 2016, *supra* note 310, at 3 ("The percentage of respondents who are able to answer at least 4 of 5 financial literacy quiz questions correctly shows a slight downward trend since 2009, despite the fact that Americans' perceptions of their own financial knowledge have become more positive over the same time period.").

[318] For example, researchers found providing the Summary Prospectus to investors—a shorter and theoretically more "digestible" disclosure document than the full prospectus—did not change retail investors' mutual fund selections and did not make investors behave more rationally with respect to loads and redemption fees. John Beshears et al., *How Does Simplified Disclosure Affect Individuals' Mutual Fund Choices* (Nat'l Bureau of Econ. Research, Working Paper No. 14859, 2009).

[319] *See* Steve L. Schwarcz, *Rethinking the Disclosure Paradigm in a World of Complexity*, 2004 U. ILL. L. REV. 1, 4–5 (2003).

[320] *See* William O. Douglas, *Protecting the Investor*, 23 YALE REV. 521, 523–24, 527 (1934) (discussing the inherent difficulties in making effective disclosures); *see also* Schwarcz, *supra* note 319, at 12–10 (2004) ("[F]ull disclosure of structured transactions does not, as a practical matter, provide

persistent decisionmaking biases, misperceptions or mistakes, with the result that investors may discount or ignore disclosed material.[321] In this regard, researchers from the emerging fields of neurofinance and neuroeconomics have begun to explore potential links between brain activity and financial decisionmaking using fMRI machines[322] and other devices capable of examining brain activity while subjects make decisions.[323] While evidence from this field is relatively new, research suggests some biases, misperceptions, and mistakes associated with decisionmaking in the face of risk, time pressure, or complexity,

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investors . . . with sufficient opportunity to evaluate the merits of an investment. Moreover, most investors do not have the ability to evaluate structured transactions.").

[321] For example, in one study, researchers found disclosures regarding conflicts of interest did not improve decision-making because those who received the disclosures failed sufficiently to discount the conflicted advice, and thus failed to mitigate the adverse effects of disclosed bias. Daylian M. Cain, George Loewenstein & Don Moore, *When Sunlight Fails to Disinfect: Understanding the Perverse Effects of Disclosing Conflicts of Interest*, 37 J. CONSUMER RES. (2011). In another study, researchers demonstrated that providing more information can overwhelm or confuse certain decisionmakers. Paul Heidhues & Botond Köszegi, *Futile Attempts at Self-Control*, 7 J. EUR. ECON. ASS'N 423 (2009); *see also* Michael D. Grub, *Consumer Inattention and Bill Shock Regulation*, 82 REV. ECON. STUD. 219 (2015) (arguing that providing more information to certain consumers in certain markets can reduce social welfare); Tversky & Kahneman, *supra* note 21, at 5; Alessandro Ispano & Peter Schwardmann, *Competitive Pricing and Quality Disclosure to Cursed Consumers* 1 (March 2016) (unpublished paper) (available at https://pdfs.semanticscholar.org/1c5e/3d4d411b21e5e3a712338f3f0799a3388a3e.pdf?_ga=2.47862119.1535761555.1519064525-1143908543.1519064525 [https://perma.cc/KP2X-LMN4] ("[M]arket forces are not always sufficient to prevent exploitation and . . . information campaigns and mandatory disclosure laws, can sometimes harm consumers.").

[322] fMRI machines use functional magnetic resonance imaging to detect physical changes (as of blood flow) in the brain resulting from increased neuronal activity.

[323] *See, e.g.*, Joao Paulo Vieto et al., *Brain Activity of the Investor's Stock Market Financial Decision*, 16 J. BEHAV. FIN. 220 (2015) (using electroencephalogram technologies to map the brain and analyze if the same brain circuits are used when making buying, selling, or holding stock decisions, and if different circuits are used when market conditions change); *see also* Bossaerts, *supra* note 6, at 383; Camerer, *supra* note 4, 661–62; Frydman & Lo, *supra* note 5, at 622; Lo, *supra* note 3; Lo & Repin, *supra* note 7, at 323.

among other forces, may have origins in brain biology and neuro-psychology, and thus may be "hard-wired," at least to some degree.[324]

Using disclosure as a regulatory or de-biasing strategy may also be suspect due to the possibility of regulatory capture.[325] In his seminal 1971 work *The Theory of Economic Regulation*, George Stigler took on the idea that regulation arises solely to advance the overall public interest by correcting market failures. Stigler argued for a theory of regulatory capture, or the idea that regulation is "acquired by the industry and is designed and operated primarily for its benefit."[326] Regulatory capture has been cited as a contributing factor in many crises and catastrophes in recent years, including the recent financial crises, the Deepwater Horizon oil spill, and the Fukushima Daiichi nuclear power plan disaster in Japan.[327]

As noted above, the financial services industry is enormously powerful, and it generally prefers less regulation rather than more robust regulatory regimes.[328] Applying Stigler's thesis, one might argue industry has been able to co-opt and largely neuter the current disclosure-based regime.[329] For example, the existing regime often allows industry stakeholders to use compliance with disclosure as a defense to liability—even in cases where it is clear the investor did not locate, understand, or consider the disclosed information when making the decision at issue.[330] Seen from this perspective, the disclosure and self-help approach of the current regime, when used in place of sub-

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[324] *See* Bossaerts, *supra* note 6, at 383.

[325] *See* George Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3 (1971).

[326] *Id.*

[327] Christopher Carrigan & Cary Coglianese, *Oversight in Hindsight: Assessing the U.S. Regulatory System in the Wake of Calamity*, *in* REGULATORY BREAKDOWN: THE CRISIS OF CONFIDENCE IN U.S. REGULATION 1–20 (Cary Coglianese ed., 2012).

[328] *See, e.g.*, Gerding, *supra* note 108, at 357–58 (examining regulatory capital arbitrage—strategies financial institutions use to avoid capital requirements—and observing opportunities for arbitrage "stem[] in part from the 'incompleteness' of legal rules," or the ways in laws have jurisdictional boundaries).

[329] *See* Stigler, *supra* note 325, at 3.

[330] Easterbrook and Fischel posit the securities laws—particularly mandatory disclosure rules—may be "designed to protect special interest at the expense of investors" and argue "there is little reason to think that the disclosure rules would produce benefits observable in the form of returns to investors." Easterbrook & Fischel, *supra* note 98, at 671, 709.

stantive, protective regulation, has the potential to harm investors by making unrealistic assumptions about their rationality, only to cut off rights of recourse the moment an investor fails to live up to rational choice norms.[331]

VII. Strategies for Identifying and Addressing Bounded Rationality, Misperceptions, and Mistakes

Faced with the seemingly intractable realities of bounded rationality, stubborn biases, misperceptions, mistakes, and potential limits of education as a de-biasing tool, one might question whether we can or should intervene in retail investor information-seeking behavior. After all, for reasons having to do with both science and legal and regulatory policy, it is impossible to eliminate all biases, misperceptions and mistakes or to guarantee investing outcomes.[332] A legal and regulatory system that fails to acknowledge we are, in the end, human decisionmakers with all the strengths and limitations this implies,[333] strikes me as doomed to fail. While all regulation has some degree of built-in paternalism,[334] I am mindful of Professor Willis' concern that well-intended regulatory strategies could result in coercion or impose undue costs and burdens on personal freedoms and autonomy in financial decisionmaking.[335] (In this regard, some scholars have called

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[331] *Id.* (explaining securities laws may be detrimental to investors and disclosure rules would not be particularly beneficial for them).

[332] Barber & Odean, *supra* note 11, at 47.

[333] As Camerer and his co-authors argue, a large part of modern behavioral economics "describes ways in which people sometimes fail to behave in their own best interest," despite all good intentions. Camerer, *supra* note 2, at 1217–18 (identifying a large body of literature (i) examining how people with self-control problems fail to carry out desired courses of action; (ii) examining ways in which people fail to process information as Bayes's rule would suggest; and (iii) identifying systematic misrepredictions about costs and benefits of choices).

[334] *See* Thaler & Sunstein, *supra* note 41 ("Once it is understood that some organizational decisions are inevitable, that a form of paternalism cannot be avoided, . . . we can abandon the less interesting question of whether to be paternalistic or not and turn to the more constructive question of how to choose among paternalistic options.").

[335] Lauren Willis, *The Financial Education Fallacy*, 101 AM. ECON. REV. 429 (2011) Citing the lack of research demonstrating a "causal chain from financial education to higher financial literacy to better financial behavior to

to change the way disclosure-based regulation is used[336] or have questioned "the very utility of disclosure-based regulation.")[337] With these concerns in mind, the next section of this article proposes reforms—some minor "nudges" and one more substantial—designed to mitigate risks and costs associated with bounded investor rationality, but in a manner cognizant of the risk of regulatory failure and regulatory overreach.[338]

A. Make the Fiduciary Standard the Industry Standard for Investment Advice

As a first step in addressing retail investor misperceptions and mistakes, I would amend the regulatory regime to require all financial services firms and professionals (including broker-dealers) comply with the fiduciary standard when providing advice or making recommendations to investors. Specifically, I would require financial services professionals and institutions to (i) comply with fiduciary duties of care and loyalty when providing advice or making recommendations about products, services, assets, or strategies, mindful of the benefits,

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improved financial outcomes . . . in part due to biases, heuristics, and other non-rational influences on financial decisions," Professor Willis argues "the entire enterprise [around financial education] is misguided." *Id.* at 1. Willis argues we may not want a society where financial education effectively functions as financial regulation because of the "time, expense, and invasion of privacy" necessary to create such a system, and living in a world with a highly effective system of financial education would reduce individual autonomy to an unacceptable degree. *Id.*

[336] Dalley, *supra* note 97, at 1090 ("For the past several decades, legislators and regulators have adopted disclosure schemes to accomplish regulatory goals . . . Mandatory disclosure has become a sort of 'regulation-lite' extolled even by those who would ordinarily oppose regulation.").

[337] *See id.*; *see also* Susanna Kim Ripken, *The Dangers and Drawbacks of the Disclosure Antidote: Toward a More Substantive Approach to Securities Regulation*, 58 BAYLOR L. REV. 139, 148–49 (2006) (commenting on the shortcomings of a disclosure-based approach to regulation).

[338] *See* Camerer et al., *supra* note 2, at 1214 ("The latest entrant into the paternalism debate comes from the introduction of behavioral economics developments into legal analysis. By cataloging a list of common decision-making errors that even highly competent, well-functioning people make in predictable situations, this research potentially broadens the scope of situations in which paternalistic policies could usefully be developed.").

risks, and costs to the investors over both the short- and long-term, and (ii) place investors' short- and long-term best interests before those of the financial intermediary when making a recommendation or providing advice.[339] I would define advice broadly to include information, advice, and/or recommendations respecting assets, products, services, strategies, or specific instructions to buy, sell or hold.[340] Further, I would not permit stakeholders to "opt out" or "contract out" of the fiduciary standard for advice or recommendations via private-ordering.[341] In this way, I would leave the best execution standards in place

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[339] This articulation of the fiduciary standard is consistent with proposals by SEC Staff (among others) respecting a uniform fiduciary standard for broker-dealers (historically not subject to a fiduciary standard) and investment advisors (subject to a fiduciary standard). *See* SEC. & EXCH. COMM'N, STUDY ON INVESTMENT ADVISERS AND BROKER-DEALERS vi (2011) [hereinafter STUDY ON INVESTMENT ADVISERS AND BROKER-DEALERS], https://www.sec.gov/news/studies/2011/913studyfinal.pdf [https://perma.cc/SHR4-S9Y3] ("[T]he Staff recommends that the uniform fiduciary standard of conduct established by the Commission should provide that: the standard of conduct for all brokers, dealers, and investment advisers, when providing personalized investment advice about securities to retail customers . . . shall be to act in the best interest of the customer without regard to the financial or other interest of the broker, dealer, or investment adviser providing the advice.").

[340] For example, I would apply the fiduciary rule to what Tamar Frankel terms "sales talk"—i.e., broker "sales speak" that historically has contained persuasions such as "trust me," "I have experienced the same and bought the same," "my entire family is invested in this stock," "we know the price will rise very soon," or "look at all the millions that other investors in the stock have collected," as Frankel observes. Frankel, *supra* note 75, at 437.

[341] As Thaler and Sunstein point out, in a fully rational world, design choices that set default options would have little effect on decision making because fully rational agents "would simply choose the best option for them regardless of the default." Thaler & Sunstein, *supra* note 41, at 176–77. As Thaler and Sunstein recognize (and numerous experiments illustrate), however, "there is a very strong status quo bias" such that "[t]he existing arrangement, whether set out by private institutions or by government tends to stick." *Id.* For example, with employee 401(k) contributions, researchers have found initial enrollments are much higher in businesses using automatic enrollment versus an opt-in system. *Id.*; *see also* Camerer et al., *supra* note 2, at 1227–30. Sunstein and Thaler argue adopting automatic enrollment, while paternalistic, is no more objectionable as a form of meddling with employee choices than an opt-in system; rather, both are simply design choices with the power to nudge employees in one direction or another. It is true I am proposing a reset of

solely for trade execution, but would eliminate the suitability rule in favor of the fiduciary duties of loyalty and care for recommendations and advice. This approach is preferable to requiring financial intermediaries to disclose whether or not they are subject to a fiduciary standard largely because (i) there is evidence that disclosing conflicts of interest does not improve investor outcomes and may in fact make investors more vulnerable to opportunistic behavior; (ii) there is evidence that consumers do not understand the differences between fiduciary and non-fiduciary regimes; and (iii) there is confusion in the marketplace about different entity types and legal standards.[342]

Under a fiduciary standard, financial intermediaries (both individuals and institutions) would be required to take a hard look at the following issues before providing advice or recommending a strategy, asset, or other product or service to a retail investor: (i) material financial characteristics and material risks of the proposed asset, product, service, or strategy, including any market, credit and/or liquidity risks; (ii) fees charged and any financial incentives available to the seller in connection with the asset, product, service, or strategy; (iii) the impact of selling or terminating the investment, including any termination fees or fees associated with early redemption; (iii) the impact of proposed transactions on the investor's overall economic condition, defined broadly to include the investor's risk tolerance, current financial condi-

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default rules to require a mandatory fiduciary standard for the financial services industry, and a universal fiduciary standard is, admittedly, more than a nudge. That said, under this proposal, firms and investors would have the option of providing execution service only, and not advice or recommendations, thus remaining outside the fiduciary rule proposed here. This would preserve the option of a non-fiduciary relationship while providing greater protections for investors who turn to professional intermediaries for recommendations and advice.

[342] In 2012, Tamar Frankel, a longtime leading scholar of fiduciary law, argued that before investors meet potential intermediaries face-to-face, investors should inquire and receive from intermediaries a simple signed information form identifying who the intermediaries are, their background and expertise, whether the intermediaries' interests might conflict with those of the potential client, and similar information that would help the investor assess the intermediary's level of trustworthiness. While I support requiring such an informational form, I continue to believe in a single, uniform fiduciary standard for all investment advice or recommendations—including "sales talk." Frankel, *supra* note 75, at 435–38.

tion, investing timeline, tax circumstances, and investing goals and objectives, now and in the future.

In making this proposal, I acknowledge the fiduciary standard is not a miracle panacea for retail investors. Fiduciary obligations cannot insulate investors from the ups and downs of the market, and even well-intentioned and un-conflicted financial intermediaries, acting diligently and loyally, may provide advice or make recommendations that result in sub-optimal returns or even investment losses. The fiduciary standard would also not completely eliminate the risk of a rogue actor, intent on lining his or her own pocket at the investor's expense. That said, a fiduciary standard might cause individuals and institutions involved in selling assets, goods, or services to take more care when formulating recommendations or advice.[343] For example, financial services firms operating under a fiduciary standard might institute more robust internal controls designed to weed out corrupt and/or compromised advice, recommendations, or intermediaries. A fiduciary standard might also impact fee structures in ways which would better align investor and intermediary economic incentives. At a minimum, an industry-wide fiduciary standard for advice and recommendations would put the burden of identifying the investor's best interests on the experienced party and repeat player—i.e., the financial intermediary.[344] This stands in sharp contrast to the current regime.

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[343] *See* STUDY ON INVESTMENT ADVISERS AND BROKER-DEALERS, *supra* note 339.

[344] Camerer, et al., *supra* note 2, at 1212. Colin Camerer and his co-authors argue that a regulation is asymmetrically paternalistic "if it creates large benefits for those who make errors, while imposing little or no harm on those who are fully rational." *Id.* The authors further argue asymmetrically paternalistic regulations "are relatively harmless to those who reliably make decisions in their best interest, while at the same time advantageous to those making suboptimal choices." Here, the investor/intermediary relationship fits this paradigm—for the reasons discussed above, investors often make suboptimal choices; at the same time, professional financial intermediaries can be counted on to make choices that are in intermediaries' best interest. As for relative costs and benefits, the broker-dealer industry has long argued—without much empirical evidence—that imposing a fiduciary standard on advice or recommendations would increase costs or decrease investor choice. The size of the investment advisory industry (where the fiduciary standard already applies) suggests that a can be made while still putting investors' interests first. So long as firms and investors have the option of providing and paying for trade execution services only, choice would be preserved.

B. Develop Targeted, Concise Educational Aids & Targeted, Personalized Disclosure

In addition to applying the fiduciary standard across the financial services industry, I would also apply principles of cognitive science, experimental economics, and psychology to disclosure rules, with an eye towards what some have called "soft" or "paternalistic" nudges.[345] The idea behind paternalistic nudges is to make small or simple changes, often to choice architecture, that will help people avoid making what even they would identify or describe as mistakes.[346] With this approach in mind, some studies suggest targeted, well-timed educational interventions have the potential to positively affect consumer behavior and decisionmaking.[347]

For example, researchers have found that "getting consumers to think more broadly about the decision to take up a payday loan—by stressing how the fees accompanying a given loan add up over time, by presenting comparative cost information to increase evaluability, or to a lesser degree, by disclosing information on the typical repayment profile of payday borrowers—resulted in a reduction in the amount of payday borrowing."[348] Since payday lenders are expensive, reducing usage (where economically possible for the consumer) has the potential to enhance consumer welfare.[349] In another study, researchers examining the effect of conflict of interest disclosures found that explicitly and simultaneously contrasting biased advice with unbiased advice could be a potential remedy for inadequate discounting of biased advice.[350] In another study, investigators examined whether reducing the salience of information about a stock's purchase price (and thus about capital gains and losses) reduced subjects' tendency to exhibit the so-called disposition effect, or the tendency of investors to sell risky assets with capital gains compared with risky assets with

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[345] *See* Thaler & Sunstein, *supra* note 41, at 179.
[346] *Id.* at 175.
[347] *See*, *e.g.*, Bertrand & Morse, *supra* note 1 (finding some borrowers who received educational "treatments" were less likely to borrow from payday lenders in pay cycles following the treatments).
[348] *Id.* at 1867.
[349] *Id.*
[350] Cain, Loewenstein & Moore *supra* note 325, at 836 ("Study 4 identifies one remedy for inadequate discounting of biased advice: explicitly and simultaneously contrasting biased advice with unbiased advice.").

capital losses.[351] Researchers found reducing the saliency of purchase price information—by not displaying it all—reduced the disposition effect by 25 percent.[352]

Finally, in a study examining common presentations of investment risk information in retirement investment choice menus, researchers sought to identify "the risk presentation format that minimizes the variability of individual's propensity to make nonoptimal investment choices in their retirement planning, both at a population level and by sociodemographic characteristics."[353] Specifically, at a population level, researchers found "presentations that describe investment risk using the probability of returns below or above thresholds, have a lower variability in error propensity than presentations based on frequency of returns below or above thresholds."[354] Researchers also found the variability of error propensities was lower in presentations describing the downside of investment risk, and suggested this may be due to loss aversion.[355] At an individual level, researchers found "risk preferences and error propensities var[ied] significantly across sociodemographic characteristics and that financial literacy is key."[356] Researchers found socioeconomic groups more at risk of having insufficient retirement savings better understood graphical presentations of investment risk, while "more financially sophisticated" investors benefit from risk information presented in the form of probability of return below a threshold (e.g., 1 in 20 change).[357]

Taken together, this literature suggests targeted, well-timed interventions presented in formats recognizing investors' cognitive limitations, biases and preferences may have a positive impact on deci-

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[351] Frydman et al., *supra* note 30, at 541 (addressing the impact of "salient, attention-grabbing information" on investor choices); *see* Brad M. Barber, Terrance Odean & Lu Zheng, *Out of Sight, Out of Mind: The Effects of Expenses on Mutual Fund Flows*, 78 J. BUS. 2095 (2005) (arguing "the purchase decisions of mutual fund investors are influenced by salient, attention-grabbing information," specifically, "investors are more sensitive to salient, in-your-face fees like front-end loads and commissions, than operating expenses; they buy funds that attract their attention through exceptional performance, marketing, or advertising").

[352] *Id.*

[353] Bateman, *supra* note 9, at 292.

[354] *Id.*

[355] *Id.*

[356] *Id.*

[357] *Id.*

sionmaking—without unduly restricting choice or otherwise interfering with investor agency and autonomy. With this balance in mind, there are a few proposed tweaks to the current regime:

- **Make it easier for investors to compare mutual fund fees and expenses:** as noted above, mutual funds are a mainstay of retirement accounts and a multi-trillion dollar industry. Because mutual fund fees, costs, and expenses can have a huge impact on investor returns, regulatory "nudges" could make it easier for investors to consider these costs when comparing potential investments and making investment decisions. While FINRA has a mutual fund cost calculator available on its website,[358] our research suggests many retail investors do not give high marks to regulators when it comes to perceived credibility, and thus do not regularly access educational materials provided by regulators or self-regulatory organizations. Regulations could (i) require fund sponsors to ensure uniform presentation of fees, costs, and expenses, across products, platforms, and fund complexes, allowing easier "apples to apples" comparisons; (ii) require intermediaries to disclose all fees, including any marketing or incentive fees, when offering or recommending particular funds or when presenting information about funds in response to consumer online searching or during in-person, telephone, or electronic meetings; (iii) require intermediaries to make expense analyzers available to investors when investors are considering options (e.g., via online account tools, during face-to-face meetings), so investors have easy access to comparative data both during pre-transaction research and at the point of transaction; and (iv) require firms and professionals to compare fees and costs when formulating and presenting recommendations and advice, being sure to explain the impact of fees, costs, and expenses on investment returns both in the near term and over time.

[358] *Fund Analyzer*, FIN. INDUSTRY REG. AUTHORITY, http://apps.finra.org/fundanalyzer/1/fa.aspx [https://perma.cc/KE2L-GZQT].

- **Make the investor's best interests the default for marketing and research presentations:** applying the fiduciary standard, regulations could require firms to present recommended products, transactions, goods, services, and strategies in a manner that puts the clients' best interest first, mindful of risks, goals, expenses, and fees. For example, under this approach, firms would not be permitted to steer investors towards proprietary products through search results, website placement, print or online account documents, or recommendations if equally suitable (and cheaper) or more suitable options are available, either inside or outside the firm.
- **Highlight risks of failing to diversify:** investors may be disproportionately likely to purchase their own company's stock, causing their portfolios to be less diverse (and thus potentially riskier) than recommended. Regulations could require employer-sponsored plans and the financial institutions involved in plan administration to alert investors to the dangers of concentration and lack of diversification whenever the investor's holdings of his or her employer's stock exceed a recommended percentage. Regulations could also flag potential over-concentration in illiquid products, proprietary products, or other products where risks of conflicts of interest or liquidity risk is comparatively high. In both cases, investors whose portfolios raise red flags could be given examples of model portfolios reflecting recommended diversification strategies.[359]

[359] The experiences of Enron Corp. employees offer a cautionary tale. In the wake of the collapse of the company, Enron employees who had invested in the company's 401(k) saw their retirement accounts fall in value because the plan was heavily invested in Enron stock. *See* Gretchen Morgenson, *MARKET WATCH; Lopsided 401(k)'s, All Too Common*, N.Y. TIMES, (Oct. 5, 2003), http://www.nytimes.com/2003/10/05/business/market-watch-lopsided-401-k-s-all-too-common.html?mcubz=1 (reporting 60 percent of Enron's 401(k) plan was invested in Enron stock). In the wake of such developments, Congress considered the 401(k) Pension Right to Know Act of 2002, a bill that would have required plan sponsors to "advis[e] participants and beneficiaries of the importance of diversifying the investment of the assets in their accounts and of the risks of holding in their portfolios securities of any one entity, including employer securities." H.R. 3642, 107th Cong. (2002). The

- **Help investors keep their "guard up" when evaluating information, tools, or advice:** because investors tend to seek out information, tools, or advice from third parties they already trust, investors may be vulnerable to intermediaries who are incompetent, unethical, or both. To mitigate this risk, regulations could require financial institutions and financial professionals provide oral and written answers to the SEC's recommended questions for assessing products and professionals before recommending or executing securities transactions or other investment decisions.

VIII. Conclusion

The goal of the above proposed reforms—an expansion of the fiduciary standard and tweaks to the disclosure regime to highlight certain risks and best practices—is to improve investor decision-making regarding conflicts of interest and risks. Of course, the above list offers just a few examples of potential tweaks to choice architecture. These and any other tweaks should act in concert with an expanded fiduciary standard so financial intermediaries would have (more) responsibility to provide high quality financial information and advice to investors and an obligation to put the investor's interests first. These proposed reforms will not—nor should they—completely insulate investors from the possibility of loss. At the end of the day, investors can and should maintain their desired degree of autonomy over their own information-seeking behavior and investment choices. Targeted

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bill further provided that failure to advise participants and beneficiaries in this fashion would be a breach a fiduciary duty and would be penalized as such. *Id.* at § 2. The bill, however, was never passed. Camerer and his co-authors have described the requirement to provide advice as a "nice example of asymmetric paternalism," and I agree, and would require stakeholders to provide advice regarding diversification and risk. *See* Camerer et al., *supra* note 2, at 1237. I would only add that plan sponsors should provide disclosures at times and in formats that make it easy for employees with different education levels and experiences to understand and act on the advice. *See also* Cass R. Sunstein et al., *The Law and Economics of Company Stock in 401(k) Plans*, 50 J. L. & ECON. 45 (2007) (finding employees underestimate the risk of owning company stock, employers overestimate the benefits associated with employee stock ownership, and analyzing a variety of potential regulatory reforms).

investor education, coupled with an expanded fiduciary standard, simply aims to alert investors to the risks of behaviors and strategies they would agree are mistakes. In so doing, the proposed reforms have at least a chance of helping investors make (more) rational, wealth-maximizing decisions, in ways that are not as intrusive, expensive, or destructive to individual autonomy as Professor Willis feared.