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COMPUTER AS CONFIDANT: DIGITAL INVESTMENT ADVICE AND THE FIDUCIARY STANDARD

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Automated investment advisers permeate the investment industry.[2] Digital investment advisers are the fastest growing segment of financial technology (fintech) and are disrupting traditional investment advisory delivery models.[3] Proponents of digital investment advice, a platform also known as "robo-advisers," claim that they can provide fiduciary level investment advisory services at a fraction of the cost of traditional human investment advisers. Critics disagree. Nevertheless, by 2020, robo-advisers will digitally manage $2 trillion in assets, growing over 3,000% from 2015.[4] One industry observer predicts that in five years, "[r]obo-advisory services will become mainstream."[5] Robo-advisers are becoming so ubiquitous that the Chartered Financial Analyst (CFA) examination will, beginning in 2019, expand the examination areas to include questions on "artificial intelligence, automated investment services and mining unconventional sources of data."[6] U.S. Securities and Exchange Commission (SEC) regulators began examining digital investment advisers in 2017.[7]

The computer-led investment advisory service model may be growing particularly quickly due to a confluence of social and political factors including an increased regulatory focus on the different standards applicable to investment advice providers, a so-called retirement gap with a

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[2] Mary Jo White, OPENING REMARKS AT THE FINTECH FORUM (Nov. 14, 2016), https://www.sec.gov/news/statement/white-opening-remarks-fintech-forum.html ("The last few years have seen rapid growth in the availability and popularity of automated investment advisory programs.").

[3] PWC, BLURRED LINES: HOW FINTECH IS SHAPING FINANCIAL SERVICES at 3 (2016), https://www.pwc.com/il/en/home/assets/pwc_fintech_global_report.pdf ("FinTech is a dynamic segment at the intersection of the financial services and technology sectors where technology-focused start-ups and new market entrants innovate the products and services currently provided by the traditional financial services industry."); CFA INSTITUTE, FINTECH SURVEY REPORT at 16 (2016), https://www.cfainstitute.org/Survey/fintech_survey.PDF ("robo-advisers are still considered to be the technology that will have the greatest impact on financial services industry both 1 year and 5 years from now.").

[4] Accenture, THE RISE OF ROBO-ADVICE at 2 (2015), https://www.accenture.com/_acnmedia/PDF-2/Accenture-Wealth-Management-Rise-of-Robo-Advice.pdf (projecting robo-advisers at end of 2015 to manage "between $55 billion and $60 billion"); A.T. KEARNEY, HYPE VS. REALITY: THE COMING WAVES OF "ROBO" ADOPTION at 26 (2015), https://www.atkearney.com/documents/10192/7132014/Hype+vs.+Reality_The+Coming+Waves+of+Robo+Adoption.pdf/9667a470-7ce9-4659-a104-375e4144421d (predicting $2 trillion under robo-adviser management by 2020); U.S. SECURITIES & EXCHANGE COMMISSION, TRANSCRIPT OF FINTECH FORUM: THE EVOLVING FINANCIAL MARKETPLACE (hereinafter SEC FinTech Forum) at 21 (2016), www.sec.gov/spotlight/fintech/transcript-111416.pdf (robo-adviser industry "could grow to as large as 2.2 trillion dollars in assets under management by the year 2020.").

[5] A.T. Kearney, *supra* note 4 at 10.

[6] Trevor Hunnicutt, *CFA Exam to Add Artificial Intelligence, "Big Data" Questions*, REUTERS NEWS, (May 23, 2017).

[7] SEC Office of Compliance Inspections and Examinations, EXAM PRIORITIES FOR 2017, at 2, https://www.sec.gov/about/offices/ocie/national-examination-program-priorities-2017.pdf (describing examination of robo-advisers as priority); Mary Jo White, KEYNOTE ADDRESS AT THE SEC-ROCK CENTER ON CORPORATE GOVERNANCE SILICON VALLEY INITIATIVE (2016), https://www.sec.gov/news/speech/chair-white-silicon-valley-initiative-3-31-16.html ("As part of our effort to monitor emerging automated investment models, staff from our National Exam Program are examining robo-advisors.").

lack of affordable investment advice, and an increasing comfort with digital platforms.[8] This short article begins by describing those factors in Part I before discussing, in Part II, the wide-ranging definitions of robo-advisers and categories of distinction between them. Part III shifts the focus to the regulatory framework and standard of care owed by robo-advisers operating under the Investment Advisers Act. The essay concludes with a two-pronged recommendation for the regulation of robo-advisers in the near term. First, regulators should deploy existing regulatory tools such as examination, enforcement, and disclosure to explore the sufficiency and malleability of their current parameters before constructing any new regulatory schemes. Second, the disclosure device should be studied to determine whether the intended beneficiary of the disclosure, retail consumers, comprehends the information being disclosed to them and whether changes to the format, delivery, and/or content of disclosures would better protect consumer investors.

I. Investment Advice Goes Online: The Birth and Growth of Robo-Advisers

The majority of the 140 robo-adviser platforms created since 2008 started in the past three years.[9] At the same time, Americans are not saving for retirement and exhibit overall low levels of financial readiness. The robo-advice industry's growth tracks societal changes encouraging investment in and use of increasingly better technological tools and seizes upon opportunities presented by digital native investors who may be financially inexperienced and wary of high fees. Moreover, increased governmental focus on advice standards has fueled robo-advisers' growth.

A. American Investing Confidence, Competence, and Retirement Readiness

America may be in the midst of a retirement "crisis."[10] Americans lack a foundation in basic financial and investing concepts and have "relatively low levels of financial literacy."[11] Over half of Americans have made no attempt to determine their future retirement needs.[12] Most American workers are now responsible for their own retirement, with a precipitous drop in access to defined benefit plans.[13] Reviewing recent studies, the SEC's Office of the Investor Advocate reported that

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[8] SIFMA, DIGITAL INVESTMENT ADVICE RESOURCE CENTER OVERVIEW, http://www.sifma.org/issues/legal,-compliance-and-administration/digitial-investment-advice/overview/ (listing factors tied to robo-advisers' rapid rise).

[9] BLACKROCK, DIGITAL INVESTMENT ADVICE: ROBO ADVISORS COME OF AGE at 5 (2016), https://www.blackrock.com/corporate/en-at/literature/whitepaper/viewpoint-digital-investment-advice-september-2016.pdf ("Nearly 140 digital advisory companies have been founded since 2008, with over 80 of those founded in the past two years.").

[10] FINRA INVESTOR EDUCATION FOUNDATION, FINANCIAL CAPABILITY IN THE UNITED STATES 2016 at 16 (2016), http://www.usfinancialcapability.org/downloads/NFCS_2015_Report_Natl_Findings.pdf ("studies have warned that the U.S. faces a retirement savings crisis.").

[11] *Id.* at 28.

[12] *Id.* at 15 ("Thirty-nine percent of respondents have tried to figure out how much they need to save for retirement, while 56% have not.").

[13] Roberta S. Karmel, *The Challenge of Fiduciary Regulation: The Investment Advisers Act After Seventy-Five Years*, 10 Brook. J. Corp. Fin. & Com. L. 405, 419-420 (2016) (describing steep decline in access to defined benefit pension plans and increase of Americans participating in defined contribution plans); SEC FINTECH FORUM, *supra* note 4 at 25 ("we have a generation of people who won't have access to defined benefits quite the same way that past

most households over the age of 55 "have no retirement savings in a defined contribution plan or individual retirement account, and nearly 30 percent of households age 55-and-older have no retirement savings and no defined benefit (*e.g.* pension) plan."[14] For those who do have retirement savings, the median amount saved is $20,000 and most between the ages of 50 and 75 have retirement savings below $25,000.[15] In addition, the use of professional advisers to assist investors in managing their assets is the exception rather than the rule, with less than one third of Americans receiving investment advice.[16] Yet professional advice may benefit investors.[17]

B. Consumers' Comfort with Computers Increases

FinTech, including robo-advisers, appeals most to younger investors.[18] Experts predicted that millennials would be the prototypical robo-advisory client because they are digital natives comfortable with online service delivery.[19] While that initial predication was correct,[20] later studies showed that digital investment advisory services appeal to all generations.[21] Robo-adviser Betterment reports "the average age [of an investor customer] is around 35, which is on the cusp

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generations have, where maybe Social Security Administration has told people not to depend on the full benefit today"); Barbara Black, *Are Retail Investors Better Off Today*, 2 Brook. J. Corp. Fin. & Com. L. 303, 305 (2008) ("Today's reality is that investing is no more an optional activity for most American adults than is working. American workers are increasingly expected to assume responsibility for their financial security in retirement, and thus have no choice but to invest in the markets.").

[14] SEC OFFICE OF THE INVESTOR ADVOCATE, PERSPECTIVES ON RETIREMENT READINESS IN THE UNITED STATES: A WHITE PAPER (2016), https://www.sec.gov/advocate/staff-papers/white-papers/retirement-readiness-white-paper.pdf.

[15] *Id* at 4.

[16] BLACKROCK, *supra* note 10 at 3 ("only 28% of individuals surveyed use a professional financial advisor.").

[17] Bo Lu, CEO of FutureAdvisor, believes "many more people in the U.S. would benefit from advice than receive it today or have ready access to it today." SEC FinTech Forum, *supra* note 4 at 24.

[18] FINRA INVESTOR EDUCATION FOUNDATION, INVESTORS IN THE UNITED STATES 2016 at 8 (2016), http://www.usfinancialcapability.org/downloads/NFCS_2015_Inv_Survey_Full_Report.pdf ("Usage of 'robo-advisors' is higher among younger investors and those who do not otherwise work with a financial advisor."); *id.* at 20 ("Younger investors are less likely to use professional advisors, more likely to use 'robo-advisors'"); Survey Finds Affluent Millennials & Gen Xers Will Move More Assets to Advisors Over Next Decade, INVESTMENT WEEKLY NEWS, May 27, 2017 (detailing survey finding that Gen X and Millennials expect financial advisers to leverage technology while providing financial advisory services).

[19] BLACKROCK, *supra* note 10 at 7 ("Digital advice can increase the likelihood that people will engage on financial advice, particularly because younger generations may be more accustomed to electronic forms of communication.").

[20] Matt Egan, *Robo Advisors: The Next Big Thing in Investing*, CNN MONEY, June 18, 2015, http://money.cnn.com/2015/06/18/investing/robo-advisor-millennials-wealthfront/index.html. ("Millennials, who often don't have enough money to qualify for traditional advisors, are big users for robo advisors."); ACCENTURE, *supra* note 3 at 7 ("Robo-advice fills a void for millennials"); PWC, *supra* note 2.

[21] The Board of the International Organization of Securities Commissions, UPDATE ON THE REPORT ON THE IOSCO AUTOMATED ADVICE TOOLS SURVEY at 9 (Dec. 2016) ("the primary market for automated advice is millennials (born between 1980 and 2000), but that other age groups such as Generation X (born between 1965 and 1980), as well as subsequent generations are making use of these tools."); Capital One Investing, RETIREMENT CONFIDENCE DIPS IN 2017 (2017), https://content.capitaloneinvesting.com/mgdcon/core/aboutus/press/20170310_Financial-Freedom-Survey.pdf ("Millennials also most value robo-advice, with 65 percent saying it can enhance financial peace of mind, compared to 53 percent of Generation X and 31 percent of Baby Boomers.").

of millennial, but around 30 percent of our business comes from people over 50 years old."[22] Investors may prefer the lack of direct human-adviser control as well as the flexibility of accessing information on their own and by themselves coupled with the learning opportunities that digital investment services provide.[23] A digital platform offered over a desktop or mobile device is not constrained by a human adviser's office hours, allowing investors to access their account information at any time.[24] Robo-advisers' separation of investments, account information, and investor education from a person, set hours, and an office also affords investors a measure of privacy and control not necessarily available in a traditional advisory relationship.[25] It is this instant access to information that makes some robo-advisers believe that their services appeal to both smaller investors and more sophisticated investors with higher account balances.[26]

C. Legislation and Regulatory Activity Focuses Attention on Investment Advice

Recent legislative and regulatory activity have focused attention on robo-advisors.[27] Although beyond the scope of this essay to fully articulate the differences between investment advice providers, in general, only investment advisers, those required to register under the 1940 Investment Advisers Act (1940 Act) or a state equivalent, uniformly owe their clients a fiduciary duty while other providers of investment advice, which can include broker-dealers, financial planners, and insurance agents, do not uniformly owe fiduciary duties to their clients.[28] The disparate standards applicable to professionals nearly indistinguishable to the investing public has

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[22] SEC FinTech Forum, *supra* note 4 at __.

[23] ACCENTURE, *supra* note 4 at 5 ("There are also elements of the robo-advice experience that clients prefer over traditional models. They like the privacy offered by a digital solution and the ability to learn, and to chart their own path.").

[24] BLACKROCK, *supra* note 10 at 4 (benefits of robo-advisors include "the ability to interact with the tools 24/7.").

[25] Falguni Desai, *The Great FinTech Robo Advisor Race*, FORBES, July 31, 2016, https://www.forbes.com/sites/falgunidesai/2016/07/31/the-great-fintech-robo-adviser-race/#57f979a94a6f.

[26] U.S. SECURITIES & EXCHANGE COMMISSION, *supra* note 5.

[27] BLACKROCK, *supra* note 10 at 3 8 ("recent changes to regulation…have resulted in a greater focus on digital advice as a potential solution to provide low-cost investment advice with appropriately tailored outcomes to individual investors at scale.").

[28] Only one category of individuals providing investment advice are uniformly fiduciaries: individuals who qualified as investment advisers under the 1940 Investment Advisers Act or a similar state regulation. Others who may provide investment advice, including broker-dealers, insurance agents, and financial planners, were not, absent some exceptions, required to provide fiduciary-level advice and are regulated, if at all, under different standards of care. Scholars have extensively detailed the differences between the standards governing investment advisers and broker-dealers, with some recommending harmonization of those standards to a unitary fiduciary duty for all providers of investment advice to eliminate consumer confusion. *See, generally,* Arthur B. Laby, *Fiduciary Obligations of Broker-Dealers and Investment Advisers*, 55 VILL. L. REV. 701 (2010) (describing differences between broker-dealer and investment adviser regulation and application of fiduciary standard); Steven D. Irwin, *et al.*, *Wasn't My Broker Always Looking Out for my Best Interests? The Road to Become a Fiduciary*, 12 DUQ. BUS. L. J. 41, 61 (2009) ("A consistent fiduciary duty standard would likely help to increase investor trust."); Barbara Black, *How to Improve Retail Investor Protection After the Dodd-Frank Wall Street Reform and Consumer Protection Act*, 13 U. PA. J. BUS. L. 59 (2010) (describing differences in regulation between broker-dealers and investment advisers and arguing for professionalism as opposed to fiduciary standard). *C.f.* Arthur B. Laby, *SEC v. Capital Gains Research Bureau and the Investment Advisers Act of 1940*, 91 B.U. L. REV. 1051 (2011) (arguing that fiduciary duty now recognized as arising out of the 1940 Act may be a faulty premise).

led to calls to harmonize the treatment of all providers of investment advice.[29]

Significant attention to investment advice regulation began following the 2008 economic crisis. The 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act directed the SEC to study the differing standards of care that broker-dealers and investment advisers owe their clients and to identify any regulatory gaps that should be closed to better protect retail consumers.[30] While the SEC's study has been completed and resulted in staff recommendations for a uniform fiduciary standard,[31] the SEC has not yet proposed any new regulation. On April 6, 2016, the Department of Labor (DOL) released its final version of a "fiduciary rule" that would require all persons providing investment advice to tax qualified retirement accounts to adhere to a fiduciary standard.[32] Promulgated after significant study, debate, and a lengthy notice and comment period, the fiduciary rule would result in a major shift in regulation of financial advice.[33]

Robo-advisers received significant attention during the DOL fiduciary rule debate. The Financial Industry Regulatory Authority (FINRA), predicted that the fiduciary rule would lead its broker-dealer members to abandon IRA accounts under $25,000 due to prohibitively high compliance costs.[34] Moreover, while acknowledging that robo-advice may benefit "some classes of knowledgeable investors," FINRA commented that for many others, "robo-advice is a poor substitute for a financial adviser who understands the customer's needs and guides the customer through market turbulence or life events."[35] On the other hand, DOL leadership predicted that robo-advisers could make it possible for ever more investors to receive fiduciary level investment advice at lower costs.[36] Robo-advisory firms claimed that they had already been providing advice

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[29] *See, e.g.*, Christine Lazaro and Benjamin P. Edwards, *The Fragmented Regulation of Investment Advice: A Call for Harmonization*, 4 MICH. BUS. & ENTREPRENEURIAL L. REV. 47 (2014); Ryan K. Bakhtiari, Katrina Boice, & Jeffrey D. Majors, *The Time for a Uniform Fiduciary Duty is Now*, 87 ST. JOHN'S L. REV. 313 (2013).

[30] *See*, Black, *supra* note __ at 59-61; James S. Wrona, *The Best of Both Worlds: A Fact-Based Analysis of the Legal Obligations of Investment Advisers and Broker-Dealers and a Framework for Enhanced Investor Protection*, 68 Bus. Law. 1, 5-7 (2012).

[31] U.S. SECURITIES AND EXCHANGE COMMISSION, STUDY ON INVESTMENT ADVISERS AND BROKER DEALERS (Jan. 2011), available at https://www.sec.gov/news/studies/2011/913studyfinal.pdf.

[32] Definition of the Term "Fiduciary"; Conflict of Interest Rule- Retirement Investment Advice; Best Interest Contract Exemption (Prohibition Transaction Exemption 2016-01); Class Exemption for Principal Transactions in Certain Assets Between Investment Advice Fiduciaries and Employee Benefit Plans and IRAs (prohibited Transaction Exemption 2016-02); Prohibited and Transaction Exemptions 75-1, 77-4, 80-83, 83-1, 84-24 and 86-128 (Apr. 7, 2017). By virtue of its oversight of ERISA, the Department of Labor issues rules concerning tax advantaged retirement accounts such as individual retirement accounts and 401(k) accounts, among others. *See* Roberta S. Karmel, *The Challenge of Fiduciary Regulation: The Investment Advisers Act After Seventy-Five Years*, 10 Brook. J. Corp. Fin. & Com. L. 405, 423-424 (2016) (describing obligations of fiduciaries under ERISA).

[33] *See, e.g.*, Roberta S. Karmel, *The Challenge of Fiduciary Regulation: The Investment Advisers Act After Seventy-Five Years*, 10 Brook. J. Corp. Fin. & Com. L. 405, 424-425 (2016) (describing critiques of fiduciary rule).

[34] Marcia E. Asquith, PROPOSED CONFLICT OF INTEREST RULE AND RELATED PROPOSALS, RIN-1210-AB32 at 5-6 (2015), http://www.finra.org/sites/default/files/FINRACommentLetter_DOL_07-17-15.pdf. *See also* Paul R. Walsh & David W. Johns, *Can the Retail Investor Survive the Fiduciary Standard*?, 87 St. John's L. Rev. 437, 449 (2013) ("the imposition of a fiduciary duty onto the broker or salesman will create a barrier to the availability of investment advice to the small investor.").

[35] Asquith, *supra* note 34.

[36] Testimony of Hon. Thomas E. Perez, Secretary, U.S. Depart. Of Labor, Hearing: Restricting Access to Financial Advice: Evaluating the Costs and Consequences for Working Families and Retirees, at 102 (June 17, 2015) (describing how robo-adviser Wealthfront may be able to provide fiduciary level service at lower cost through technology).

meeting a fiduciary standard as registered investment advisers under the 1940 Act.[37] Scholars likewise argued that the elimination of a commission-based fee structure "would likely accelerate the growth of so-called robo-advisers."[38]

President Trump executed a Presidential Memorandum on February 3, 2017 directing the DOL "to examine the Fiduciary Duty Rule to determine whether it may adversely affect the ability of Americans to gain access to retirement information and financial advice."[39] As a result, full implementation has been delayed repeatedly and the fiduciary rule may ultimately be revised or eliminated.[40] Nevertheless, the DOL's efforts to mandate that all providers of investment advice meet a fiduciary standard focused moved the topic from the regulatory realm into popular culture.[41]

D. The Promise of Robo-Advisers

Robo-advisers' promise is tied to their potential to address these challenges while capitalizing on opportunities technological growth creates. Robo-advisory firms differ from traditional human investment advisers because they generally do not have as high account minimums for advice and charge fees that are substantially less than human investment advisers.[42] The enthusiasm for robo-advisers comes from a belief that they are well-equipped to serve a previously underserved population of investors that includes, but is not limited to millennials – investors with accounts deemed too small for traditional investment advisers.[43] Investment advisers typically charge at

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[37] *See* Jon Stein & Eli Broveman, Letter re: Conflict of Interest Rule, RIN 1210-AB32 (Sept. 24, 2015), available at https://www.dol.gov/sites/default/files/ebsa/laws-and-regulations/rules-and-regulations/public-comments/1210-AB32-2/03108.pdf. ("the rapidly growing category of automated investment advice is emerging as a clear rebuttal to those who worry that small accounts will be left unserved. Modern technology allows for fiduciary advice to be delivered at unprecedented scale, with the expected quantum leap in affordability. We believe that these services, offering lower, transparent prices, fiduciary advice, *and* superior experiences, will prevail in the market against heavily conflicted, legacy business models.").

[38] Benjamin P. Edwards, *Conflicts and Capital Allocation*, 78 OHIO ST. L.J. 181, 221 (2017). *See also* Ralph Derbyshire and Jay Haines, *Department of Labor Rule Shakes Up Retirement Industry*, 61 BOSTON BAR J. 18, 19 (2017) (arguing that fiduciary rule should result in increase in accounts managed by robo-advisers).

[39] Presidential Memorandum on Fiduciary Duty Rule, (February 3, 2017), https://www.whitehouse.gov/the-press-office/2017/02/03/presidential-memorandum-fiduciary-duty-rule.

[40] *See, e.g.*, Carmen Germaine, *Further Delay Tees Up Fiduciary Rule for Major Changes*, Law360 (Aug. 10, 2017) (describing Department of Labor plan to delay implementation of not-yet-in-place provisions of fiduciary rule until July 2019).

[41] As on example, comedian John Oliver made the DOL's fiduciary rule the focus of his popular late night show, "Last Week Tonight," describing a rule that had, until then, "been considered too complicated or boring for the average person to understand." Mark Schoeff, *John Oliver's Criticism Helps Fiduciary Duty Go Prime Time*, INVESTMENTNEWS, June 19, 2016, http://www.investmentnews.com/article/20160619/FREE/160619914/john-olivers-criticism-helps-fiduciary-duty-go-prime-time. The segment has over 6.5 million views on YouTube since it was posted on June 12, 2016. *See Retirement Plans: Last Week Tonight with John Oliver (HBO)*, http://www.youtube.com/watch?v=gvZSpET11ZY.

[42] White, *supra* note 9; U.S. SECURITIES & EXCHANGE COMMISSION, INVESTOR BULLETIN: ROBO-ADVISERS (2017), https://www.sec.gov/oiea/investor-alerts-bulletins/ib_robo-advisers.html ("Robo-advisers often seek to offer investment advice for lower costs and fees than traditional advisory programs, and in some cases require lower account minimums than traditional investment advisers.").

[43] ACCENTURE, *supra* note 3 at 2 ("full-service advisors are looking at robo-advice as a way to serve smaller accounts and increase advisor productivity."); *id.* at 7 (""Part of the excitement surrounding robo-advice services is

least 1% of assets under management as fee for their services.[44] Robo-advisers, on the other hand, charge much less, including fees starting as low as 15 basis points of assets under management.[45] In addition to their purported ability to provide broader access to financial advice at a lower cost, robo-advisers are heralded for another aspect of the fiduciary rule – the purported ability to provide conflict-free advice at a fiduciary level.[46] Robo-advisers' promises about the services they can provide are also met with significant questions, including questions about their limitations and the humans who may potentially introduce flaws into them.[47]

II. ROBO-ADVISERS DEFINED

Establishing a single definition of "robo-adviser" presents a problem: there is no universal platform or design.[48] "Robo-adviser" as colloquially used encompasses a wide spectrum of services and business models, but all provide investment advice in a digital format using proprietary algorithms.[49] Beyond this common trait, there is substantial variation between robo-advice platforms, with differences in (1) end user of the digital advice; (2) range of investment advice and options provided; and (3) level of human investment adviser interaction.[50]

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their appeal to non-traditional clients, especially younger clients with fewer assets to manage."); BLACKROCK, *supra* note 10, at 6 ("For a large segment of the investing public, digital advisory services have the potential to provide affordable and accessible services.").

[44] Desai, *supra* note 29.

[45] *Id* ("Fees are competitive and range between 15 to 35 basis points of AUM."); *See also* Benjamin P. Edwards, *Conflicts and Capital Allocation*, 78 OHIO ST. L.J. 181, 221 (2017) (describing fee structure of one robo-adviser that does not charge any fees for accounts under $10,000 and 0.25% of assets under management for accounts over $10,000).

A recent study of robo-advisory platforms found that they "present[] investors with an interesting value proposition – with a price reduction of as much as 70 percent for some services." ACCENTURE, *supra* note 5 at 2. *See also* THE BOARD OF THE INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS, REPORT ON THE IOSCO SOCIAL MEDIA AND AUTOMATION OF ADVICE TOOLS SURVEYS at 4 (2014), http://www.iosco.org/library/pubdocs/pdf/IOSCOPD445.pdf ("From an intermediary's perspective, providing customers advice through an automated means presents an opportunity to formulate and deliver advice in a cost effective way."); CFA INSTITUTE, *supra* note 1 at 11 ("cost, access to advice, and product choice are all viewed as more likely to have a positive impact on customers.")

[46] BLACKROCK, *supra* note 10 at 12 ("Digital advisory services have the potential to significantly mitigate behavioral finance biases and provide customized investment tools to individual investors at a relatively low cost.").

[47] Thus, while Professors Tom Baker and Benedict G.C. Dellaert argue that a well-designed robo-adviser has the capacity to operate at a greater level than humans, because the humans who design robo-advisers are flawed, robo-advisers may exhibit those flaws. Tom Baker & Benedict G.C. Dellaert, *Regulating Robo Advice Across the Financial Services Industry* __ Iowa L. Rev. __, at 18-19 (forthcoming 2017) available at https://ssrn.com/abstract=2932189.

[48] BLACKROCK, *supra* note 10 at 1 ("Digital advice is not all the same").

[49] Investor.gov, *supra* note 34. ("The term 'robo-adviser' generally refers to an automated digital investment advisory program."); SIFMA, DIGITAL INVESTMENT ADVICE RESOURCE CENTER OVERVIEW, http://www.sifma.org/issues/legal,-compliance-and-administration/digitial-investment-advice/overview/ (describing robo-advisers as "digital investment advisers"); ACCENTURE, *supra* note 4 at 2 (robo-advice is "the use of automated and digital techniques to build and manage portfolios of exchange-traded funds (ETFs) and other instruments for investors"); U.S. Securities and Exchange Commission, SEC STAFF ISSUES GUIDANCE UPDATE AND INVESTOR BULLETIN ON ROBO-ADVISERS (2017), https://www.sec.gov/news/pressrelease/2017-52.html (robo-advisers are "registered investment advisers that use computer algorithms to provide investment advisory services online with often limited human interaction.").

[50] Investor.gov, *supra* note 34; U.S. Securities & Exchange Commission, *supra* note 32; BLACKROCK, *supra* note

A. End Users of Robo-Advisor Advice

Robo advisory platforms are both industry- and investor-facing, with users who include financial advisers, investors working without financial advisors, and investors working with financial advisers.[51] The financial industry has used digital tools for many years, perhaps even without investors' knowledge. For example, the International Organization of Securities Commissions (IOSCO) found that firms use digital tools to gather the information upon which human advisers make investment recommendations.[52] Bo Lu, CEO of robo-adviser FutureAdvisor believes that robo-adviser technology assists human investment advisers in serving their clients because "they can have the digital platform take the workload off them and focus on things where they add the unique value, such as relationship-building, trust-building, and coaching with their clients."[53] Indeed, some even argue that a human investment adviser must use the technology available in digital advisory products to fully understand the client and provide the best services.[54]

Other platforms using robo-advice are designed with an investor end user in mind. Though serving the same end-user, these investor-facing robo-advisers comprise myriad tools with varying functionality.[55] On one end of the spectrum is an advisory firm that integrates robo-advice capabilities with traditional, human investment advisers. The most simplistic hybrid platforms obtain information from an investor to develop the customer's profile so that a human investment adviser can provide some level of traditional, face-to-face advice to an investor.[56] Others offer clients full access to digital investment advisory tools along with human support. Robo-advisory services partnered with a human investment adviser are cited as an option for ensuring that investor clients with less assets than traditionally managed by an investment adviser can obtain the full service advice that they may need for their particular circumstances.[57]

On the other end of the spectrum are fully digital robo-advisers that use an algorithm to review information input by the customer to recommend services from "asset allocation, to tax

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10 at 4 (differences include "(i) customization, (ii) tax management, (iii) human intervention/oversight, and (iv) type of entity providing digital advice.").

[51] FINRA, REPORT ON DIGITAL INVESTMENT ADVICE at 2 (2016), https://www.finra.org/sites/default/files/digital-investment-advice-report.pdf (digital investment tools "can be broken down into two groups: tools that financial professionals use,, referred to here as 'financial professional facing' tools, and tools that clients use, referred to here as 'client-facing' tools.").

[52] THE BOARD OF THE INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS, *supra* note 36 at __.

[53] SEC FINTECH FORUM, *supra* note 4 at 38. *See also* BLACKROCK, *supra* note 10 at 6 ("these services can be advantageous for financial institutions, including traditional advisors, by automating routine aspects of the client servicing process and providing advisors with greater channels of communications with clients.").

[54] *Id.* at 55 (Personal Capital's Mark Goines describing how digital technology improves investment advisers' advice to their clients).

[55] FINRA, *supra* note 50.

[56] *Id.*

[57] PWC, *supra* note 2 at 13 ("Robo-advisors provide a viable solution for this segment and, if positioned correctly as part of a full service offering, can serve as a segue to full service advice for clients with specific needs or higher touch."); ACCENTURE, *supra* note 4 at 11 ("robo-advice services can be a bet on the future - a way to get customers and financial advisors acclimated to working with machines that can enhance and extend human performance.").

management, to product selection and trade execution."[58] All provided tools are on a digital platform and many of the provided services, such as rebalancing of accounts to meet a pre-determined asset allocation, are accomplished automatically.[59] Robo-adviser service models may include one, all, or several different pieces of the available customer-facing digital investment tools.[60]

B. Range of Advice Provided and Investment Choices Available

Another definitional challenge relates to the range of advice and investment choices robo-advisers provide.[61] The most simplistic digital investment tools include financial planning targets for different ages and risk profiles that an investor may find on an investment adviser or broker dealer's website.[62] Some digital advice tools go a step further and "provide[] a list of securities, investment funds or model portfolios that may be considered low, medium, or high risk for investors to choose from based on the customer's risk appetite but without detailed information about the individual customer."[63]

The platforms that better fit the name robo-adviser provide tailored financial advice by applying algorithms that analyze and make decisions based on customer-provided information relating to financial circumstances and goals. A recent study summarizes the spectrum of advice such providers give: "Algorithms can range from a simple or pre-packaged algorithm that builds a single portfolio to a complex multi-strategy algorithm that reviews thousands of instruments and scenarios in order to construct an aggregate portfolio based on an individual's current holdings, investment horizon, and risk tolerance."[64] Nevertheless, even the most sophisticated robo-advisers that provide fully personalized advice based on specific investor inputs typically offer their investors a narrower range of investment choices than traditional investment advisers, often limiting choices to low-cost exchange-traded funds (ETFs) and mutual funds.[65]

C. Levels of Human Involvement

Robo-advisers may not provide a human touch that some believe essential to the investor adviser/client relationship: the ability to provide in-person support, comfort, and advice to investors in times of market volatility.[66] The traditional investment adviser's "personal touch" is

[58] BLACKROCK, *supra* note 10 at 1.

[59] Desai, *supra* note 1 (Robo-advisers' "services include automated portfolio planning, automatic asset allocation, online risk assessments, account rebalancing and other digital tools.").

[60] FINRA, *supra* note 50.

[61] BLACKROCK, *supra* note 10 at 3 ("Digital advisors have a number of different investment philosophies, methods, and strategies. The algorithms fueling digital advice very in terms of sophistication.").

[62] THE BOARD OF THE INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS, *supra* note 36.

[63] *Id* at 7-8.

[64] BLACKROCK, *supra* note 10 at 3.

[65] ACCENTURE, *supra* note 4 at 2. *See also* THE BOARD OF THE INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS, *supra* note 36 at 27 (investment choices include "collective investment schemes, mutual funds, ETFs and equity classes are the most common."); The Board of the International Organization of Securities Commissions, UPDATE ON THE REPORT ON THE IOSCO AUTOMATED ADVICE TOOLS SURVEY at 9 (Dec. 2016).

[66] SEC Investor Advocate Rick Fleming described the role of the investment adviser in working with clients during rocky markets: "[T]here's a lot of benefit that comes from the human touch and having somebody there that's

why some predict that robo-advisers will never entirely replace the traditional, human investment adviser.[67] Financial industry-backed studies support this prediction, finding that 74 percent of investors prefer receiving their investment advice from a human in a volatile market.[68]

This does not mean, however, that investors employing robo-advisers do not interact with humans. The term "robo-adviser" may thus be a misnomer as it may lead investors to believe that financial advice provided through such a service comes without any human interaction.[69] Mark Goines, vice chair of digital wealth management firm Personal Capital, says that "we don't like the term 'robo'" because "even robo-advisors aren't really robo-advisors."[70] A human touch is required for all robo-advisers,[71] though that touch differs from that of a traditional human investment adviser by design so that the cost of the ultimate advice may be lower.[72] Each robo-adviser makes its own decision about the total level of human involvement, though there are some common themes.[73] Humans must be involved in the design of robo-advice platforms and the proprietary algorithms that deliver advice to the investor.[74] Other humans ensure that robo-advisers comply with relevant rules and standards, both within the advisory firm and outside the firm at the regulatory level.[75] Finally, some robo-adviser platforms even permit their investor customers to

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going to sort of calm the waters and, when the markets are going down, making sure that investors aren't making really bad decisions at the worst possible time. And so, I think it, again, is one of those things that sort of remains to be seen, is how well technology can sort of replicate that and put those protections into place." SEC Fintech Forum, U.S. SECURITIES & EXCHANGE COMMISSION, *supra* note 5 at 244. Asquith, *supra* note 35 ("for many customers robo-advice is a poor substitute for a financial adviser who understand the customer's needs and guides the customer through market turbulence or life events.").

[67] ACCENTURE, *supra* note 4 at 5; SEC Fintech Forum, U.S. SECURITIES & EXCHANGE COMMISSION, *supra* note 5 at 243 (attorney John Walsh describing challenges faced by robo-advisers: "We're used to face to face human interaction, and we have confidence in our ability to deal with other people, and that's why I think, even though Fintech is booming and growing, personal advice has a big future ahead of it...").

[68] Capital One Investing, RETIREMENT CONFIDENCE DIPS IN 2017 (2017), https://content.capitaloneinvesting.com/mgdcon/core/aboutus/press/20170310_Financial-Freedom-Survey.pdf ("when markets are volatile, most (74 percent) investors would prefer engaging a financial advisor").

[69] Humans play a significant role in all aspects of fintech, and scholars predict that will continue even as financial technology continues to grow and change. *See, e.g.*, Tom C.W. Lin, *The New Financial Industry*, 65 ALA. L. REV. 567, 580 (2014) (describing myriad and key roles of humans in financial technological changes).

[70] U.S. SECURITIES & EXCHANGE COMMISSION, *supra* note 5 at 27-28.

[71] BLACKROCK, *supra* note 10 at 4 ("digital advisors have a fundamental obligation to oversee their systems and mitigate risks associated with digital processes.").

[72] U.S. SECURITIES & EXCHANGE COMMISSION, *supra* note 32.

[73] Only one regulatory scheme, that in place in Canada, currently requires that humans either gather initial customer information or proactively contact an investor if the investor's responses to an online questionnaire appears incomplete or provides inconsistent information. *See* The Board of the International Organization of Securities Commissions, UPDATE ON THE REPORT ON THE IOSCO AUTOMATED ADVICE TOOLS SURVEY at 6 (Dec. 2016) (describing Canada's phone and no-phone rules and requirement for no-phone advisers that customers be contacted if their responses to an initial questionnaire raise potential concerns).

[74] For example, robo-adviser firm Personal Capital's Mark Goines notes that robo-adviser "tasks are automated by humans who figure out what algorithms are, assign strategies, interpret data from people." SEC FINTECH FORUM, *supra* note 4 at 27-28.

[75] *See* BLACKROCK, *supra* note 10 at 10 ("We emphasize the need for investment professionals to be closely involved in the design and oversight of the financial advice tool to ensure that the algorithm delivers the expected outcome.").

work with a live investment adviser as part of their service model.[76] The availability of such services may be dependent upon the provider, the amount of assets under management, or the package elected by the investor.[77] When human interaction is part of a robo-adviser's offerings, it does not necessarily mean an in-person discussion with a dedicated investment adviser but may instead be a phone call or electronic access to a member of an advisory team.[78] In addition to variation across the method of contacting a human investment adviser, robo-adviser platforms vary in the frequency with which an investor can reach out to a human adviser.[79]

D. Gathering Information and Making Investment Recommendations

Robo-advisers operate through the information they receive from the end user, which is, in our case, the investor customer.[80] In this way, robo-advisers differ very little from traditional investment advisers in that both are required to begin by collecting information from their customer in order to provide investment advice tailored to the individual investor.[81] Human investment advisers typically obtain information to know their customer and provide suitable advice from a questionnaire.[82] Robo-advisers obtain the same categories of information from their customers prior to providing investment advice, also using a form of questionnaire.[83] In both cases, the information comes from the investor, and, in the case when an investment adviser gives an investor a paper questionnaire to fill out, both the human- and robo- adviser clients provide the initial information on their own. Both human-based and robo-adviser questionnaires have been criticized for purported failures to obtain full information from which to provide suitable advice to the customer.[84] In addition, regulators warn consumers considering robo-advisers that it may be up to them to update their profile and financial circumstances.[85]

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[76] U.S. SECURITIES & EXCHANGE COMMISSION, *supra* note 32. One industry study indicated that investors appear to value digital advisers coupled with traditional, human investment advisers over digital advice provided directly to investors with little human interaction. *See* Capital One Investing, *supra* note 20.

[77] U.S. SECURITIES & EXCHANGE COMMISSION, *supra* note 32. ("a robo-adviser may offer access to a person only for accounts that meet a certain minimum account size.").

[78] *Id.* ("If a robo-adviser does make an investment professional available to you, the format and amount of the interaction also may vary."); *id.* ("a person may be available by email but not by phone.").

[79] *Id.* ("a person may be available…only for a limited number of in-person meetings.").

[80] SIFMA, *supra* note 10 (robo-advisers "offer discretionary investment advice using algorithms and information provided by the customer.").

[81] For example, securities intermediaries using digital methods for obtaining sufficient information upon which to base a recommendation report (1) that their tools "cover the mandated regulatory requirements"; (2) "their tools will not permit recommendations to be made unless all necessary information is obtained;" and (3) they rely on firm account opening policies irrespective of whether the account is opened on-line or in person." THE BOARD OF THE INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS, *supra* note 36.

[82] Michael Tertilt and Peter Scholz, *To Advise, or Not to Advise – How Robo-Advisors Evaluate the Risk Preferences of Private Investors*, 1 (June 12, 2017), available at SSRN: https://ssrn.com/abstract=2913178 ("Financial advisors typically complete a questionnaire to evaluate the client's risk tolerance.").

[83] *See, e.g.*, U.S. SECURITIES & EXCHANGE COMMISSION, *supra* note 32 (robo-adviser information collection via online questionnaire); Tertilt, *et al.*, *supra* note __ at 6-11 (describing robo-adviser information collection).

[84] Tertilt, *et al.*, *supra* note __ at 3 ("human questionnaires commonly used by financial planners do not adhere to psychometric standards; they are generally too brief (a reliability problem) and contain too many 'bad' questions (a validity problem).").

[85] U.S. SECURITIES & EXCHANGE COMMISSION, *supra* note 32 ("the burden to update this information will fall on

Robo-advice employs computer algorithms to recommend portfolio choices based upon the investor's response to the initial questions posed concerning their background, risk tolerance, and goals.[86] While robo-adviser proponents argue that computer generated advice lacks the conflicts of interest or behavioral biases of human advisers, others note that algorithms may be the greatest risk associated with robo-advisers.[87] Cautions concerning the use of robo-advisers focus on the potentially limited information upon which algorithm relies.[88] One recent study focusing on a subset of international robo-advisers found that, on average, robo-advisers ask few questions and only use responses from a small proportion of those questions to generate their advice.[89] Industry experts recommend robust due diligence into and supervision of algorithms.[90] In the same way that a traditional investment adviser must know her customer and obtain a wide range of information in order to provide suitable advice, the means through which robo-advisers provide their advice - proprietary algorithms -- require robust inputs and are only as good as the information upon which they base their calculations and recommendations.[91]

Although the robo-adviser designation can describe multiple models, end users, and degrees of human involvement, this essay will focus on robo-advisory platforms with the investor client as the anticipated end user of a digital platform that predominately delivers investment advice via proprietary algorithms, including models where the client has access to a human investment adviser for additional support.

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you.").

[86] Algorithms are not new. Financial intermediaries began using them decades ago to replace roles formerly processed by humans. *See, e.g.*, Arthur B. Laby, *Reforming the Regulation of Broker-Dealers and Investment Advisers*, 65 Bus La. 395, 403 (2009) (describing introduction of ECNs and use of algorithms in 1990s to automate trade executions and replace human judgment).

[87] CFA INSTITUTE, *supra* note 2 at 14 ("46% of respondents note that flaws in automated financial advice algorithms could be the biggest risk introduced from automated financial advice tools, followed by mis-selling (30%) and privacy and data protection concerns (12%)."). *See also* Tom C.W. Lin, *Compliance, Technology, and Modern Finance*, 11 BROOK. J. CORP. FIN. & COMM. L. 159, 180 (2016) ("Uncertainty and risk in finance can never be perfectly modeled, reduced, or eliminated. Despite all the advances in new financial technology and artificial intelligence, there exists no machine so smart that it flawlessly forecasts financial futures and economic risks in a world filled with flawed, whimsical, and random human actors.").

[88] U.S. SECURITIES & EXCHANGE COMMISSION, *supra* note 32; Horacio A. Valeiras, *Expert's Corner: Portfolio Construction Highly Dependent on the Initial Conditions*, 23 PIABA B.J. 75, 75-76 (2016) ("However, as with so many so-called investment panaceas, many of the robo-adviser models can lead to flawed portfolio construction decisions caused by poorly analyzed assumptions and historical data").

[89] Tertilt, *et. al*, *supra* note __ at 19 ("In our sample, the robo-advisors pose around ten questions, but only about ca. 60% of questions actually have an impact on the risk categorization…The recommended portfolios derived from robo-advice seem to be rather conservative.").

[90] BLACKROCK, *supra* note 10 at 10 ("A number of key questions to be asked when conducting due diligence on the algorithm include: (i) whether the algorithm factors in transaction costs or termination fees, if any; (ii) whether the algorithm factors in tax implications and, if so, does it have the cost basis of each asset; and (iii) whether the algorithm factors in the level of risk that is appropriate for the consumer, especially if the consumer has limited financial knowledge and experience.").

[91] BLACKROCK, *supra* note 10 at 9 ("Digital advisors, like traditional advisors, are dependent on client-provided information to gauge suitability, which is typically obtained through questionnaires. The information gathered from these questionnaires should be used to make appropriate recommendations to clients."); SEC FinTech Forum, *supra* note 5 at 65 ("I think it's malpractice to not understand a client and make a recommendation to them, and algorithms with minimal input run the risk of not fully understanding the client.").

III. Regulation of Robo-Advisers Under Current Scheme and in the Future

Robo-advisers face a dual challenge and opportunity: can they provide investment advisory services meeting a fiduciary standard under the 1940 Act?[92] The 1940 Act was the final major financial legislation arising out of the Great Depression and its focus was on a new breed of professionals: investment advisers who received compensation from clients to recommend investment strategies.[93] At that time, little was known about the investment adviser industry and the 1940 Act was perceived as an opportunity to learn about the industry and collect the names of all practicing in the new arena.[94] Though it is well known today that investment advisers subject to the 1940 Act owe their clients a fiduciary duty, the 1940 Act was promulgated without the term fiduciary within it. It was not until twenty years later that duties owed by investment advisers to their clients was first addressed by the U.S. Supreme Court in *Capital Gains Research Bureau v. SEC*, after which full disclosure became a hallmark of the fiduciary standard owed from investment advisers to their clients.[95] In subsequent cases, courts continued to shape the contours of the duties owed to investor advisers' clients.[96] Since then, the fiduciary duty owed under the 1940 Act has been defined as requiring disclosure, avoiding conflicts of interest, and acting in the customer's best interest.[97]

Although lawyers representing both human and robo-advisers have weighed in on whether robo-advisers can meet the requirements of the 1940 Act, there is little in legal scholarship addressing whether robo-advisers can be fiduciaries.[98] Nevertheless, robo-advisers avail

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[92] White, *supra* note 9. ("So, in this area, the key questions are focused on whether and how a firm meets its Advisers Act obligations, as well as its fiduciary duties, when it provides only or primarily automated advice.").

While it is possible that some robo-advisers are operating as broker-dealers, most direct to customer platforms appear to be operating as investment advisers. Accordingly, the remainder of this essay will discuss the investment adviser regulatory framework rather than the duties owed by broker-dealers

[93] Karmel, *supra* note __ at 406 ("As the last of the New Deal securities laws that date between 1933 and 1940, the Advisers Act was probably the least considered and the least important. It was a weak statute, which accomplished little more than creating a registration list of investment advisers.").

[94] *Investment Advisers and Disclosure of an Intent to Trade*, 71 YALE L.J. 1342, 1342 (1962) ("relatively little was known about the practices of investment advisers; in fact, the act was in large part designed to acquire information about the industry."). *See also* Arthur B. Laby, *Reforming the Regulation of Broker-Dealers and Investment Advisers*, 65 BUS LAW. 395, 403 (2009) ("little was known about the number of investment advisers operating at the time or the amount of assets they managed"); *id.* (1940 Act "little more than a 'compulsory census.'").

[95] *Dealing by Advisers in Recommended Securities*, 78 HARV. L. REV. 292, 294 (1964) ("By interpreting the act to require full disclosure in any situation in which there is a possibility of bias, the client himself may evaluate the disinterestedness of the advice.").

[96] Karmel, *supra* note __ at 410-411 (2016) (describing development of fiduciary duty for investment advisers through judicial decisions).

[97] Irwin, *et al.*, *supra* note __ at 59.

[98] Representing the traditional advisory community, lawyer Melanie Fein argues that robo-advisers cannot meet the 1940 Act's standards. *See* Melanie L. Fein, *Robo-Advisors: A Closer Look* at 1, available at SSRN: https://ssrn.com/abstract=2658701 (June 30, 2015) (robo-advisors "are not designed for retirement accounts subject to ERISA and should be approached with caution by retail and retirement investors looking for personal investment advice."); Melanie L. Fein, *FINRA's Report on Robo-Advisors: Fiduciary Implications* at 8, available at SSRN: https://ssrn.com/abstract=2768295 (Apr. 1, 2016) (questioning whether robo-advisers can meet fiduciary standard). On the other hand, lawyers at a firm that represents robo-advisers argue that robo-advisers do meet the fiduciary standard. *See* Morgan Lewis, *The Evolution of Advice: Digital Investment Advisers as Fiduciaries* at 17, available at

themselves to that framework, assuming its applicability and their ability to live up to it.[99] Federal regulators believe robo-advisers are subject to the 1940 Act just as human advisers are.[100] The SEC thus holds robo-advisers to the fiduciary standard.[101] SIFMA, a group representing the securities industry, appears to agree, stating that it is possible for robo-advisers to meet the fiduciary standard.[102] Only Massachusetts regulators so far present a contrary opinion, writing in a policy statement that they do not believe that one subset of robo-advisers, those that are fully automated, can meet a fiduciary duty.[103] The consensus appears to be that since robo-advisers are availing themselves to the 1940 Act, it is up to them to ensure, and prove, that they can comply

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https://www.morganlewis.com/-/media/files/publication/report/im-the-evolution-of-advice-digital-investment-advisers-as-fiduciaries-october-2016.ashx?la=en&hash=7A28D9586FD8ACADC9731733BFE4281F4E6FEB49 (2016) ("digital advisers are capable of fulfilling fiduciary standards that are consistent with the scope and nature of the advisory services that they provide to clients."). With a view towards the greater financial services industry, two scholars have proposed some guiding principles from which a robo regulatory scheme can be developed. *See* Tom Baker & Benedict G.C. Dellaert, *Regulating Robo Advice Across the Financial Services Industry* __ Iowa L. Rev. __, at 20 (forthcoming 2017) available at https://ssrn.com/abstract=2932189 ("we propose a regulatory *trajectory*, rather than a regulatory agenda, that starts by building the necessary human capital and only then will move to setting an agenda.").

[99] *See* The Board of the International Organization of Securities Commissions, UPDATE ON THE REPORT ON THE IOSCO AUTOMATED ADVICE TOOLS SURVEY at 4 (Dec. 2016) (finding in study of international securities regulators that majority of regulatory frameworks "are technology neutral and do not differentiate between advice or portfolio management delivered by a human and that delivered by a software package, possibly win a human interface overlay.") available at www.iosco.org/library/pubdocs/pdf/IOSCOPD552.pdf.; *id.* at 10 (reporting FINRA/SEC response to survey that concerns related to robo-advisers "also apply in the context of more traditional advisors and are unique only to the extent that robo advisors place greater emphasis on technology.").

[100] Earlier this year, the SEC stated that digital investment advice under the Investment Advisers Act is no different than human-directed financial advice: "Robo-advisers, as registered investment advisers, are subject to the substantive and fiduciary obligations of the Advisers Act." *Id.* Similarly, IOSCO's 2014 international study on digital investment tools reported that "[a]ll but one regulator responding to the survey stated that the rules governing advice/recommendations apply irrespective of whether the advice/recommendations were made by automated tools or otherwise." THE BOARD OF THE INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS, *supra* note 36 at 24. Further, IOSCO found that regulators' guidance to firms "on areas such as disclosure, the provision of advice, supervision, AML, advertising and assessment is technology neutral… [and] applies irrespective of whether the advice is given by telephone, email, internet, face-to-face or by a combination of these or other ways." *Id*. at 22. *See also* U.S. Securities and Exchange Commission, *supra* note 32 ("Providing financial advisory services electronically is different than the traditional adviser model, but in many respects our [the SEC's] assessment of robo-advisors is no different than for a human-based investment adviser.").

[101] SEC, *IM Guidance Update No. 2017-02: Robo-Advisers* (February 2017) ("Robo-advisers, like all registered investment advisers, are subject to the substantive and fiduciary obligations of the Advisers' Act.")

[102] SIFMA, *supra* note 10 ("Digital investment advisers can fulfill their fiduciary duties under the law so long as they act in good faith, disclose the material facts, and use reasonable care not to mislead clients.").

[103] *See* Massachusetts Securities Division, *Policy Statement: Robo-Advisers and State Investment Adviser Registration* at 1 (April 2016) ("it is the position of the Division that fully automated robo-advisers, as currently structured, may be inherently unable to carry out the fiduciary obligations of a state-registered investment adviser."); *id.* at 3 (defining fully automated robo-adviser as including following criteria: "(1) do not meet with or conduct significant (or any) due diligence on a client, (2) provide investment advice that is minimally personalized, (3) may fail to meet the high standard of care that is imposed on the appropriateness of investment advisers' investment decision-making, and (4) specifically decline the obligation to act in a client's best interests."). Massachusetts' Securities Division does nevertheless believe that "robo-advisers and traditional advisers shoulder the same fiduciary duty." *Id*. at 4.

with it.[104]

If the robo-adviser industry is voluntarily availing itself to the 1940 Act, regulators' next step should be to test whether robo-advisers are meeting the 1940 Act's requirements. Such an inquiry should use the current regulatory toolkit of disclosure, investigation, and enforcement.[105] The SEC appears to be pursuing this approach. For example, a February 2017 staff guidance update concerning robo-advisers identified three areas that robo-advisers should ensure they are meeting to be in compliance with the 1940 Act: (1) adequate and effective disclosure; (2) collection of information to deliver suitable advice; and (3) effective compliance systems.[106] Following up through investigation and pursuing enforcement for additional information will provide regulators with information that can guide their next steps, including whether the current regulatory regime is sufficient or if new regulations are needed. Indeed, due to President Trump's moratorium on new regulation unless two other regulations are discarded, such an approach may be preferable to creating new regulation specifically to address robo-advisers.[107] While it seems counterintuitive, refraining from regulation until more information about the industry emerges is a commonly used approach and recommended by some scholars as a means of evaluating technological innovation in the financial industry.[108]

Thus, before proposing regulatory changes to address the proliferation of robo-advisers,

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[104] *See, e.g.,* Iris H-Y Chiu, *Fintech and Disruptive Business Models in Financial Products, Intermediation and Markets – Policy Implications for Financial Regulators,* 21 J. Tech. L. & Pol'y 55, 90 (2016) ("it is for the providers of such automated portals to demonstrate that they meet the same standards of suitability as those imposed on investment advisers generally."); Morgan Lewis, *The Evolution of Advice: Digital Investment Advisers as Fiduciaries* at 17 (2016) available at https://www.morganlewis.com/~/media/files/publication/report/im-the-evolution-of-advice-digital-investment-advisers-as-fiduciaries-october-2016.ashx?la=en (lawyers for robo-advisers arguing that robo-adviser platform "fits entirely within the existing regulatory framework governing investment advisers.").

[105] There may also be a role for the private bar to take in ensuring that robo-advisers operating under the 1940 Act live up to their fiduciary standards. *See, e.g.,* Diana Novak Jones, *Morningstar, Prudential Face Class Action Over Robo-Adviser*, Law360 (Aug. 4, 2017) (describing putative class action alleging that investment advisers conspired to develop a robo-adviser that directed clients to high fee investments for benefit of advisers).

[106] SEC, *IM Guidance Update 2017-02: Robo-Advisers* at 2 (Feb. 2017).

[107] Presidential Executive Order on Reducing Regulation and Controlling Regulatory Costs (Jan. 30, 2017) ("Unless prohibited by law, whenever an executive department or agency (agency) publicly proposes for notice and comment or otherwise promulgates a new regulation, it shall identify at least two existing regulations to be repealed."), available at https://www.whitehouse.gov/the-press-office/2017/01/30/presidential-executive-order-reducing-regulation-and-controlling.

[108] *See, e.g.,* Chiu, *supra* note __ at 63 ("the regulatory engagement with financial innovation has always been one of relative passivity and catch-up. Regulators, cautious of not impeding the development of competitive innovation and choice for consumers, often dismantle regulatory barriers to support competition or refrain from adding such barriers. This is because much of financial innovation depends on low cost and flexible models, which would be stifled by the high cost of regulation. Thus, regulators often take a 'wait and see' approach, preferring to monitor developments regulating financial innovation."); *id.* at 94 ("The judgment-based approach championed internationally and in the United Kingdom can form the basis for a regulatory approach that adopts early monitoring and reflective consideration of the key aspects of fintech innovation in terms of 'change,' 'substitutive potential,' and 'structural impact.'").

This approach is not without its risks. *See, e.g.,* Lin, *supra* note __ at 166 (2016) ("financial innovation frequently finds roots in attempts to evade or arbitrage new regulation."). Regulators could be perceived as not protecting the investing public, and any scandal or crisis involving robo-advisers before regulators have crafted specific regulations may then result in over-regulation. *See, e.g., id.* at 166-168 (describing over-regulation after economic crises, followed with cycle of deregulation in future years, which increase compliance costs).

regulators should reflect upon the evolution of the 1940 Act and similarities between that time and today. Like the then-new investment adviser category of professionals that Congress hoped to learn about through the 1940 Act, robo-advisers are not an entirely well-known, uniform, or understood entity.[109] As it did in developing the contours of the 1940 Act, regulators should use existing rules and regulatory tools to develop knowledge about how robo-advisers operate before constructing new regulation.[110] For example, the SEC's can employ enforcement actions as it did in the early decades of the 1940 Act to learn about the robo-adviser industry, test whether the existing contours of the 1940 Act's fiduciary standard apply to robo-advisers, and consider refining or expanding those contours as has been done in the past when the industry changed.[111]

In particular, because disclosure is a "bedrock principle of federal securities law,"[112] it should remain a key focus of regulators as they determine what, if any, additional regulatory is necessary. Disclosure is a crucial aspect of fiduciary relationships because it goes to the heart of trust, the very relationship that some believe hardest for robo-advisers to achieve without a human touch.[113] It is therefore not surprising that the robo-adviser industry and regulators alike recognize the important role disclosures play in transparency relating to robo-advisers' operations, algorithms, limitations and assumptions.[114] Regulators have already begun to focus on the quality and content of robo-adviser disclosures to ensure their compliance with the 1940 Act, concerned that customers will not fully understand what specifically the robo-adviser is providing to them.[115] Scholars

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[109] *See* Arthur B. Laby, *Models of Securities Regulation in the United States*, 25 Ford. Int'l L. J. 20, 26 (1999) (describing objections to regulation of investment advisers before promulgation of 1940 Act including "that the profession was not yet mature enough to be regulated.").

[110] Internationally, regulators are already taking this approach. IOSCO reports that eight regulators, including FINRA and the SEC, "reported that their existing rules appear to be sufficient at the present time to cover automated advice tools." The Board of the International Organization of Securities Commissions, UPDATE ON THE REPORT ON THE IOSCO AUTOMATED ADVICE TOOLS SURVEY at 13 (Dec. 2016).

[111] *See, e.g.*, Karmel, *supra* note __ at 407 (2016) ("As frequently occurs when the SEC is unable to engage in rulemaking, it has attempted to impose its views concerning proper conduct upon investment managers through enforcement actions."). Use of enforcement as an after-the-fact tool to regulate financial intermediaries is not without criticism, with some arguing for regulation before enforcement. *See* Onnig H. Dombalagian, *Preserving Human Agency in Automated Compliance*, 11 Brook. J. Corp. Fin. & Comm L. 71, 81-83 (2016) (describing critiques of enforcement as regulatory tool and shift towards prophylactic regulatory scheme).

[112] Barbara Black, *Are Retail Investors Better Off Today?*, 2 BROOK. J. CORP. FIN. & COM. L. 303, 306-307 (2008).

[113] SEC FINTECH FORUM, *supra* note __ at 18 ("the most interesting part of this sort of disruption is that the paradigm of how we establish trust online is changing"). Others in the industry similarly believe that from an investor protection standpoint, FinTech boils down to trust. *See, e.g., id.* at 234 ("Are they [robo-advisers] trustworthy? And it's not just does it work or is the disclosure right, but what is it about it that will make it trustworthy…?").

[114] Both the industry and regulators seem to agree the complete and clear disclosure of key elements of robo-advisers is required. *See, e.g.,* BLACKROCK, *supra* note 10 at 10 ("digital advisors should disclose to clients the limits of their services and their dependence on client-provided information"); *id.* at 9 ("It is important that digital advisors reasonably design their algorithms based on their stated investment strategies and methods and make appropriate disclosures to clients concerning such investment strategies and methods."); SEC, *IM Guidance Update 2017-02: Robo-Advisers* at 3-6 (Feb. 2017) (describing quality, quantity, and form of disclosure that robo-advisers may need to meet requirements of 1940 Act); U.S. Securities & Exchange Commission, *Investor Alert: Automated Investment Tools*, available at https://www.sec.gov/oiea/investor-alerts-bulletins/autolistingtoolshtm.html (May 8, 2015) (advising investors to "[r]eview all relevant disclosures for an automated investment tool").

[115] *See, e.g.,* SEC, *IM Guidance Update 2017-02: Robo-Advisers* at 3-6 (Feb. 2017) (describing special considerations for disclosure that may apply to robo-advisers due to their unique features); The Board of the

similarly argue that disclosure should be a key component of future regulation applicable to artificial intelligence's growth in the financial industry.[116]

Disclosure is not, however, a miracle cure that renders robo-advisers appropriate for every, or even any, investor.[117] Indeed, commentators criticize current robo-advisers operating under the 1940 Act for purportedly using their disclosures to limit the scope and character of their relationship with clients in an entirely permissible manner, but one that investors may not understand.[118] From the time of the *Capital Gains* definition of fiduciary responsibilities owed by the investment adviser to the client, commentators suggested that disclosure may not be an effective device.[119] Investor uses of and actions after disclosure are sometimes unintended or illogical.[120] Disclosures to consumer investors in the mutual fund context, a type of investment that appeals to the same retail investors as robo-advisers, have been criticized as too dense and difficult to read, let alone understand, even before SEC plain English requirements.[121] Regulators should recommend robo-adviser disclosures that do not suffer from this critique.[122]

In addition to using current tools, it is imperative that, along a parallel track, the current regulatory tools be studied to determine their efficacy in protecting consumers. For example, studying retail investor understanding of robo-adviser disclosures will provide valuable information from which to further evaluate this key tool.[123] Thus, in addition to reviewing robo-

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International Organization of Securities Commissions, UPDATE ON THE REPORT ON THE IOSCO AUTOMATED ADVICE TOOLS SURVEY at 11 (Dec. 2016) (describing regulator, including FINRA and SEC, "concerns about customers lacking awareness of, or not understanding, the limitations of automated advice tools. Clients may not understand the service offered; for example that the automated advice tool may not consider their full financial and personal circumstances."); Massachusetts Securities Division, *Policy Statement: State-Registered Investment Advisers' Use of Third-Party Robo-Advisers* at 1 (listing six items as minimum required disclosure).

[116] Tom C.W. Lin, *The New Financial Industry*, 65 ALA. L. REV. 567, 599-603 (2014) (arguing for enhanced disclosure as component of multi-part framework for regulating "cy-fi.").

[117] *See generally* Tamar Frankel, *The Failure of Investor Protection by Disclosure*, 81 U. CIN. L. REV. 421 (2013).

[118] Melanie L. Fein, *Robo-Advisors: A Closer Look*, available at SSRN: https://ssrn.com/abstract=2658701 (June 30, 2015); Melanie L. Fein, *FINRA's Report on Robo-Advisors: Fiduciary Implications*, available at SSRN: https://ssrn.com/abstract=2768295 (Apr. 1, 2016); *But see* Morgan Lewis, *The Evolution of Advice: Digital Investment Advisers as Fiduciaries*, at 7 (2016), available at https://www.morganlewis.com/~/media/files/publication/report/im-the-evolution-of-advice-digital-investment-advisers-as-fiduciaries-october-2016.ashx?la=en (arguing that investment advisers may limit the scope of their relationship with clients).

[119] A case note describing the *Capital Gains* decision at the time of its issuance noted flaws inherent in disclosure. *Dealing by Advisers in Recommended Securities*, 78 Harv. L. Rev. 292, 295 (1964) ("If the investing public is truly naïve, disclosure does not provide a realistic method of protection.").

[120] *See, e.g.*, Arthur B. Laby, *Reforming the Regulation of Broker-Dealers and Investment Advisers*, 65 Bus. Law. 395, 429-230 (2009) (describing concerns with disclosure of conflicts of interest as including lack of filtering of information between conflicted principal and client, understanding the magnitude of bias the disclosed conflict creates, and focus on investor and exclusion of how the disclosure impacts the disclosor's actions); Troy A Paredes, *Blinded by the Light: Information Overload and its Consequences for Securities Regulation*, 81 Wash. U. L.Q. 417, 441-443 (2003) (describing information overload and impact on decision making).

[121] *See, e.g.*, Barbara Black, *Are Retail Investors Better Off Today?*, 2 Brook. J. Corp. Fin & Comm. L. 303, 325-327 (2008) (describing mutual fund disclosures as "dismal," too complicated, and difficult to digest).

[122] *See* Benjamin P. Edwards, *The Professional Prospectus: A Call for Effective Professional Disclosure*, __ Wash. & Lee L. Rev. __, 33 (forthcoming 2017) (arguing that disclosures for a Professional Prospectus that would allow consumers to have more information about professional service providers should presents "information in a short, standardized, and clear format").

[123]*See* Black, *supra* note __ at 333 ("To state the obvious, the purpose of disclosure should be to provide *useful* information to investors."); Paredes, *supra* note __ at 418 (describing two necessary components of disclosure's

adviser disclosures for completeness and accuracy, outside studies should be conducted to evaluate consumers' comprehension of disclosures being made to them.[124] These studies should incorporate a focus beyond behavioral finance and cognitive biases and start with a threshold of comprehension. In particular, studies should incorporate experts in adult literacy to determine whether and how much information in disclosures is being comprehended and to develop best practices for crafting effective disclosures that will allow investors to truly understand the contours of their relationship with their robo-adviser.[125]

Moreover, it is necessary to explore the means of disclosure in addition to retail investors' base comprehension of it. Robo-advisers' technological innovations may be effective in deploying disclosures to retail investors.[126] Accordingly, regulators should explore robo-advisers' technological capacities to deliver disclosures in a fashion more relevant to today's investors.[127] While technology could address some of the critiques of information overload associated with disclosures in investing, challenges nevertheless remain.[128] Robo-advisers provide an interesting opportunity to determine if, and how, their purportedly consumer-friendly technology can be deployed to increase efficacy and consumer comprehension of disclosures.[129] For example, regulators and robo-advisers alike could explore robo-adviser capabilities to track whether and to

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efficacy: that information is disclosed and that end users of the disclosure "use the disclosed information effectively.").

[124] *See, e.g.,* Paredes, *supra* note __ at 420 (advocating "more empirical research to better understand how investors process information and make investment decisions."); *id*. ("the federal securities laws could be improved by accounting for how investors actually process information and make decisions.").

[125] Black, *supra* note __ at 337 ("the likelihood that investors will be forced to participate in markets that they do not understand and that they do not perceive as fair should drive current reform efforts."); Paredes, *supra* note __ at 432 ("for our mandatory disclosure system to work, securities market participants must not only have access to information, but must be able to search and process in an effective manner the information that is disclosed.").

[126] *See, e.g.,* SEC, *IM Guidance Update 2017-02: Robo-Advisers* at 5-6 (Feb. 2017) (describing how consumer engagement with robo-advisory platforms may require different format and character of disclosures involving technological innovation). In recent years, regulators have focused attention to the collection and dissemination of data in formats that will permit regulators and scholars to interpret and use the data with the hope that retail investors may also be able to benefit from the information. *See* Onnig H. Dombalagian, *Preserving Human Agency in Automated Compliance*, 11 BROOK. J. CORP. FIN. & COM. L. 71, 74-75 (2016) (describing regulatory efforts to standardize and automate information relating to disclosures for more meaningful use); Paredes, *supra* note __ at 479-480 (advocating for investor education and training coupled with decision aids to encourage more effective investor use of disclosure).

[127] Investor Advocate Rick Fleming has argued that current disclosure regimes have not kept up with how Americans access information and that "new technologies give us new opportunities to provide disclosure that is both comprehensive and comprehensible. Times have changed, and so should the delivery of information to investors." Rick A. Fleming, *Effective Disclosure for the 21st Century Investor* (Feb. 20, 2015), available at https://www.sec.gov/news/speech/022015-spchraf.html.

[128] *See, e.g.,* Erik F. Gerding, *Disclosure 2.0: Can Technology Solve Overload, Complexity and Other Information Failures?*, 90 TULANE L. REV. 1143, 1167-1180 (2016) (discussing technology's potential and challenges in addressing informational overload and complexity issues investors face in assessing securities and arguing for evidence to inform disclosure initiatives); *id*. at 1146 ("Can new technologies help investors understand complex firms, particularly financial institutions, as well as complex financial instruments and markets, while not overtaxing the cognitive abilities of individuals? Investors need a rich set of information to value firms and securities, but the fear is that they cannot process too much information or that too much information will exacerbate behavioral biases and prompt cognitive errors.").

[129] *See* Tom C.W. Lin, *The New Financial Industry*, 65 ALA. L. REV. 567, 601 (2014) (arguing that "policymakers should examine new ways to leverage technology towards creating a better, more workable disclosure framework.")

what extent their customer users read and understand disclosures and follow up with those consumers who may need additional attention to fully understand.[130]

CONCLUSION

Robo-advisory platforms, as newer entrants to an established advisory industry, challenge convention and will disrupt the provision of financial advisory services in the future. Though "robo-adviser" is currently synonymous with innovation, the industry's swift growth may render the services it provides so ubiquitous that the term will fade away.[131] Yet the means through which advice is provided is not fully understood and will continue to evolve.[132] Operating within an existing framework, the robo-advisers now regulated under the 1940 Act will challenge regulators to examine and articulate the parameters of the fiduciary duties they owe to the clients and how those duties will be met. However, just as with the promulgation of the 1940 Act, the application of the current regulatory regime to a new breed of advisers will guide regulators and shape investor protection policy after study and real-world experiences inform direction and identify needs and gaps. The new breed of investment advisers, robo-advisers, provide regulators with an opportunity to refocus on the core principles of the 1940 Act and use their current tool kit to guide future activity while evaluating whether the technology itself affords opportunities to better ensure that the consumer protection aspect of disclosure actually results in fully informed consumers.

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[130] For example, Canadian regulators require robo-advisers to follow up with a telephone call to any investor whose response to online initial information appears to be incorrect or inconsistent. *See* The Board of the International Organization of Securities Commissions, UPDATE ON THE REPORT ON THE IOSCO AUTOMATED ADVICE TOOLS SURVEY at 6 (Dec. 2016). Robo-advisers could develop algorithms to determine whether customers need additional disclosure mechanisms if, for example, they have not spent a certain amount of time on a disclosure page before acknowledging that they have read it.

[131] In the SEC's FinTech forum, robo-advisor Betterment's CEO Ben Alden described how robo-advisers may be subsumed into the lexicon of financial services as they continue to grow: "We don't use "online brokerage" or "discount brokerage" quite the way that it was in the, you know, '80s-'90s, and I think, similarly, "robo-adviser" will drop away." SEC Fintech Forum, *supra* note __ at 71.

[132] *See, e.g.,* Lin, *supra* note __ at 163 (arguing that technology will continue to transform all aspects of financial industry in future years).