ARE ROBOTS GOOD FIDUCIARIES? REGULATING ROBO-ADVISORS UNDER THE INVESTMENT ADVISERS ACT OF 1940

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In the past decade, robo-advisors—online platforms providing investment advice driven by algorithms—have emerged as a low-cost alternative to traditional, human investment advisers. This presents a regulatory wrinkle for the Investment Advisers Act, the primary federal statute governing investment advice. Enacted in 1940, the Advisers Act was devised with human behavior in mind. Regulators now must determine how an automated alternative fits into the Act's framework.

A popular narrative, driven by investment advice professionals and the popular press, argues that robo-advisors are inherently structurally incapable of exercising enough care to meet Advisers Act standards. This Note draws upon common law principles and interpretations of the Advisers Act to argue against this narrative. It then finds that regulators should instead focus on robo-advisor duty of loyalty issues because algorithms can be programmed to reflect a firm's existing conflicts of interest. The Note concludes by arguing for a shift in regulatory focus and proposing a two-part heightened disclosure rule that would make robo-advisor conflicts of interest more transparent.

INTRODUCTION

As "software eats the world,"[1] the law must adapt legal frameworks that were designed for traditional businesses to new, technology-based business models. In the financial services sector, the emergence of robo-advisors—online services that use algorithms to generate investment recommendations for clients[2]—has raised questions regarding the regulation of digital advice. Regulators must grapple with whether entities that provide algorithmic investment recommendations can fulfill

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1. Technology entrepreneur and venture capitalist, Marc Andreessen, coined this phrase in his seminal essay *Why Software Is Eating the World*. Marc Andreessen, Why Software Is Eating the World, Wall St. J. (Aug. 20, 2011), http://www.wsj.com/articles/SB10001424053111903480904576512250915629460 (on file with the *Columbia Law Review*). In that piece, Andreessen describes how software companies are swallowing the global economy one industry at a time. Id.

2. Teresa Epperson et al., A.T. Kearney, Hype vs. Reality: The Coming Wave of "Robo" Adoption 2 (2015), http://www.atkearney.com/documents/10192/7132014/Hype+vs.+Reality_The+Coming+Waves+of+Robo+Adoption.pdf [http://perma.cc/DU5Q-2EV2] (defining robo-advisor); Lorna A. Schnase, An Investment Adviser's Fiduciary Duty, *in* 1 Practicing Law Inst., Investment Adviser Regulation: A Step-by-Step Guide to Compliance and the Law § 8:8.5 n.180 (Clifford E. Kirsch ed., 2007) (same).

the fiduciary obligations[3] imposed on investment advisers under the Investment Advisers Act of 1940 (Advisers Act),[4] the primary federal statute governing investment advice.[5]

This question grows in importance as robo-advisors become more popular. Industry professionals recognize that robo-advice technology will revolutionize how individuals receive investment advice.[6] In the past, the high cost of financial advice made such services inaccessible to all but the very wealthy.[7] By replacing human advisers with algorithms, robo-advisors are able to charge significantly less than traditional wealth management services, making them an appealing option for young investors and others with low account balances.[8] Since the first major services launched in 2010, the robo-advice market has grown quickly, accumulating nearly $45 billion in assets under management (AUM).[9] Experts expect the market to continue to skyrocket: A particularly

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3. Fiduciary obligations (or fiduciary duties) are legal obligations that require a party to act in the best interest of another. For a nuanced discussion of fiduciary obligations, see generally Tamar Frankel, Fiduciary Law (2011). For a discussion specific to investment adviser fiduciary obligations, see generally Arthur B. Laby, Reforming the Regulation of Broker-Dealers and Investment Advisers, 65 Bus. Law. 395 (2010).

4. 15 U.S.C. § 80b-1 to -21 (2012).

5. See infra notes 145–170 and accompanying text (expanding on both sides of the debate); see also Morgan Lewis, The Evolution of Advice: Digital Investment Advisers as Fiduciaries 12, 17–18 (2016), http://www.morganlewis.com/~/media/files/publication/report/im-the-evolution-of-advice-digital-investment-advisers-as-fiduciaries-october-2016 [http://perma.cc/3DGM-P3KM] (arguing robo-advisors can be fiduciaries under the Advisers Act).

6. See Accenture, The Rise of Robo-Advice: Changing the Concept of Wealth Management 2 (2015), http://www.accenture.com/_acnmedia/PDF-2/Accenture-Wealth-Management-Rise-of-Robo-Advice.pdf [http://perma.cc/F6EH-ZTMX] ("Overall, we believe robo-advice capabilities will effect profound and permanent changes in the way advice is delivered.").

7. See Margaret Collins, Robo-Advisers: They Invest by Algorithm but Don't Return Calls, Bloomberg: QuickTake (Apr. 5, 2016), http://www.bloomberg.com/quicktake/robo-advisers [http://perma.cc/R4D7-JW5D] ("In general, traditional advisers only serve customers with significant savings, often at least $250,000, or in some cases millions."). A study shows that less than two percent of American middle-class households use financial planning professionals, while sixty percent of affluent households do. Danielle D. Winchester & Sandra J. Huston, All Financial Advice for the Middle Class Is Not Equal, 38 J. Consumer Pol'y 247, 248 (2015).

8. See Ilana Polyak, Millennials and Robo-Advisors: A Match Made in Heaven?, CNBC (June 22, 2015), http://www.cnbc.com/2015/06/21/millennials-and-robo-advisors-a-match-made-in-heaven.html [http://perma.cc/UTN6-XGSP] (explaining that robo-advisors are a good fit for millennials because robo-advisors have low minimums, millennials have uncomplicated financial situations, and millennials implicitly trust technology).

9. Morgan Lewis, supra note 5, at 1 n.1 (citing Alessandro Malito & Elli Zhu, Top 5 Robo-Advisers by AUM, InvestmentNews (Feb. 25, 2016), http://www.investmentnews.com/article/20160225/FREE/160229960/top-5-robo-advisers-by-aum [http://perma.cc/ES67-Y38Y].

aggressive projection predicts that robo-advisors will have $2.2 trillion in AUM by the year 2020.[10]

Establishing a suitable regulatory scheme for robo-advisors is critical to their long-term viability. In monitoring these products, the U.S. Securities and Exchange Commission (SEC) must strike an optimal balance between protecting investors and allowing robo-advisors the latitude to innovate and develop. Statements from industry professionals and regulatory agencies and articles in the press have criticized the quality of robo-advice recommendations and have indicated skepticism that robo-advisors, as they currently exist, could ever meet the fiduciary standards of the Advisers Act.[11] This Note argues that such criticism does not accurately reflect the state of the law governing traditional investment advice and that robo-advisors are structurally capable of meeting the requirements of the Advisers Act.[12] Rather than concentrating on evaluating the quality of robo-advisor advice, regulators should instead focus on policing robo-advisor conflicts of interest.[13]

This Note proceeds in three Parts. Part I provides background on the obligations investment advisers are held to under the Advisers Act. Part II considers robo-advisors, first introducing the product and business model, then analyzing whether robo-advisors are capable of meeting the duty of care standards of the Advisers Act, and finally overviewing conflict of interest issues in robo-advisors. Part III argues that, in regulating robo-advisors, the SEC should shift its focus away from the quality of robo-advisor recommendations and instead promulgate a rule that would make robo-advisor conflict of interest disclosures more transparent.

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10. Epperson et al., supra note 2, at 26. Less aggressive projections, by Cerulli Associates and S&P Global Market Intelligence, estimate that robo-advisors will have $385 billion and $460.46 billion, respectively, in AUM by 2021. Tom Anderson, Man vs. Machine: How to Figure Out if You Should Use a Robo-Advisor, CNBC (Mar. 13, 2017), http://www.cnbc.com/2017/03/13/man-vs-machine-how-to-figure-out-if-you-should-use-a-robo-advisor.html [http://perma.cc/8PNJ-WP39] [hereinafter Anderson, Man vs. Machine] (providing Cerulli Associate's projection); Christopher Robbins, Vanguard, Schwab Squashing Robo-Advisor Industry, Reports Says, Fin. Advisor (July 27, 2017), http://www.fa-mag.com/news/the-vanguarding-of-the-roboadvisors-has-only-just-begun-33901.html (on file with the *Columbia Law Review*) (providing S&P Global Market Intelligence's projection).

11. See Schnase, supra note 2, § 8:8.5 (overviewing arguments that a fully automated advice platform cannot meet fiduciary standards); infra section II.B.1 (outlining arguments against robo-advisors meeting fiduciary standards).

12. See infra section II.B.2.

13. See infra section II.C (overviewing robo-advisor conflict of interest issues); infra section III.A (establishing the importance of monitoring robo-advisor conflicts).

I. THE REGULATION OF INVESTMENT ADVISERS

This Part provides an introduction to the laws that regulate investment advisers.[14] Section I.A provides historical background explaining how Advisers Act law evolved into its current fragmented state. Section I.B details how the landmark case *SEC v. Capital Gains Research Bureau, Inc.*[15] read an investment adviser fiduciary duty into the Advisers Act. Finally, section I.C details several of the specific obligations found within that fiduciary duty.

A. *The Advisers Act: Consequences of a Rushed Enactment*

This section begins by showing how the Advisers Act's haphazard passage resulted in a statute of limited scope. It goes on to explain that, while the law has since developed to fill gaps left by the statutory text, the variety of mechanisms used has resulted in uneven law.

1. *The Act's Passage.* — The Advisers Act is commonly acknowledged to be the weakest of the New Deal federal securities statutes.[16] This is, in part, due to its origins. In 1935, the Public Utility Holding Company Act (PUHCA) directed the SEC to conduct a study on investment companies and investment trusts.[17] In that study, the SEC detected potential investment adviser abuse; however, because its results were already years

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14. Investment advisers are financial service professionals or firms in the business of providing discretionary advice to client investors on how to allocate investment assets. Clifford E. Kirsch, Overview, *in* Practicing Law Inst., supra note 2, § 1:1. Unlike broker-dealers, who generally only effectuate transactions for their clients, investment advisers typically have the authority to make investment decisions on behalf of clients. Id.

15. 375 U.S. 180 (1963).

16. See, e.g., 1 Roberta S. Karmel, Life at the Center: Reflections on Fifty Years of Securities Regulation 507–08 (2014) [hereinafter Karmel, Life at Center] ("The Investment Advisers Act . . . was a relatively anemic statute, imposing less regulation on investment advisers than on broker-dealers and lacking civil liability provisions."); Roberta S. Karmel, The Challenge of Fiduciary Regulation: The Investment Advisers Act After Seventy-Five Years, 10 Brook. J. Corp. Fin. & Com. L. 405, 406 (2016) [hereinafter Karmel, Challenge of Fiduciary Regulation] ("As the last of the New Deal securities laws . . . , the Advisers Act was probably the least considered and the least important. It was a weak statute . . . .").

Six federal statutes were enacted in the 1930s to address the misconduct in the securities industry that caused the stock market crash of the 1920s and the depression of the 1930s. *Capital Gains*, 375 U.S. at 186. The Advisers Act was the last of the six, with the Securities Act of 1933, the Securities Exchange Act of 1934, the Public Utility Holding Company Act of 1935, the Trust Indenture Act of 1939, and the Investment Company Act of 1940 preceding it. Id.

17. 15 U.S.C. § 79z-4 (1982), amended by Securities and Exchange Commission Authorization Act of 1987, Pub. L. No. 100-181, § 405, 101 Stat 1249, 1260 (codified as amended in scattered sections of 15 U.S.C.), repealed by Energy Policy Act of 2005, Pub. L. No. 109-58, tit. XII, § 1263, 119 Stat. 594, 974; see also *Capital Gains*, 375 U.S. at 187 (describing this history).

overdue by that time, the SEC did not delve further into the issue.[18] The PUHCA study's cumulative findings prompted the Senate to introduce a bill that was eventually separated into two acts: the Investment Company Act of 1940,[19] which regulates companies that invest and trade in securities and companies that offer their own investment products to the public, and the Advisers Act.[20]

Of the two statutes, the Advisers Act was the lesser priority.[21] In addition to being backed by less research,[22] the Advisers Act faced strong opposition from coalitions of investment advisers as Congress debated it.[23] This vocal opposition came after weeks of grueling negotiations over the Investment Company Act, and Congress was worn and eager to finalize the text.[24] To this end are anecdotes of the PUHCA study chief counsel telling Congress to "throw in the sponge" and "write a simple bill that . . . we can all agree on."[25]

These dynamics led to a statute that, on its face, appears extremely limited in scope.[26] As enacted, the Advisers Act covered only registration, disclosure, and fraud prevention; it imposed no further obligations on investment advisers and gave the SEC little enforcement power.[27] Later

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18. 1 James E. Anderson et al., Investment Advisers: Law & Compliance § 1.01 (Matthew Bender ed., rev. ed. 2017) [hereinafter Anderson et al., Investment Advisers]. As a result of these findings, the SEC released a supplemental report on investment advisers. SEC, Investment Trusts and Investment Companies, H.R. Doc. No. 76-477 (1939). Beyond this, the SEC made no further attempts to supply Congress with additional information on the issue. Anderson et al., Investment Advisers, supra, § 1.01.

19. Investment Company Act of 1940, Pub. L. No. 768, § 18, 54 Stat. 789, 817–21 (1940).

20. Anderson et al., Investment Advisers, supra note 18, § 1.01.

21. See John G. Gillis, Securities Law and Regulation, 35 Fin. Analysts J. 12, 12 (1979) (calling the Advisers Act "almost an afterthought" to the Investment Company Act because the PUHCA study did not focus on investment adviser functions).

22. See supra note 18 and accompanying text (explaining the PUHCA study's limited investigation into investment advisers).

23. Their main argument was that the investment advice industry was still nascent and Congress should allow it to develop without excessive regulation. See Hearings on S. 3580 Before a Subcomm. of the S. Comm. on Banking and Currency, 76th Cong. 741 (1940) (statement of Dwight C. Rose, President, Investment Counsel Association of America) ("Ours is a new profession. . . . When we feel more certain of our ground, we shall ask for at least that measure of public supervision and regulation . . . other recognized professions [receive]. Until that time, we believe the public interest can be better served without imposition of . . . additional . . . regulation . . . .").

24. Anderson et al., Investment Advisers, supra note 18, § 1.01; see also 23 Jerry W. Markham & Thomas Lee Hazen, Broker-Dealer Operations Under Securities and Commodities Law § 3:8.50 (2016) (describing the "last minute nature . . . and the informal nature of the drafting" leading up to the Advisers Act).

25. Anderson et al., Investment Advisers, supra note 18, § 1.01.

26. Cf. id. ("The Advisers Act would later be characterized variously as modest in scope and merely a census of investment advisers.").

27. See Harvey E. Bines & Steve Thel, Investment Management Law and Regulation § 2.05[B] (2d ed. 2004) (stating the Advisers Act was "originally designed as little more

amendments have expanded and refined the SEC's jurisdiction some,[28] but the statute remains structurally the same today as in 1940.[29]

2. *Filling (Some of) the Gaps Through Interpretation.* — To bolster investment advice law and protect retail investor clients, courts and the SEC have taken a piecemeal approach to "fill[ing] the statute's gaps."[30] This approach has caused its own problems, however: Mechanisms used to develop Advisers Act law include, but are not limited to, federal court cases,[31] interpretive releases,[32] the SEC's bully pulpit,[33] no-action letters,[34] and enforcement actions.[35] Because of this, there is no single repository

than a census-type licensing law"); Barry P. Barbash & Jai Massari, The Investment Advisers Act of 1940: Regulation by Accretion, 39 Rutgers L.J. 627, 628 (2008) (citing Goldstein v. SEC, 451 F.3d 873, 876 (D.C. Cir. 2006), to support the proposition that the Advisers Act is primarily a registration and anti-fraud statute); Karmel, Challenge of Fiduciary Regulation, supra note 16, at 405 (calling the Advisers Act "a relatively weak statute merely registering advisers").

28. Examples include a 1960 amendment that granted the SEC the power of inspection and imposed books and records requirements on investment advisers, a 1970 amendment that increased the supervisory liability of advisers, and a 2010 Dodd-Frank provision that expanded the Advisers Act to cover hedge funds and private equity funds. Anderson et al., Investment Advisers, supra note 18, § 2.04; Advisers to Hedge Funds and Other Private Funds, SEC, http://www.sec.gov/spotlight/dodd-frank/hedgefundadvisers.shtml [http://perma.cc/S8HJ-J8PK] (last modified Dec. 30, 2011).

29. Karmel, Life at Center, supra note 16, at 508 (noting that amendments have not altered the basic structure of the Advisers Act).

30. Anderson et al., Investment Advisers, supra note 18, § 1.01 (listing the variety of mechanisms the SEC has used to advance investment advice law); see also SEC v. Capital Gains Research Bureau, Inc., 375 U.S. 180 (1963) (providing an example of a court case advancing investment advice law); SEC v. Nutmeg Grp., 162 F. Supp. 3d 754 (N.D. Ill. 2016) (same).

31. See, e.g., *Capital Gains*, 375 U.S. at 181–82, 191–92 (establishing the investment adviser fiduciary duty).

32. See, e.g., Applicability of the Investment Advisers Act to Financial Planners, Pension Consultants, and Other Persons Who Provide Investment Advisory Services as a Component of Other Financial Services, Advisers Act Release No. 1092, 52 Fed. Reg. 38,400 (Oct. 16, 1987) (extending the Advisers Act to financial planners and pension consultants); see also Anderson et al., Investment Advisers, supra note 18, § 1.01 (listing interpretive releases as a way the SEC has developed Advisers Act law).

33. See, e.g., Marc J. Fagel & Leslie A. Wulff, Private Funds: Preparing for Another Year in the SEC Crosshairs, 48 Rev. Sec. & Commodities Reg. 13, 15–16 (2015) (describing the SEC's Office of Compliance and Examination's use of the bully pulpit to improve compliance); see also Anderson et al., Investment Advisers, supra note 18, § 1.01 (listing "liberal use of its bully pulpit" as a way the SEC has developed Advisers Act law).

34. See, e.g., DALBAR, Inc., SEC No-Action Letter, 1998 WL 136415, at *3 (Mar. 24, 1998) (establishing that any statement of a client's expertise with, or endorsement of, an adviser constitutes a "testimonial"). For reference, no-action letters are sent from the SEC staff in response to requests for advice, interpretations, or opinions. Kirsch, supra note 14, § 1:2. They give assurance that SEC staff will not recommend an enforcement action to the Commission under a given set of circumstances. Id.

35. See Anderson et al., Investment Advisers, supra note 18, § 1.01 (listing enforcement actions as a way the SEC has developed Advisers Act law); Barbash & Massari, supra note 27, at 628 ("[T]he SEC and its staff have effectively imposed a substantial number of standards of conduct . . . through the Commission's institution and contemporaneous

of all requirements investment advisers must follow.[36] The law is scattered and standards are unclear.

The SEC's heavy reliance specifically on enforcement actions (prosecutions in administrative court) to develop Advisers Act law further exacerbates the ambiguity in the law's standards. Enforcement actions are difficult to interpret and apply for a number of reasons. For one, due to how the SEC allocates its resources, it generally takes action against only egregious violations.[37] This leaves the law thin in gray-area situations.[38] Next, enforcement actions against minor violations generally settle, meaning their results are never subjected to the SEC's or a court's independent critical analysis and do not contribute to the body of investment advice law.[39] Finally, enforcement actions are tied to very particular sets of facts but have less legal analysis than court opinions; this makes them more difficult to apply to other situations.[40]

B. *Capital Gains and the Investment Adviser Fiduciary Duty*

The most significant development in Advisers Act law has been the creation of the investment adviser fiduciary duty. The Supreme Court read this duty into the Advisers Act in 1962 through its first case interpreting the statute, *SEC v. Capital Gains Research Bureau, Inc.*[41] The *Capital Gains* case involved a registered investment adviser engaging in the practice of "scalping."[42] In short, the adviser purchased large blocks of stock it intended to recommend, recommended those stocks to clients until the stocks increased in value, and then sold its own blocks to profit from the higher stock prices.[43]

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settlement of enforcement actions . . . rather than through the Commission's rulemaking authority under the Act."); Karmel, Challenge of Fiduciary Regulation, supra note 16, at 432–35 (providing examples of such SEC enforcement actions).

36. See Anderson et al., Investment Advisers, supra note 18, § 9.01 ("[SEC enforcement actions have] established what may be extensive and strict standards for the activities of investment advisers, but . . . these actions do not constitute a clear and consistent set of rules."); Schnase, supra note 2, §§ 8:4, 8:5 (stating there is no single, definitive list of investment adviser fiduciary duties); Joshua E. Broaded, A Survey of Regulations Applicable to Investment Advisers, 12 Duq. Bus. L.J. 27, 33 (2009) ("SEC staff letters, FAQ responses, and administrative proceedings can provide important context when interpreting the Advisers Act and associated rules . . . . Obtaining other types of interpretive guidance . . . often requires experience and at least a little bit of digging.").

37. Anderson et al., Investment Advisers, supra note 18, § 9.01.

38. See id.

39. Id.

40. See Barbash & Massari, supra note 27, at 654 ("By virtue of being tied to a specific set of facts, an enforcement proceeding yields rules that may be incomplete or difficult to apply by other market participants.").

41. 375 U.S. 180, 194–95 (1963).

42. Id. at 181–83.

43. Id. at 183.

The Court found that, although the practice of scalping does not constitute common law fraud, it violates Section 206 of the Advisers Act,[44] the Act's antifraud provision. Section 206 states in relevant part that

> [i]t shall be unlawful for any investment adviser by use of the mails or any means or instrumentality of interstate commerce, directly or indirectly—
> (1) to employ any device, scheme, or artifice to defraud any client or prospective client;
> (2) to engage in any transaction, practice, or course of business which operates as a fraud or deceit upon any client or prospective client . . . .[45]

The Court justified its interpretation by reasoning that, in enacting the Advisers Act, Congress intended investment advisers' relationships with clients to be closer than that of an ordinary arm's-length transaction.[46] As Justice Goldberg wrote for the Court, "the Committee Reports indicate a desire to preserve 'the personalized character of the services of investment advisers,' and to eliminate conflicts of interest between the investment adviser and the clients as safeguards both to 'unsophisticated investors' and to 'bona fide investment counsel.'"[47] In other words, Congress intended for unsophisticated investors to be able to place a high degree of trust in their investment advisers. Later in the opinion, Justice Goldberg finds that, given the legislative intent, the Advisers Act should be read "not technically and restrictively, but flexibly to effectuate its remedial purposes."[48] To be consistent with this, the term "fraud" in Section 206 must be read more broadly than its common law meaning.[49] Investment advisers, like other fiduciaries, have an "affirmative duty of 'utmost good faith and full and fair disclosure of all material facts,'"[50] and "to employ reasonable care to avoid misleading . . . clients."[51] Activity that breaches this affirmative duty—such as scalping—is therefore fraud under Section 206 and unlawful.

Justice Goldberg never explicitly called this affirmative duty an "investment adviser fiduciary duty" anywhere in the *Capital Gains*

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44. Id. at 181, 192, 195.

45. Investment Advisers Act of 1940 § 206, 15 U.S.C. § 80b-6 (2012).

46. *Capital Gains*, 375 U.S. at 191–92 (differentiating the "delicate fiduciary nature of an investment advisory relationship" from an arm's-length transaction requiring intent and injury).

47. Id. at 191 (first quoting H.R. Rep. No. 2639, at 28 (1940); then quoting S. Rep. No. 1775, at 21 (1940)).

48. Id. at 195.

49. Id. at 193–95.

50. Id. at 194 (quoting William L. Prosser, Handbook of the Law of Torts 535 (2d. ed. 1955)).

51. Id. (internal quotation marks omitted) (quoting 1 Fowler V. Harper & Fleming James, Jr., The Law of Torts 541 (1956)).

opinion,[52] but subsequent Supreme Court decisions have read his reasoning in this way. In *Santa Fe Industries v. Green*, which dealt with a different securities statute, the Court stated in a footnote that *Capital Gains* recognized "that Congress intended the Investment Advisers Act to establish federal fiduciary standards for investment advisers."[53] Later, in the Court's second interpretation of the Advisers Act, *Transamerica Mortgage Advisors, Inc. v. Lewis*, the Court more strongly solidified the investment adviser fiduciary duty, writing "[a]s . . . previously recognized, § 206 establishes 'federal fiduciary standards' to govern the conduct of investment advisers."[54] Since then, countless court cases and SEC enforcement actions have read a fiduciary duty into Section 206, and it is commonly accepted that this duty originated from *Capital Gains*.[55]

C. *Obligations Within the Investment Adviser Fiduciary Duty*

Since *Capital Gains*, the SEC has used numerous lawmaking mechanisms to define the bounds of the investment adviser fiduciary duty.[56] Fiduciary duties encompass both duty of care and duty of loyalty obligations.[57] Section I.C.1 focuses on the duty of care by discussing how the SEC regulates investment adviser competence and quality; section I.C.2 focuses on the duty of loyalty by discussing how investment adviser conflicts of interest are regulated.

1. *Quality and Competence (Duty of Care) Obligations.* — The SEC has not used its notice-and-comment rulemaking authority to develop investment adviser duty of care obligations,[58] and there is limited law governing the quality and competency of investment adviser advice. There are no federal standards requiring investment advisers to have

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52. Id.; cf. Schnase, supra note 2, § 8:3.2 ("It is not clear whether the Court in *Capital Gains* was merely explaining common law, interpreting section 206, or both."). See generally Arthur B. Laby, *SEC v. Capital Gains Research Bureau* and the Investment Advisers Act of 1940, 91 B.U. L. Rev. 1051, 1053 (2011) (arguing *Capital Gains* did not create a federal fiduciary duty and courts established the duty in later applications of the decision).

53. 430 U.S. 462, 471 n.11 (1977).

54. 444 U.S. 11, 17 (1979).

55. For examples of court opinions that read a fiduciary duty into Section 206, see SEC v. Bolla, 401 F. Supp. 2d 43, 66 (D.D.C. 2005); SEC v. Moran, 922 F. Supp. 867, 895–96 (S.D.N.Y. 1996). For examples of SEC enforcement actions that read a fiduciary duty into Section 206, see Raymond J. Lucia Cos., SEC Release No. 495, 106 SEC Docket 3613, 3629 (ALJ July 8, 2013); Monetta Fin. Servs., Securities Act Release No. 8239, Exchange Act Release No. 48001, Advisers Act Release No. 2136, Investment Company Act Release No. 26070, 80 SEC Docket 1257, 1261 (June 9, 2003), vacated in part, 390 F.3d 952 (7th Cir. 2004). Each of these court cases and SEC enforcement actions cite *Capital Gains* as having established the federal fiduciary duty for investment advisers.

56. See supra notes 31–35 and accompanying text (listing the mechanisms the SEC has used to develop Advisers Act law). For background on fiduciary duties, see supra note 3.

57. See, e.g., Frankel, supra note 3, at 106–07.

58. For the rules the SEC has promulgated under its Advisers Act authority, see 17 C.F.R. pt. 275 (2016). No rule relates to the care advisers must take in making recommendations. Id.

credentials of any sort[59]—the SEC's position is that clients should evaluate for themselves whether an adviser has the competence to manage their assets effectively.[60] Further, while Section 206 provides for two obligations that do stem from the duty of care—suitability and best execution[61]—the SEC does not enforce either to a rigorous standard.[62]

Suitability requires investment advisers to reasonably determine that the advice they give is appropriate to a client's circumstances.[63] For guidelines on the suitability obligation, attorneys commonly look to a rule the SEC proposed in 1994 but later abandoned.[64] Lawyers look to this abandoned rule because the rule's introductory text states that the rule would only "make explicit advisers' suitability obligations under the Advisers Act."[65] Under that rule, advisers would need to "make a reasonable inquiry into a client's financial situation, investment experience, and investment objectives";[66] in addition, advisers must

59. See Karmel, Challenge of Fiduciary Regulation, supra note 16, at 408 ("[T]he SEC does not pass on the qualification of advisers."); Arthur B. Laby, Models of Securities Regulation in the United States, 23 Fordham Int'l L.J. (Symposium Issue) S20, S23 (2000) [hereinafter Laby, Models of Securities Regulation] ("The SEC . . . does not require advisers to meet minimum qualifications, satisfy substantive requirements, or be licensed by a self-regulatory organization . . . ."); Investment Advisers: What You Need to Know Before Choosing One, SEC, http://www.sec.gov/reportspubs/investor-publications/investorpubsinvadvisershtm.html [http://perma.cc/TW95-9YW3] [hereinafter SEC, Investment Advisers] (last modified Aug. 7, 2012) ("While some investment advisers and financial planners have credentials . . . no state or federal law requires these credentials.").

60. See SEC, Investment Advisers, supra note 59 ("Before you hire a financial professional . . . ask about their background. If they have a credential, ask them what it means and what they had to do to earn it. Also, find out what organization issued the credential, and then contact the organization [to independently verify it].").

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, 12–14 (2012) (overviewing investment advisers' duty to provide suitable advice and seek best execution).

62. For a discussion of SEC enforcement of the suitability obligation, see infra note 68 and accompanying text. For a discussion of SEC enforcement of the best execution obligation, see infra note 72 and accompanying text.

63. Wrona, supra note 61, at 12–13.

64. Suitability of Investment Advice Provided by Investment Advisers; Custodial Account Statements for Certain Advisory Clients, Advisers Act Release No. 1406, 59 Fed. Reg. 13,464 (proposed Mar. 16, 1994); see also Wrona, supra note 61, at 12 (stating the SEC never adopted the 1994 Proposed Suitability Rule).

65. Suitability of Investment Advice Provided by Investment Advisers; Custodial Account Statements for Certain Advisory Clients, 59 Fed. Reg. at 13,464. The SEC study on investment advisers and broker-dealers required by Dodd-Frank, for example, cites to the Proposed Suitability Rule to support the proposition that investment advisers have a suitability obligation. SEC, Study on Investment Advisers and Broker-Dealers as Required by Section 913 of the Dodd-Frank Wall Street Reform and Consumer Protection Act 27–28 (2011) [hereinafter Dodd-Frank Study], http://www.sec.gov/news/studies/2011/913studyfinal.pdf [http://perma.cc/HG4A-LRXY].

66. Suitability of Investment Advice Provided by Investment Advisers; Custodial Account Statements for Certain Advisory Clients, 59 Fed. Reg. at 13,468. The rule

update client information regularly, so that their advice can be adjusted to changing circumstances.[67] Empirically, however, the SEC has not enforced suitability to the full extent of this language. It brings enforcement actions on suitability grounds rarely and only in severe cases—such as when an adviser is taking out margin loans and purchasing speculative, high-risk stocks on the accounts of clients with conservative investment objectives.[68]

The second duty of care obligation is best execution.[69] Put simply, when an investment adviser selects a broker-dealer to execute the transactions she recommends, she must seek to ensure that the client's total costs are "the most favorable under the circumstances."[70] When determining what is "most favorable," investment advisers can consider transaction costs, execution capacity, financial solvency of a brokerage firm, and the value of any research.[71] As with suitability, the SEC also does not enforce best execution aggressively. It generally will not take action unless advisers are failing to best execute in order to benefit themselves.[72]

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specified that what is "reasonable" would depend on the circumstances. Id. at 13,465. Investment advisers could be required to "obtain extensive personal and financial information about the client, including current income, investments, assets and debts, marital status, insurance policies, and financial goals." Id.

67. Id. at 13,465.

68. See, e.g., George E. Brooks & Assocs., Inc., Exchange Act Release No. 40329, Advisers Act Release No. 1746, Investment Company Act Release No. 23392, 67 SEC Docket 1743, 1745–46 (Aug. 17, 1998) (finding a failure to diversify, combined with effecting trades of speculative high risk stocks, in the accounts of elderly and inexperienced clients to be unsuitable); David A. King, Exchange Act Release No. 33167, Advisers Act Release No. 1391, 55 SEC Docket 1107, 1107–08 (Nov. 9, 1993) (finding recommending risky mortgages to retirees to be unsuitable); George Sein Lin, Advisers Act Release No. 1174, 43 SEC Docket 1840, 1840–41 (June 19, 1989) (finding uncovered options and utilized margin brokerage accounts to be unsuitable for unsophisticated investor and pension plan funds).

69. See Kidder, Peabody & Co., Exchange Act Release No. 8426, Advisers Act Release No. 232, at 4 (Oct. 16, 1968) (on file with the *Columbia Law Review*) (finding a failure to "execute securities transactions for client's in such a manner that the clients total cost or proceeds in each transaction is the most favorable under the circumstances" to violate Section 206); see also Commission Guidance Regarding Client Commission Practices, Exchange Act Release No. 54165, 88 SEC Docket 1372, 1372 (July 18, 2006) ("Fiduciary principles require money managers to seek the best execution for client trades . . . .").

70. See Kidder, Peabody & Co., Exchange Act Release No. 8426, Advisers Act Release No. 232, at 4.

71. See Dodd-Frank Study, supra note 65, at 28–29 (citing execution capacity, commission rate, financial responsibility, responsiveness, and value of research as factors investment advisers can look to when selecting broker-dealers).

72. See, e.g., Pekin Singer Strauss Asset Mgmt., Advisers Act Release No. 4126, Investment Company Act Release No. 31688, at 7–11 (June 23, 2015), http://www.sec.gov/litigation/admin/2015/ia-4126.pdf [http://perma.cc/46QR-KUGM] (finding an investment advisory firm failed to obtain best execution when it selected higher cost classes of shares for clients and caused clients to pay avoidable sales charges); Manarin Inv. Counsel, Ltd., Securities Act Release No. 9462, Exchange Act Release No.

2. *Conflict of Interest (Duty of Loyalty) Obligations.* — Investment adviser law is far more rigorous in its governance of the investment adviser duty of loyalty. This is consistent with the fact that the *Capital Gains* Court was addressing a duty of loyalty issue when it created the Advisers Act fiduciary duty.[73] In fact, *Capital Gains* stated that Congress enacted the Advisers Act with the intent to address "all conflicts of interest which might incline an investment adviser—consciously or unconsciously—to render advice which was not disinterested."[74]

As is common in U.S. securities law, investment adviser conflicts are governed through a "disclosure-based" regime, rather than a "merit-based" one.[75] Investment advisers are permitted to have interests not in line with their clients' interests (e.g., in the form of bonuses, commissions, or personal relationships), but if a conflict is material, they must disclose it fully and accurately.[76] The justification for this is that it could be in a client's interest to use a conflicted investment adviser—perhaps the fact that her adviser receives outside commissions could lower a client's fees—but for a client to make an educated choice, she must have full information about the conflicts.[77] To ensure full information, the SEC strictly enforces the disclosure requirement: There is no waiver for conflicted investment advisers who believe in good faith that, despite the

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70595, Advisers Act Release No. 3686, Investment Company Act Release No. 30740, 107 SEC Docket 1729, 1730–32 (Oct. 2, 2013) (same).

73. For a discussion of *Capital Gains*, see supra section I.B; see also Arthur B. Laby, Fiduciary Obligations of Broker-Dealers and Investment Advisers, 55 Vill. L. Rev. 701, 729 (2010) [hereinafter Laby, Fiduciary Obligations] ("The 1940s Congress drafting the Advisers Act, and the SEC and the courts in the decades to follow, were deeply concerned about conflicts of interest in the advisory relationship.").

74. SEC v. Capital Gains Research Bureau, Inc., 375 U.S. 180, 191–92 (1963).

75. See Laby, Models of Securities Regulation, supra note 59, at S21 ("Investment advisers in the United States are generally subject to broad duties of disclosure, not detailed substantive rules prohibiting conduct."); see also Mark A. Sargent, A Sense of Order: The Virtues and Limits of Doctrinal Analysis, 104 Harv. L. Rev. 634, 637 (1990) (reviewing Louis Loss & Joel Seligman, Securities Regulation (1990)) ("[T]he SEC administers a disclosure-based, rather than substantive- or merit-based, regulatory system . . . . [T]he SEC can compel copious disclosure about transactions subject to its jurisdiction, but . . . it cannot evaluate their economic merits or require them to be restructured in accordance with some legal conception of fairness.").

76. *Capital Gains*, 375 U.S. at 194 ("Courts have imposed on a fiduciary an affirmative duty of 'utmost good faith, and full and fair disclosure of all material facts,' as well as an affirmative obligation 'to employ reasonable care to avoid misleading' his clients." (first quoting William L. Prosser, Handbook of the Law of Torts 535 (2d. ed. 1955); then quoting 1 Fowler v. Harper & Fleming James, Jr., The Law of Torts 541 (1956))); see also Robare Grp., Ltd., Exchange Act Release No. 72950, Advisers Act Release No. 3907, Investment Company Act Release No. 31237, 109 SEC Docket 4103, 4105 (Sept. 2, 2014).

77. See *Capital Gains*, 375 U.S. at 196 (stating clients should be able 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'" (quoting United States v. Miss. Valley Generating Co., 364 U.S. 520, 549 (1961))).

conflict, they still put their clients' interests first;[78] for advisers who take adequate internal precautions to address conflicts;[79] or for advisers who never acted upon a conflict.[80]

The SEC has promulgated specific rules dictating how investment adviser conflicts should be disclosed. Investment advisers file a Form ADV when they register with the SEC.[81] They must update the form annually and more frequently if significant changes occur.[82] Part 1 of the Form ADV is primarily for SEC use and is formatted as a check-the-box, fill-in-the-blank form.[83] It asks questions regarding an adviser's business, ownership, clients, employees, business practices, and disciplinary past.[84] Part 2 of the Form ADV is divided into a brochure (Part 2A) and brochure supplement (Part 2B).[85] The brochure has nineteen items.[86] In it, advisers must describe, in plain English,[87] much of the information they disclosed in Part 1.[88] Finally, the brochure supplement provides information about the professionals working with a client's account.[89] Investment advisers must deliver both the brochure and brochure supplement to clients before or at the time investment advisers and clients begin their contractual relationship.[90] Afterward, advisers must

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78. See id. at 200 (finding the facts that an investment advisers' "advice was 'honest' in the sense that they believed it was sound and did not offer it for the purpose of furthering personal pecuniary objectives" not to mitigate a failure to disclose a conflict of interest).

79. See Feeley & Willcox Asset Management Corp., Securities Act Release No. 8249, Exchange Act Release No. 48162, Advisers Act Release No. 2143, 80 SEC Docket 1730, 1739 (July 10, 2003) ("It is the client, not the adviser, who is entitled to make the determination whether to waive the adviser's conflict. Of course, if the adviser does not disclose the conflict, the client has no opportunity to evaluate, much less waive, the conflict.").

80. See Steadman v. SEC, 603 F.2d 1126, 1130 (5th Cir. 1979) (finding a "potential conflict of interest" sufficient to establish a Section 206 violation, even when there was no "actual conflict"); see also *Capital Gains*, 375 U.S. at 200 ("The Investment Advisers Act of 1940 was 'directed not only at dishonor, but also at conduct that tempts dishonor.'" (quoting *Miss. Valley*, 364 U.S. at 549)).

81. See 17 C.F.R. § 275.203-1 (2016).

82. Id. § 275.204-1 (discussing making amendments to Form ADV).

83. SEC, Form ADV: Instructions for Part 1A, http://www.sec.gov/about/forms/formadv-instructions.pdf [http://perma.cc/A2EB-JUWT] (last visited July 25, 2017).

84. Id.

85. SEC, General Instructions for Part 2 of Form ADV, at 1 [hereinafter Form ADV Part 2 Instructions], http://www.sec.gov/about/forms/formadv-part2.pdf [http://perma.cc/5HGY-PGWN] (last visited July 25, 2017).

86. Id.

87. For information on the SEC's plain English standard, see infra notes 221–222 and accompanying text.

88. Form ADV Part 2 Instructions, supra note 85, at 1–2.

89. Id. at 6–10.

90. See 17 C.F.R. § 275.204-3(a) (2016). It is worth noting that registered investment companies are exempt from this delivery requirement, as are investment advisers giving impersonal advice and charging less than $500 a year. Id. § 275.204-3(c).

update the documents and provide clients with a summary of material changes every year.[91] Including untrue statements in or omitting material facts from any of these documents breaches the Section 206 duty of good faith and violates Section 207 of the Advisers Act.[92]

II. Issues of Regulating Robo-Advisors

As is evident from Part I, the statutory scheme governing investment advice was created with human advisers—how they are motivated and make decisions—in mind. The growing popularity of an automated alternative, the "robo-advisor," presents a complication. Robo-advisors are powered by computers and algorithms.[93] This means not only that they lack the human judgment that traditional investors possess, but also that they cannot be illicitly induced. Part II of this Note analyzes the regulatory issues these products present and assesses how the SEC should address them.

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91. Id. § 275.204-3(b)(2)(ii). The standard for materiality here is the general standard used for omissions in securities law: whether a reasonable investor in the client's position would consider the factor important in determining her course of action. See TSC Indus. v. Northway, 426 U.S. 438, 449 (1976) ("An omitted fact is material if there is a substantial likelihood that a reasonable shareholder would consider it important in deciding how to vote."); ZPR Inv. Mgmt., Inc., Advisers Act Release No. 4417, at 3 & n.15 (June 9, 2016), http://www.sec.gov/litigation/opinions/2016/ia-4417.pdf [http://perma.cc/55S9-YXEL] (applying the *TSC* materiality standard to the Advisers Act).

92. See, e.g., Oakwood Counselors, Inc., Advisers Act Release No. 1614, 63 SEC Docket 2034, 2036–37 (Feb. 10, 1997) (finding a failure to disclose a soft-dollar arrangement in the Form ADV to violate both Section 206 and Section 207); Stanley Peter Kerry, Securities Act Release No. 7261, Exchange Act Release No. 36767, Advisers Act Release No. 1550, Investment Company Act Release No. 21707, 61 SEC Docket 329, 330 (Jan. 25, 1996).

Although not a part of the Advisers Act, it is worth noting that on June 9, 2017, the Department of Labor (DOL) partially put into effect a fiduciary rule that raises the duty of loyalty obligations of investment advisers working with retirement plans or providing retirement planning advice. Definition of the Term "Fiduciary"; Conflict of Interest Rule—Retirement Investment Adviser, 81 Fed. Reg. 20,946, 20,946 (Apr. 8, 2016) (to be codified at 29 C.F.R. pts. 2509, 2510, 2550) (describing the DOL's aim of ensuring that investment advisers act in the best interest of advice recipients); see also Tara Siegel Bernard, Obama's Fiduciary Rule, After a Delay, Will Go into Effect, N.Y. Times (May 23, 2017), http://www.nytimes.com/2017/05/23/business/obamas-fiduciary-rule-after-a-delay-will-go-into-effect.html (on file with the *Columbia Law Review*) (writing on the rule's effective date). Such advisers are now required to provide prudent investment recommendations without regard to either their own interests or the interests of anyone other than the client. Definition of the Term "Fiduciary"; Conflict of Interest Rule—Retirement Investment Adviser, 81 Fed. Reg. at 20,946. If they work on a commission or revenue sharing arrangement, these advisers will now need to have their clients sign a best interest contract exemption (BICE) that discloses detailed information about fees and conflicts. Id. (describing the BICE's requirements). The BICE also pledges that advisers will act in their client's best interests and only earn "reasonable" compensation. Id. at 20,991.

93. See supra note 2 and accompanying text (defining robo-advisor).

Section II.A begins with an overview of the robo-advisor product and market. Section II.B addresses whether robo-advisors, as a technology, can exercise enough care to meet the investment adviser duty of care standard. Specifically, subsection II.B.1 presents the narrative that robo-advisors cannot meet this standard; subsection II.B.2 lays out an argument that they can. Lastly, section II.C looks at duty of loyalty issues through an analysis of how conflicts of interest affect robo-advisors.

A. *An Introduction to Robo-Advisors*

Before diving into the regulatory issues robo-advisors present, this section provides background on robo-advisors. Section II.A.1 begins with a more detailed explanation of the product, focusing on the characteristics that differentiate robo-advisors from traditional advisers. Section II.A.2 surveys the major players in the market and explains that money manager robo-advisors are increasingly dominating the market.

1. *The Product.* — Robo-advisors are automated services that provide investment advice through web or mobile platforms.[94] In contrast to traditional investment advisers, robo-advisors rely primarily on algorithms, rather than human judgment, to determine recommendations.[95] Clients fill out questionnaires with information such as age, household situation, income, savings, financial goals, and risk tolerance.[96] This information is put through a computer algorithm, which calculates an investment portfolio that is efficient and tailored to a client's needs.[97] Because this model limits robo-advisors from making truly bespoke recommendations, robo-advisors primarily rely on passive indexing and diversification strategies[98] and utilize exchange-traded funds (ETFs) that track broad market benchmarks.[99] Without the costs associated with

94. See supra note 2 and accompanying text (defining robo-advisor).

95. See supra note 2 and accompanying text.

96. See, e.g., David John Marotta, Schwab Intelligent Portfolios: Built on a Faulty Premise, Forbes (Mar. 22, 2015), http://www.forbes.com/sites/davidmarotta/2015/03/22/schwab-intelligent-portfolios-built-on-a-faulty-premise/#776563f01b3b [http://perma.cc/N68Y-T4VQ] (listing the questions on Schwab Intelligent Portfolios's questionnaire); Assess Your Risk Tolerance, Wealthfront, http://www.wealthfront.com/questions [http://perma.cc/5HAK-PGK5] (last visited July 25, 2017) (displaying page one of Wealthfront's initial questionnaire for prospective clients).

97. See Collins, supra note 7.

98. See generally Our Investment Selection Methodology, Betterment, http://www.betterment.com/resources/research/etf-portfolio-selection-methodology [http://perma.cc/LW5U-A8MR] (last visited July 25, 2017) (describing Betterment's investment methodology); Wealthfront Investment Methodology White Paper, Wealthfront (2015), http://research.wealthfront.com/whitepapers/investment-methodology [http://perma.cc/QAM8-7WEA] (describing Wealthfront's application of modern portfolio theory). For background on modern portfolio theory, see generally Burton G. Malkiel, A Random Walk Down Wall Street (8th ed. 2003).

99. See Can Robo Advisers Replace Human Financial Advisers?, Wall St. J. (Feb. 28, 2016), http://www.wsj.com/articles/can-robo-advisers-replace-human-financial-advisers-1456715553 (on file with the *Columbia Law Review*).

providing human advice, robo-advisors can charge significantly lower fees than their human counterparts.[100]

As robo-advisors actively advertise,[101] their automated systems enable them to take advantage of certain strategies—in particular, threshold-based rebalancing and tax-loss harvesting. Rebalancing realigns how a portfolio is weighted to reduce drift from the original target allocation.[102] When an investment adviser begins working with a client, she determines the investment mix that would maximize returns given the client's risk tolerance and allocates assets accordingly.[103] But as different asset classes perform differently over time, the client's portfolio may "drift" from the predetermined allocations.[104] For example, if emerging market funds are performing especially well and generating high returns, a larger percentage of a client's portfolio will become weighted in emerging market assets (and, consequently, a smaller percentage in other asset categories). The portfolio would eventually need to be readjusted to reflect the allocation percentages the investment adviser originally calculated to be ideal.[105] Because it is not feasible for human investment advisers to continuously monitor all of their clients' portfolios, human advisers primarily rebalance at predetermined time intervals ("time-

100. See Does Not Compute, Economist (Oct. 29, 2015), http://www.economist.com/news/finance-and-economics/21677245-growth-firms-selling-computer-generated-financial-advice-slowing-does-not [http://perma.cc/K5YP-A5DH] (stating that robo-advisors typically charge 0.25% or so of a client's portfolio, rather than the 1% to 3% human advisers charge); Jason D. Traff, The Future of the Wealth Management Industry: Evolution or Revolution? 43–49 (Dec. 14, 2015) (unpublished MBA dissertation, MIT Sloan School of Management) (on file with the *Columbia Law Review*) (comparing the prices of robo-advisors and traditional human investors to show robo-advisors are cheaper).

101. E.g., Dan Egan, Introducing Tax Loss Harvesting+, Betterment, http://www.betterment.com/resources/inside-betterment/product-news/introducing-tax-loss-harvesting [http://perma.cc/CN3H-ANPR] (last visited July 25, 2017) (promoting Betterment's tax-loss harvesting and "smart rebalancing" services); Schwab Wealth Inv. Advisory, Inc., Rebalancing and Tax-Loss Harvesting in Schwab Intelligent Portfolios, Schwab Intelligent Portfolios, http://intelligent.schwab.com/public/intelligent/insights/whitepapers/tax-loss-harvesting-rebalancing.html [http://perma.cc/BP4Q-CUGJ] (last visited July 25, 2017) (explaining how Schwab Intelligent Portfolios applies an algorithm that considers both rebalancing and tax-loss harvesting); An Online Investing Service Without the Hassle, Wealthfront, http://www.wealthfront.com/works-non-stop [http://perma.cc/BX7T-9BB7] (last visited July 25, 2017) ("By automatically taking care of maintenance activities, like account rebalancing, tax-loss harvesting, and dividend reinvesting, we make sure you are getting the most out of your long-term investments.").

102. See How and When Is My Portfolio Rebalanced?, Betterment, http://support.betterment.com/customer/portal/articles/987453-how-and-when-is-my-portfolio-rebalanced- [http://perma.cc/5WZW-VWF6] [hereinafter Betterment Portfolio Rebalance] (last updated June 28, 2017).

103. Traff, supra note 100, at 42–43.

104. See Betterment Portfolio Rebalance, supra note 102.

105. See id.

based rebalancing").[106] Robo-advisors have the advantage of being able to program continuous monitoring into their algorithms.[107] They can therefore rebalance automatically when allocations hit certain percentages ("threshold-based rebalancing").[108] This capability minimizes transaction costs and helps ensure that investment allocations continuously reflect client goals.[109]

Tax-loss harvesting is the strategy of selling securities carrying losses at strategic points in time in order to realize capital losses that can offset other income.[110] After selling a security to realize said losses, an investment adviser will replace the sold security, often an ETF, with a similar asset to preserve the original asset allocation.[111] By using algorithms, robo-advisors can capture tax-loss harvesting opportunities more consistently than human advisers.[112] This is especially true because the so-called "wash-sale rule" prohibits taxpayers from claiming a loss on the sale of a security if they purchase a "substantially identical" security thirty days before or after the sale.[113] This rule makes manual tax-loss harvesting more difficult, but, through the use of technology, robo-advisors are able to identify replacement ETFs that are highly correlated, but not technically "substantially identical," perhaps because the replacement fund tracks a different index.[114]

2. *Market Players.* — The initial robo-advisors were independent, venture-backed start-up companies. Betterment became the first major player in the market when it launched in 2010; it has since raised over $200 million in equity funding[115] and has over $9 billion in AUM.[116] Wealthfront, the second largest independent robo-advisor, has raised

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106. See Michael Kitces, Finding the Optimal Rebalancing Frequency—Time Horizons Vs Tolerance Bands, Kitces.com: Nerd's Eye View (May 4, 2016), http://www.kitces.com/blog/best-opportunistic-rebalancing-frequency-time-horizons-vs-tolerance-band-thresholds [http://perma.cc/K7Y4-9LWR].

107. Id.

108. Id.

109. Id.

110. E.g., White Paper: Tax Loss Harvesting+, Betterment, http://www.betterment.com/resources/research/tax-loss-harvesting-white-paper [http://perma.cc/FR4X-23HS] [hereinafter Betterment Tax Harvesting White Paper] (last visited July 25, 2017).

111. Id.

112. Id.

113. Id.; see also 26 U.S.C. § 1091 (2012) (codifying the wash-sale rule).

114. Betterment Tax Harvesting White Paper, supra note 110.

115. Betterment, Crunchbase, http://www.crunchbase.com/organization/betterment#/entity (on file with the *Columbia Law Review*) (last visited Aug. 17, 2017) (stating Betterment has raised $275 million in equity in seven rounds between November 2010 and July 2017).

116. Betterment LLC, Uniform Application for Investment Adviser Registration and Report by Exempt Reporting Advisers (Form ADV) (July 20, 2017), http://www.adviserinfo.sec.gov/IAPD/content/ViewForm/crd_iapd_stream_pdf.aspx?OG_PK=149117 [http://perma.cc/9YUX-BDF3] (stating Betterment has $9,058,224,616 in AUM).

about $130 million in equity[117] and has over $6 billion in AUM.[118] Other independent robo-advisors include Personal Capital, AssetBuilder, SigFig, and WiseBanyan.[119] The services these companies provide all vary some in their fee structures,[120] questionnaire structures,[121] amount of human support provided,[122] and investment strategies.[123]

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117. Wealthfront, Crunchbase, http://www.crunchbase.com/organization/wealthfront#/entity (on file with the *Columbia Law Review*) (last visited July 25, 2017) (stating Wealthfront has raised $129.5 million in equity in five rounds between December 2008 and October 2014).

118. Wealthfront Inc., Uniform Application for Investment Adviser Registration and Report by Exempt Reporting Advisers (Form ADV) (June 26, 2017), http://www.adviserinfo.sec.gov/IAPD/content/ViewForm/crd_iapd_stream_pdf.aspx?ORG_PK=148456 [http://perma.cc/F7XZ-H8WB] (stating that Wealthfront has $6,763,390,593 in AUM).

119. See Who Are We, AssetBuilder, http://assetbuilder.com/who-are-we [http://perma.cc/3ZDE-TEPR] (last visited July 25, 2017); Company, Pers. Capital, http://www.personalcapital.com/company/about [http://perma.cc/Z2TS-EGHU] (last visited July 25, 2017); About Us, SigFig, http://www.sigfig.com/site/#/team [http://perma.cc/T9TM-VYXP] (last visited July 25, 2017); Frequently Asked Questions: What Is WiseBanyan, WiseBanyan, http://wisebanyan.com/faq/overview/what-is-wisebanyan [http://perma.cc/UD8Y-UGBS] (last visited Aug. 8, 2017).

120. Services vary in the fees they charge. Compare Pers. Capital Advisors Corp., Wrap Fee Program Brochure: Form ADV Part 2A—Appendix 1, at 5 (2017), http://www.personalcapital.com/content/docs/ADVPart2AAppendix1.pdf [http://perma.cc/WMB8-EMF2] (stating that Personal Capital charges an annualized fee of 0.49% to 0.89% of a client's account), with Wealthfront, Client Brochure: Form ADV Part 2A, at 7 (2017), http://www.wealthfront.com/static/documents/form_adv_part_2.pdf [http://perma.cc/F7A6-AHTV] (stating that Wealthfront charges an annualized fee of 0.25% of a client's account but waives this fee in certain situations). Services also differ in the minimum balances they require. Compare Marianne Ahlmann, Personal Capital Lowers Investment Minimum from $100,000 to $25,000, Pers. Capital: Pers. Capital News (Nov. 18, 2015), http://www.personalcapital.com/blog/personal-capital-news/personal-capital-lowers-investment-minimum-100000-25000 [http://perma.cc/ML6Q-KFKH] (stating that Personal Capital has a minimum balance of $25,000), with Is There a Minimum Deposit or Balance?, Betterment, http://support.betterment.com/customer/portal/articles/934266 [http://perma.cc/3RUC-FU2A] (last updated Apr. 13, 2017) (stating that Betterment has no minimum balance).

121. See FINRA, Report on Digital Investment Advice 9–10 (2016) [hereinafter FINRA Report on Digital Advice], http://www.finra.org/sites/default/files/digital-investment-advice-report.pdf [http://perma.cc/69D3-GX8Q] (describing the varied approaches digital investment tools take to access a client's risk tolerance).

122. For example, Wealthfront operates largely without human interaction. Anderson, Man vs. Machine, supra note 10 ("Wealthfront . . . shuns the cyborg model and doesn't plan to offer human advice to its users."). In contrast, with Personal Capital, investors interact primarily with the investment portal but also do have access to a human adviser. See Wealth Management, Pers. Capital, http://www.personalcapital.com/wealth-management [http://perma.cc/3YX3-SMP5] (last visited July 25, 2017) (stating clients have "[a]ccess to free online tools," including a "Financial Advisory Team"); see also Investor Bulletin: Robo-Advisers, SEC (Feb. 23, 2017), http://www.sec.gov/oiea/investor-alerts-bulletins/ib_robo-advisers.html [http://perma.cc/J32E-3DQ9] (last updated Mar. 2, 2017) (advising investors to consider what level of human interaction they need in a robo-advisor).

Seeing the success of independent robo-advisors, traditional money managers have more recently begun launching robo-advice services that work in tandem with the products and services they conventionally offer.[124] Charles Schwab and Vanguard were the two pioneers. Schwab entered the space in March 2015, when it launched Schwab Intelligent Portfolios (SIP).[125] SIP uses Schwab's own ETFs and cash allocation programs and is free for Schwab clients.[126] Shortly after, in May 2015, Vanguard introduced its Personal Adviser Services platform, which charges thirty basis points and supplements its robo-advice with human advice through phone or video chat.[127] Benefitting from the size of its existing asset base, Vanguard's service amassed $31 billion in AUM by the end of 2015[128] and almost $51 billion by the end of 2016,[129] far outstripping the size of all previously existing robo-advisors combined.[130] Other money managers have since followed suit: BlackRock acquired FutureAdvisor, a previously independent robo-advisor, in 2015;[131] Fidelity Investments and TD Ameritrade launched Fidelity Go and TD

123. See, e.g., Marc Gerstein, Evaluating the Wealthfront and Betterment Portfolios, Forbes (Jan. 16, 2016), http://www.forbes.com/sites/marcgerstein/2016/01/16/evaluating-the-wealthfront-and-betterment-portfolios/ [http://perma.cc/JRP5-QKSK] (comparing Betterment's and Wealthfront's investment methodologies).

124. See Jon Marino, Big Banks Are Fighting Robo-Advisors Head On, CNBC (June 26, 2016), http://www.cnbc.com/2016/06/25/big-banks-are-fighting-robo-advisors-head-on.html [http://perma.cc/2HF4-UNF6] ("If you can't beat them, join them. . . . Slowly but surely, [web-based financial advisers] appear to be winning by default as they force banks to adapt to the brave new world of giving financial advice online.").

125. Charles Schwab Launches Schwab Intelligent Portfolios, Charles Schwab (Mar. 9, 2015), http://pressroom.aboutschwab.com/press-release/corporate-and-financial-news/charles-schwab-launches-schwab-intelligent-portfolios [http://perma.cc/5S75-JZTF].

126. Id.

127. Janet Novack, Vanguard Rolls Out New Robo-Hybrid Advisor Service with $17 Billion in Assets, Forbes (May 5, 2015), http://www.forbes.com/sites/janetnovack/2015/05/05/vanguard-rolls-out-new-robo-hybrid-advisor-service-with-17-billion-in-assets/#1cb7b98045c0 [http://perma.cc/5R97-QXYS]. Personal Adviser Services's thirty basis point rate applies to investments below $5 million; above that, the rate decreases as the value of assets invested increases. Vanguard Advisers, Inc., Vanguard Personal Advisor Services Brochure: Form ADV Part 2A, at 4 (2017) [hereinafter Vanguard 2017 Brochure], http://personal.vanguard.com/pdf/vpabroc.pdf [http://perma.cc/U24F-5U6Z].

128. Vanguard Advisers, Inc., Vanguard Personal Adviser Services Brochure: Form ADV Part 2A, at 4 (2016), http://adviserinfo.sec.gov/IAPD/Content/Common/crd_iapd_Brochure.aspx?BRCHR_VRSN_ID=407134 [http://perma.cc/W8LN-CYX2] (noting this AUM figure as of December 31, 2015).

129. Vanguard 2017 Brochure, supra note 127, at 4 (noting this AUM figure as of December 31, 2016).

130. In comparison to Vanguard's AUM figures, supra notes 128–129 and accompanying text, Betterment's AUM was $6.7 billion, and Wealthfront's AUM was $10 billion, supra notes 116, 118.

131. Samantha Sharf, BlackRock to Buy FutureAdvisor, Signaling Robo-Advice Is Here to Stay, Forbes (Aug. 26, 2015), http://www.forbes.com/sites/samanthasharf/2015/08/26/blackrock-to-buy-futureadvisor-signaling-robo-advice-is-here-to-stay/#f3f52c022947 [http://perma.cc/2GJ8-HWX2].

Ameritrade Essential Portfolios, respectively, in 2016;[132] Merrill Lynch released its service, Merrill Edge Guided Investing, in early 2017, and both Wells Fargo and Goldman Sachs have also announced plans to launch robo-advisors.[133]

Money manager robo-advisors have given independent robo-advisors stiff competition.[134] Because names like Charles Schwab and Vanguard have the benefit of widespread brand recognition, they do not need to invest as significantly in marketing.[135] With this advantage, experts predict that money manager robo-services will completely overtake the market.[136] Supporting this are the facts that the growth rates of independent robo-advisors have been falling since mid-2015,[137] and traditional money manager robo-advisors are now the primary driver of robo-advisor asset growth.[138] Because money manager robo-advisors operate under a very different business model than independent robo-

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132. TD Ameritrade Joins Robo-Club, Barron's (Nov. 2, 2016), http://www.barrons.com/articles/td-ameritrade-joins-robo-club-1478082291 (on file with the *Columbia Law Review*); Anne Tergesen, Fidelity Launches Automated Investment Advice Service, Wall St. J. (July 27, 2016), http://www.wsj.com/articles/fidelity-launches-automated-investment-advice-service-1469592060 (on file with the *Columbia Law Review*).

133. Goldman Sachs Eyeing a Robo-Advisor, Barron's (Mar. 21, 2017), http://www.barrons.com/articles/goldman-sachs-eyeing-a-robo-advisor-1490120240 (on file with the *Columbia Law Review*); Janet Levaux, Merrill Edge Launches Robo-Advisor with a Twist, ThinkAdvisor (Feb. 8, 2017), http://www.thinkadvisor.com/2017/02/08/merrill-edge-launches-robo-advisor-with-a-twist (on file with the *Columbia Law Review*); Wells Fargo to Roll Out Pilot Robo Adviser in First Half of 2017, Reuters (July 20, 2016), http://www.reuters.com/article/us-wells-fargo-wealth-robo-adviser-idUSKCN1002E9 [http://perma.cc/F7NL-UND3].

134. See Robbins, supra note 10 ("Vanguard and other large financial firms are gobbling up robo-advisor market share, squeezing out smaller firms that pioneered the industry, according to [a report by S&P Global Market Intelligence].").

135. See Silver Lane Advisors, Have Roboadvisers Jumped the Shark? 18 (2015), http://www.silverlane.com/pdfs/published/Roboadvisors1028.pdf [http://perma.cc/V8DQ-SLFE] (reasoning that "industry giants have immeasurably more valuable brands" and independent robo-advisors will always be at a disadvantage because of their marketing expenses); Michael Kitces, The B2C Robo-Advisor Movement Is Dying, but Its #FinTech Legacy Will Live On!, Kitces.com: Nerd's Eye View (May 2, 2016), http://www.kitces.com/blog/robo-advisor-growth-rates-and-valuations-crashing-from-high-client-acquisition-costs/ [http://perma.cc/F4C5-BTY7] [hereinafter Kitces, The B2C Robo-Advisor Movement Is Dying] (stating that robo-advisors "appear to be spending more to get clients than they can ever earn by serving them" while established financial service firms can use "existing B2C brands to achieve a drastically lower client acquisition cost").

136. See Silver Lane Advisors, supra note 135, at 17 ("The table is set for traditional advisors like Vanguard, Schwab, and Fidelity . . . to leapfrog the hard-fought gains of the largest independent robos.").

137. Kitces, The B2C Robo-Advisor Movement Is Dying, supra note 135 (showing this decline through a graph of robo-advisor asset growth rates from the fourth quarter of 2014).

138. See Robbins, supra note 10.

advisors,[139] this trend will have a significant impact on how the product develops.

B. *Competence and Quality (Duty of Care) Issues*

This section evaluates whether robo-advisors, as a technology, can meet the duty of care standards to which the law holds traditional, human investment advisers. Section II.B.1 summarizes arguments from the popular press, finance professionals, and regulatory agencies that robo-advisors are not structurally capable of fulfilling the investment adviser duty of care. Section II.B.2 then lays out an argument that, given the law on fiduciary duties and how the SEC has treated the investment adviser duty of care, robo-advisors are in fact capable of exercising enough care to meet fiduciary standards.

Before beginning, it is important to distinguish the analysis in this section from a more general discussion on how robo-advisors perform relative to human advisers. A common line of criticism is that robo-advisors perform worse than their human counterparts,[140] but there are also some compelling arguments that robo-advice is as good as, if not better than, human advice. For one, robo-advisors are able to rebalance and tax-loss harvest more efficiently than human advisers.[141] In addition, some traditional investment advice services are very basic, and robo-advisors can provide the same services at a fraction of the cost.[142] Lastly, robo-advisors are less impacted by emotional and cognitive biases than

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139. See infra section II.C.2.

140. See, e.g., Stephen J. Huxley & John Y. Kim, The Short-Term Nature of Robo Portfolios, Advisor Persp. (Sept. 12, 2016), http://www.advisorperspectives.com/articles/2016/09/12/the-short-term-nature-of-robo-portfolios [http://perma.cc/YT5N-HP8X] (arguing robo-advisors' asset allocations maximize short-term returns at the expense of long-term returns); Larry Light, Here's Why the Most Talked-About Way to Invest Right Now Could Be a Huge Mistake, Fortune (Mar. 5, 2016), http://fortune.com/2016/03/05/robo-adviser-wealthfront-betterment-charles-schwab [http://perma.cc/Q9TN-XZFN] (highlighting the downsides of robo-advisors, including that the advice tends to be "cookie-cutter," personal insights are missing, and only investment needs are met).

141. See supra notes 102–109 and accompanying text (discussing rebalancing); supra notes 110–114 and accompanying text (discussing tax-loss harvesting).

142. As illustration, a wealth management professional describes current robo-advisors as a "less expensive form of investment back-office than some of the turn-key asset management programs or model portfolios that many investment advisors rely on." Russ Alan Prince, Robo-Advisor 2.0: A Brave New Financial Services Industry, Forbes (Oct. 30, 2014), http://www.forbes.com/sites/russalanprince/2014/10/30/robo-advisor-2-0-a-brave-new-financial-services-industry/#305d6825cdb3 [http://perma.cc/FSG9-YZ8M]; see also Schnase, supra note 2, § 8:8.5 ("[R]obo-advisers are in many respects no different than traditional advisers . . . [in that] interactions with a 'live' adviser about a client's financial goals, risk tolerance, and sophistication can be more or less robust, just as the client information gathered electronically by robo-advisers can be."); Traff, supra note 100, at 42–43 (arguing most investment adviser decisions are "math problems," per behavioral scientist Sam Swift, and could easily be made by a robo-advisor").

human advisers are.[143] This Note does not attempt to draw conclusions about these arguments, because an assessment of the relative performance of human versus algorithmic recommendations would be better suited for a finance and economics paper.[144] This section focuses only on the legal question of whether robo-advisors are capable of meeting the law's duty of care requirements. For its purposes, comparing robo-advice with the quality of human advice, as well as analyzing the SEC's past regulation of human advice, is relevant only insofar as such analysis indicates what the SEC should or should not permit with regard to robo-advisors.

1. *The Narrative that Robo-Advisors Cannot Meet Duty of Care Standards.* — There has been significant resistance to the regulatory acceptability of robo-advisors. Traditional financial advisers have put forth a number of articles arguing that the robo-advisor design is not capable of exercising enough care to meet the fiduciary standards of the Advisers Act.[145] For example, securities attorney Melanie Fein has written two oft-cited white papers arguing that robo-advisors do not meet a fiduciary standard of care.[146] The SEC and the Financial Industry Regulatory Authority (FINRA), the private regulatory body that oversees broker-dealers, have yet to take a strong position on robo-advisors, but the literature they have released has thus far been cautionary.[147] At the state level, the

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143. See Traff, supra note 100, at 55–56.

144. For an example of such a paper, see Michael Tertilt & Peter Scholz, To Advise, or Not to Advise—How Robo-Advisors Evaluate the Risk Preferences of Private Investors (June 12, 2017) (unpublished manuscript), http://ssrn.com/abstract=2913178 (on file with the *Columbia Law Review*).

145. See, e.g., Dan Solin, How to Exploit the Achilles Heel of Robo Advisors, Advisor Persp. (June 7, 2016), http://www.advisorperspectives.com/articles/2016/06/07/how-to-exploit-the-achilles-heel-of-robo-advisors [http://perma.cc/Q4ZB-ZJR8].

146. Melanie L. Fein, FINRA's Report on Robo-Advisors: Fiduciary Implications 10 (Apr. 2016) [hereinafter Fein, Fiduciary Implications] (unpublished manuscript), http://ssrn.com/abstract=2768295 (on file with the *Columbia Law Review*) ("[R]obo-advisors are not a substitute for the portfolio analysis required of an investment fiduciary under the fiduciary standard of care."); Melanie L. Fein, Robo-Advisors: A Closer Look 31 (June 30, 2015) [hereinafter Fein, A Closer Look] (unpublished manuscript), http://ssrn.com/abstract=2658701 (on file with the *Columbia Law Review*) ("[R]obo-advisors do not provide personal investment advice [and] do not meet a high standard of care for fiduciary investing . . . ."). Notably, the 2015 paper was commissioned by Federated Investors, Inc., a traditional asset management service. Id. at i. For examples of works citing Fein's papers, see Mass. Sec. Div., Policy Statement: Robo-Advisers and State Investment Adviser Registration 3, 5–6 (2016), http://www.sec.state.ma.us/sct/sctpdf/Policy-Statement–Robo-Advisers-and-State-Investment-Adviser-Registration.pdf [http://perma.cc/Z9WR-2HVS]; Morgan Lewis, supra note 5, at 1, 4, 14–15.

147. See FINRA Report on Digital Advice, supra note 121, at 1, 14–15; SEC Office of Inv'r Educ. & Advocacy & FINRA, Investor Alert: Automated Investment Tools, SEC (May 8, 2015), http://www.sec.gov/oiea/investor-alerts-bulletins/autolistingtoolshtm.html [http://perma.cc/3MP5-KKMB] [hereinafter SEC & FINRA Investor Alert]. For examples of the SEC's and FINRA's cautionary language, as well as cautionary language from other government bodies, see infra notes 149–153, 155 and accompanying text.

Massachusetts Securities Division has come out aggressively against robo-advisors, stating that "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."[148]

The arguments against robo-advisors' regulatory acceptability center on three closely linked arguments. The first relates to the limitations of using questionnaires to extract customer information. Critics believe that using an electronic questionnaire to gather information about a client is not sufficient to satisfy the investment adviser duty of care.[149] An initial issue is that preset questions can miss vital information. The SEC and FINRA issued a joint Investor Alert on Automated Investment Advice, which stated that robo-advisor questions may be "over-generalized, ambiguous, misleading, or designed to fit [a client] into the tool's predetermined options."[150] Because of this, a robo-advisor's recommendation may fail to account for factors such as an investor's experience, time horizon, cash needs, and financial goals.[151] Next,

148. Mass. Sec. Div., supra note 146, at 1. State regulatory agencies govern smaller investment advisers. 6 Thomas Lee Hazen, Treatise on the Law of Securities Regulation § 21:13 (7th ed. 2016). The law requires small advisers (those with less than $25 million in AUM) to register according to their state regulatory agency's rules. Id. Midsized advisers (those with more than $25 million but less than $100 million in AUM) must register under their state agency's rules, unless more than fifteen states would require registration in their situation, in which case they can register with the SEC. Id. Large investment advisers (those with more than $100 million in AUM) must register with the SEC. Id.

149. Mass. Sec. Div., supra note 146, at 5 ("[R]obo-advisers gather some information from prospective clients, but may not gather sufficient information to enable them to discharge their fiduciary duties by providing personalized and appropriate investment advice."); Fein, A Closer Look, supra note 146, at 21–23. Fein argues that "[r]obo-advisors do not meet the high fiduciary standard of care that normally governs the provision of investment management services by a registered investment adviser or ERISA fiduciary." Id. at 21. She backs up this argument by stating that the "prevailing standard of care" for a registered investment fiduciary is the Uniform Prudent Investor Act (UPIA). Id. UPIA, however, applies in the law of private trusts. Unif. Prudent Inv'r Act, Prefatory Note, at 3 (Nat'l Conference of Comm'rs on Unif. State Laws 1995) ("This Act is centrally concerned with the investment responsibilities arising under the private gratuitous trust, which is the common vehicle for conditioned wealth transfer within the family . . . . [It] also bears on charitable and pension trusts . . . ."). The fiduciary duties of trustees are different from those of financial advisers. Frankel, supra note 3, at 44. No case law or SEC release has extended UPIA principles into the investment adviser–client fiduciary relationship, and Fein provides no basis for such an extension.

150. SEC & FINRA Investor Alert, supra note 147; see also SEC, IM Guidance Update on Robo-Advisers 6–7 (2017), http://www.sec.gov/investment/im-guidance-2017-02.pdf [http://perma.cc/W3AT-8JDG] (discussing issues arising from using robo-advisor questionnaires to gather client information and suggesting factors robo-advisors should consider).

151. SEC & FINRA Investor Alert, supra note 147 ("An automated investment tool may not assess all of [a client's] particular circumstances, such as . . . age, financial situation and needs, investment experience, other holdings, tax situation, willingness to risk losing . . . investment money for potentially higher investment returns, time horizon for

questionnaires generally do not gather information on assets outside of a client's account. This is problematic because, as the Massachusetts Securities Division puts it, "assets held outside of a client's account directly impact the client's total financial picture and, accordingly, the investment adviser's ability to personalize advice and make appropriate investment decisions."[152] Lastly, robo-advisors rely solely on the information gathered through a questionnaire; they do not confirm whether the information clients provide is accurate.[153]

The second argument relates to the fact that robo-advisors lack human perception.[154] The SEC and FINRA have flagged lack of human judgment and oversight as a potential issue for automated investment tools.[155] And critics of robo-advisors—from certified financial planners,[156] to Massachusetts Secretary of the Commonwealth William Galvin,[157] to

investing, need for cash, and investment goals."); see also Fein, A Closer Look, supra note 146, at 5 ("Robo-advisors also have been criticized for ignoring key information relevant to a user's investment needs, such as the user's contribution and withdrawal schedule, dependents, other sources of wealth, monthly expenses, tax situation, anticipated expenditures (such as college tuition), and the like.").

152. Mass. Sec. Div., supra note 146, at 5; see also FINRA Report on Digital Advice, supra note 121, at 5 ("[A]pplying a tax-loss harvesting algorithm to one account of a married client where both spouses have multiple investment accounts may be detrimental. Without a full view of the couple's portfolio, the algorithm may generate unusable realized losses."); Editorial, Can Robo-Advisers Be Fiduciaries?, InvestmentNews (Mar. 20, 2016), http://www.investmentnews.com/article/20160320/FREE/303209998/can-robo-advisers-be-fiduciaries [http://perma.cc/PUL4-6PCN] ("Much of assessing a client's needs comes from knowing the financial aspects of a person's life beyond the pool of cash to be invested."); Fein, Fiduciary Implications, supra note 146, at 2–4 (questioning whether robo-advisors can be fiduciaries when they do not conduct portfolio analysis).

153. Mass. Sec. Div., supra note 146, at 5 ("[N]or do robo-advisers otherwise take any steps to verify that the information provided by clients is accurate—instead relying on the information initially provided by the client as true and valid.").

154. See Fein, A Closer Look, supra note 146, at 5 ("A human adviser can offer personalized investment guidance, and encourage investors to save more, diversify, and engage in less speculative trading.").

155. FINRA Report on Digital Advice, supra note 121, at 8–9 ("[F]inancial professionals can ask the client questions to gather supplementary information and develop a nuanced understanding of the client's needs . . . . By contrast, client-facing digital advice tools rely on a discrete set of questions to develop a customer profile."); SEC & FINRA Investor Alert, supra note 147 ("If the automated investment tool does not allow you to interact with an actual person, consider that you may lose the value that human judgment and oversight, or more personalized service, may add to the process.").

156. See Kimberly Bernatz, Commentary, Preserving Human Judgment in the Age of Machines, Westlaw J. Bank & Lender Liability, June 15, 2015, at 3, 3 ("Wealth managers . . . understand the value of knowing their clients – on a human and personal level. By having a deeper understanding of their clients, wealth managers can advise them . . . based on [knowledge acquired] through human interaction, not merely by relying on the basic data that's entered into a [robo-advisor questionnaire] . . . .").

157. See Tara Siegel Bernard, The Pros and Cons of Using a Robot as an Investment Adviser, N.Y. Times (Apr. 29. 2016), http://www.nytimes.com/2016/04/30/your-money/the-pros-and-cons-of-using-a-robot-as-an-investment-adviser.html (on file with the *Columbia Law Review*) [hereinafter Bernard, Pros and Cons] (citing Galvin to analogize

Rutgers Law Professor Arthur Laby[158]—have implied that human connection and judgment are essential elements of the investment adviser fiduciary duty. They posit that only humans can connect with clients on a personal enough level to fully understand a client's financial situation.[159] Robo-advisors are likely to miss the subtleties of a client's situation that arise in conversation.[160]

Third, and related to the lack of human perception, is the argument that robo-advisors cannot be fiduciaries because they are not equipped to address market failures.[161] Then-SEC Commissioner Kara Stein raised this position in a 2015 lecture, asking, "What does a fiduciary duty even look like or mean for a robo advisor? . . . Do investors using robo advisors appreciate that, for all their benefits, robo advisors will not be on the phone providing counsel if there is a market crash?"[162] While markets have been strong since robo-advisors first gained traction,[163] there is concern over how robo-advisors will function if and when there is an economic downturn. Critics argue that, in times of crisis, clients need a human adviser to talk them through decisions so that they do not take rash actions detrimental to their own long-term interests.[164] As a *Wall*

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robo-advisor services to driverless cars and quoting him to state, "I am not sure that many investors, in many cases, can be adequately taken care of by answering questions . . . . You need a human that is responding to them.").

158. See id. (quoting Laby to state that robo-advisors cannot "provide the kind of personalized advice that a customer can get from a human on the phone" because customers cannot inform robo-advisors of "wrinkles," such as the fact that the customer anticipates a future inheritance or expense (internal quotation marks omitted)).

159. See Bernatz, supra note 156, at *4.

160. See Bernard, Pros and Cons, supra note 157.

161. See Fein, A Closer Look, supra note 146, at 5 ("A human adviser can be available to the investor at crucial times such as during market volatility when investors are most likely to panic and make investment mistakes.").

162. Kara M. Stein, Comm'r, SEC, Surfing the Wave: Technology, Innovation, and Competition—Remarks at Harvard Law School's Fidelity Guest Lecture Series (Nov. 9, 2015), http://www.sec.gov/news/speech/stein-2015-remarks-harvard-law-school.html [http://perma.cc/43AB-8REQ].

163. See Samantha Sharf, Can Robo-Advisors Survive a Bear Market?, Forbes (Jan. 28, 2015), http://www.forbes.com/sites/samanthasharf/2015/01/28/can-robo-advisors-survive-a-bear-market/#573d6f56cd97 [http://perma.cc/N3XE-BDRY] [hereinafter Sharf, Can Robo-Advisers Survive] ("[Robo-advisors] have grown up in the bull market that will turn six this March . . . . [I]t bears noting that many of the online investment firms trying to automate money management and asset allocation have yet to be tested by any major market downturns."); Fein, A Closer Look, supra note 146, at 5 (stating that robo-advisors have been in existence only during a bull market and are untested).

164. Michael Wursthorn & Anne Tergesen, Robo Adviser Betterment Suspended Trading During 'Brexit' Market Turmoil, Wall St. J. (June 24, 2016), http://www.wsj.com/articles/robo-adviser-betterment-suspended-trading-during-brexit-market-turmoil-1466811073 (on file with the *Columbia Law Review*) [hereinafter Wursthorn & Tergesen, Betterment Suspended Trading] ("Many financial advisers have suggested that without a personal relationship between an individual adviser and the client, the robos' clients may be more likely to panic and sell when the market falls sharply, hurting their long-term finances."); see also Sharf, Can Robo-Advisers Survive, supra note 163 ("But what a

Street Journal opinion article puts it, "An email or text message in the fall of 2008 would not have sufficed to keep millions of panicked savers from selling, with devastating consequences for their nest eggs."[165]

As an illustration, Betterment experienced this effect in the aftermath of "Brexit" when it halted all trading on its platform for about two and a half hours the morning after the U.K. vote to exit the European Union.[166] Betterment justified this decision as an effort to protect clients from making panicked decisions that would result in poor trade execution and higher transaction costs.[167] However, because it communicated the trading suspension poorly, many of its clients did not realize that transactions they put in that morning would not be executed until hours later, after the Betterment trading team deemed markets to have normalized.[168] The company received significant backlash as a result,[169] and the incident illustrates the limitations an automated system may have in times of crisis.[170]

2. *Robo-Advisors Can Meet Duty of Care Standards.* — The arguments in subsection II.B.1, while appealing on a practical level, presume a higher and more rigid standard of care than exists in Advisers Act law. This subsection applies common law principles and interpretations of the Advisers Act to conclude that the investment adviser fiduciary duty of care is more lenient than robo-advisor critics recognize and that a well-designed robo-advisor meets the standard without issue. The discussion first establishes that fiduciary duties—and the investment adviser fiduciary duty specifically—are meant to be flexible; part of that flexibility includes having the option to adapt out certain investment adviser functions. Human advisers frequently do this, and robo-advisors should be able to as well. It next explains that, even if the investment

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machine can't do is manage the emotions of human relationships. There are so many human factors that come into play, people buy or sell at the wrong time because of fear or exuberance.").

165. Robert Litan & Hal Singer, Opinion, Obama's Big Idea for Small Savers: 'Robo' Financial Advice, Wall St. J. (July 21, 2015), http://www.wsj.com/articles/obamas-big-idea-for-small-savers-robo-financial-advice-1437521976 (on file with the *Columbia Law Review*).

166. Anne Tergesen & Michael Wursthorn, Robo Adviser Betterment Stokes Concern over Brexit Trading Halt, Wall St. J. (July 2, 2016), http://www.wsj.com/articles/robo-adviser-betterment-stokes-concern-over-brexit-trading-halt-1467403366 (on file with the *Columbia Law Review*).

167. Id.

168. Id.

169. John Schwartz, My Hands Grip the Wheel Now, but Financial Autopilot Is Coming, N.Y. Times (July 15, 2016), http://www.nytimes.com/2016/07/17/business/mutfund/my-hands-grip-the-wheel-now-but-financial-autopilot-is-coming.html (on file with the *Columbia Law Review*) ("Betterment angered customers when it suspended trading after the British vote to leave the European Union. The company said it took the action to protect investors, but many investors were furious.").

170. See Wursthorn & Tergesen, Betterment Suspended Trading, supra note 164 ("But clients say they weren't aware of the halt, raising questions around how robo advisers communicate with clients during market volatility.").

adviser duty of care were more rigid, fiduciary duties can be modified when certain conditions are met. Robo-advisors meet these conditions and thus warrant a modification to the standard.

First, both common law and investment advice law hold that that the investment adviser fiduciary duty should be read flexibly, with the context of the investment adviser–client relationship in mind. Common law has long established that fiduciary duties are not a rigid package of obligations; the concept is flexible, and its bounds depend on the exact relationship between the fiduciary and the entrustor.[171] This flexibility exists because fiduciary duties have a practical purpose—to be a gap-filler in situations in which a fiduciary and an entrustor would not otherwise interact.[172] Consistent with this purpose, the extent of a fiduciary's obligations under common law depends on the dynamics of a relationship,[173] meaning different types of fiduciaries have different levels of obligation.[174]

Relative to investment advisers specifically, both the Senate and the House versions of the original Advisers Act bill recognized that the investment adviser–client relationship should be "personalized" and dependent on the circumstances of the agreement between the two parties.[175] *Capital Gains* solidified this idea into case law when the Court

171. See Restatement (Third) of Agency § 8.01 cmt. c (Am. Law Inst. 2006) ("Fiduciary obligation, although a general concept, is not monolithic in its operation. In particular, an agent's fiduciary duties to the principal vary depending on the parties' agreement and the scope of the parties' relationship."). See generally Frankel, supra note 3 (providing a broad overview of fiduciary obligations).

172. In situations in which market incentives do not protect an entrustor from a fiduciary's self-interest and entrustors cannot self-protect—perhaps because of monitoring costs or a lack of expertise—fiduciaries and entrustors will not interact unless fiduciary duties serve as a mechanism to align the two parties' interests. Frankel, supra note 3, at 6.

173. Cf. SEC v. Chenery Corp., 318 U.S. 80, 85–86 (1943) ("[T]o say that a man is a fiduciary only begins analysis; it gives direction to further inquiry. To whom is he a fiduciary? What obligations does he owe as a fiduciary?").

174. For example, lawyers and physicians generally have quite a high level of fiduciary obligation because their services impact the greater public. Frankel, supra note 3, at 43. Investment advisers have a stricter duty of care than some fiduciaries, such as corporate directors and officers (who receive the benefit of the business judgment rule), and a laxer duty than others, such as trustees (who manage all aspects of property for the benefit of another). See id. at 44.

175. See H.R. Rep. No. 76-2639, at 28 (1940) ("[The Advisers Act] recognizes the personalized character of the services of investment advisers and especial care has been taken in the drafting of the bill to respect this relationship between investment advisers and their clients."); S. Rep. No. 76-1775, at 22 (1940) ("[The Advisers Act] recognizes that with respect to a certain class of investment advisers, a type of personalized relationship may exist with their clients. As a consequence, this relationship is a factor which should be considered in connection with the enforcement by the Commission of the provisions of this bill.").

chose to read the Act "remedially"[176] to "preserve 'the personalized character of the services of investment advisers.'"[177]

Thus, the investment adviser fiduciary duty is more adaptable and the minimum requirements for investment advisers are lower than the arguments in subsection II.B.1 assume. Consistent with this, the SEC routinely permits advisers to adapt out common investment adviser functions so long as the terms between the parties are clear. For instance, advisers are permitted to prepare financial plans solely relating to a client's investment circumstances at one point in time (and disclaim responsibility for updating the information on an ongoing basis); they can also provide advice on only one segment of a client's portfolio (and disclaim responsibility for managing the client's remaining assets).[178] Relative to robo-advisor regulation, no authority of law establishes that a comprehensive information-gathering process and human judgment are necessary elements of the investment adviser duty of care. Moreover, the lack of these elements is clear to clients when they choose to engage a robo-advice service. Robo-advisors should accordingly be able to adapt out these elements and still meet the investment adviser duty of care standard. There is some indication that the SEC is coming around to this position; during a 2016 speech, then-SEC Chair Mary Jo White said,

> Providing financial advisory services electronically is different than the traditional adviser model, but in many respects our assessment of robo-advisors is no different than for a human-based investment adviser. Just like a conversation with a "real

176. SEC v. Capital Gains Research Bureau, Inc., 375 U.S. 180, 195 (1963) (internal quotation marks omitted).

177. Id. at 191 (quoting H.R. Rep. No. 76-2639, at 28).

178. See, e.g., Strategic Advisory Servs., L.L.C., Brochure: Form ADV Part 2A, at 4 (2017), http://www.adviserinfo.sec.gov/IAPD/Content/Common/crd_iapd_Brochure.aspx?BRCHR_VRSN_ID=417853 [http://perma.cc/Q8BJ-QEX7] (providing an example of an SEC registered investment adviser offering a "modular" financial planning service, meaning that it only advises on a single aspect of a client's finances); Wells Fargo Advisors, Firm Brochure for: In-Branch Financial Planning Services: Form ADV Part 2A, at 10 (2017), http://www.adviserinfo.sec.gov/IAPD/Content/Common/crd_iapd_Brochure.aspx?BRCHR_VRSN_ID=431928 [http://perma.cc/Y73T-CZ8E] (providing an example of an SEC registered investment adviser only offering one-time financial advice). Such types of advisers undoubtedly fall under the scope of the Advisers Act because they receive compensation and are "engage[d] in the business of advising others" on the purchase and sale of securities. Investment Advisers Act of 1940 § 202(a)(11), 15 U.S.C. § 80b-2 (2012). Further supporting the fact that the SEC has long permitted investment advisers to offer a variety of services at a range of price points, the Dodd-Frank Investment Adviser & Broker Dealer Study stated that "[i]nvestment advisers . . . offer a variety of services and products to their retail clients and customers, with the scope and terms of the relationship and the associated compensation reflecting the services and products offered." Dodd-Frank Study, supra note 65, at 5; see also Michael S. Caccese, Portfolio Manager Lift-Outs, Investment Performance Portability, and the CFA Institute Member, 34 Sec. Reg. L.J. 31, 33 (2005) ("The specific contours of the fiduciary duties owed by investment advisers to their clients will vary depending on the particular circumstances present in the relationship between the fiduciary and its client.").

> person" about a client's financial goals, risk tolerances, and sophistication may be more or less robust, so too there is variation in the content and flexibility of information gathered by robo-advisors before advice is given.[179]

Second, even if regulators were to accept that robo-advisors fall short of the investment adviser duty of care standard, robo-advisors would be ideal candidates for modifying the standard. Within industries in which fiduciary obligations are well defined, fiduciary duties can still be thought of as "default rules" to be modified based on the circumstances of a specific fiduciary–entrustor relationship.[180] Fiduciary law scholar Tamar Frankel has observed that under common law, the bounds of fiduciary obligations can be modified when five conditions exist: (1) The entrustor has independent will such that she can properly enter a contract; (2) when conflicts of interest exist, the entrustor has full information about the conflicts; (3) the fiduciary provides the entrustor with notice of the modification; (4) the substance of the modification is fair to the entrustor; and (5) the entrustor gives clear and specific consent to the modification.[181]

Robo-advisors meet all five criteria without issue: Their clients have independent will in choosing between services, and robo-advisors are required to disclose full information about all conflicts through their Form ADVs.[182] There is adequate notice: When clients seek robo-advice, they know that the resulting recommendations are based only on the information they entered into an online questionnaire and often made without the benefit of human judgment. The substance of the duty of care modification is also fair: Clients accept robo-advisors' limitations in exchange for the lower prices robo-advisor services charge and for the above-discussed advantages they offer.[183] Finally, a client's consent is specific because clients engage the service knowing the capabilities and limitations of robo-advisors. Thus, with each of Frankel's criteria met, it follows that, even if a rigid investment adviser duty of care standard existed, the characteristics of robo-advisors would warrant modifying that standard.

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179. Mary Jo White, Chair, SEC, Keynote Address at the SEC-Rock Center on Corporate Governance Silicon Valley Initiative (Mar. 31, 2016), http://www.sec.gov/news/speech/chair-white-silicon-valley-initiative-3-31-16.html [http://perma.cc/U626-CKUA].

180. Frankel, supra note 3, at 195 (describing fiduciary law rules as "form ready-made contracts" that can be changed by agreement between the parties).

181. Id.

182. Disclosure of conflicts of interest is explored further in section II.C (overviewing conflict of interest issues in robo-advisors) and in Part III (proposing a rule that would make robo-advisor conflict of interest disclosures more transparent).

183. For a discussion of these benefits, see supra notes 141–143 and accompanying text.

C. *Conflicts of Interest (Duty of Loyalty) Issues*

The previous section established that robo-advisor duty of care issues are less pressing than critics contend. This section turns to the other core fiduciary duty, the duty of loyalty, which the SEC regulates more actively.[184] The discussion here begins by debunking the narrative that robo-advisors cannot be conflicted. It then illustrates how these conflicts can occur by overviewing the two types of conflicts most commonly disclosed in robo-advisor Form ADV brochures.

First, despite pushing a narrative that their algorithmic approach makes them more impartial than traditional human-based adviser services,[185] robo-advisors can and frequently do face conflicts of interest. Robo-advisors push the narrative that they are less prone to conflicts because robo-advice services, particularly those with no human support element, are able to avoid the "representative level" conflicts that result when human judgment is involved.[186] Their reasoning behind this narrative is that algorithms will never be tempted by commission incentives or by personal relationships to make recommendations that are not in a client's best interest. This proposition has received some government support: In advocating for the Department of Labor fiduciary rule in 2015,[187] DOL Secretary Thomas Perez lauded robo-advisors as exemplary, low-cost investment advice services that act in the best interests of clients.[188]

The notion that robo-advisors are unbiased is problematic, though, because it considers only *employee–client* conflicts (e.g., an individual employee receiving a kickback when recommending a certain bank's products), and not *firm–client* ones (e.g., an entire firm receiving more

184. See supra section I.C.2 (establishing that the investment adviser duty of loyalty is governed more rigorously because the *Capital Gains* Court created the fiduciary duty with the intent of addressing conflict of interest issues).

185. See Schnase, supra note 2, § 8:8.5 ("Still other[] [commentators] point out that the impersonal nature of robo-advisers may actually help to avoid conflicts of interest that other advisers face when giving advice."); Megan Leonhardt, Capital One Launches Robo-Adviser, with Humans on the Phone, Time (June 17, 2016), http://time.com/money/4371434/capital-one-launches-digital-advice [http://perma.cc/2U6J-37G3] ("The robos like to say they have no conflict of interest because a computer dispassionately picks your investments.").

186. Leonhardt, supra note 185; see also Morgan Lewis, supra note 5, at 11 ("[D]igital advisory solutions eliminate the representative-level conflicts of interest typically present in the nondigital advisory context because there is little or no role for financial advisors who receive incentive-based compensation in an online offering.").

187. See supra note 92.

188. See Bernard, Pros and Cons, supra note 157 ("[T]he Labor Department, which oversees retirement accounts, has essentially given the robo-advisers its blessing, since many firms avoid the conflicts of interest embedded in the way the brokerage industry and its armies of representatives conduct their businesses."); Mark Schoeff Jr., DOL Secretary Perez Touts Wealthfront as Paragon of Low-Cost, Fiduciary Advice, InvestmentNews: Fiduciary Focus (June 19, 2015), http://www.investmentnews.com/article/20150619/FREE/150619892/dol-secretary-perez-touts-wealthfront-as-paragon-of-low-cost [http://perma.cc/856K-V679].

compensation when recommending certain products over others).[189] By removing employee representative discretion from the advice they give, robo-advisors do eliminate the possibility that an individual employee's incentives may conflict with clients' interests. However, the possibility of firm–client conflicts persists.[190] Robo-advisor algorithms can be programmed to prioritize what is best for the firm, rather than what is best for a client.[191] Even when not done intentionally, the humans who design robo-advisor algorithms may be influenced by firm incentives,[192] and this could cause them to subconsciously bias algorithms to reflect firm–client conflicts.

Next, Form ADV brochure disclosures confirm the existence of robo-advisor firm–client conflicts. Robo-advisors most commonly disclose two types of conflicts: (1) utilizing an affiliated broker-dealer and (2) promoting affiliated services and products. The below subsections describe each in turn.

1. *The Affiliated Broker-Dealer.* — A number of robo-advisors have an affiliated broker-dealer, owned by the same parent, that executes all the transactions the robo-advisor recommends.[193] This practice is not unique to robo-advisors—almost twenty percent of all investment advisers have an affiliated broker-dealer, and the SEC permits the practice[194]—but it is

189. FINRA's Report on Digital Investment Advice separates digital advice conflicts into employee–client conflicts and firm–client conflicts. FINRA Report on Digital Advice, supra note 121, at 6 (delineating the categories of conflicts relevant to digital investment advice). For a more detailed explanation of these types of conflicts, see FINRA, Report on Conflicts of Interest 10–11 (2013), http://www.finra.org/sites/default/files/Industry/p359971.pdf [http://perma.cc/SZJ2-JUCM].

190. See FINRA Report on Digital Advice, supra note 121, at 13 ("Digital investment advice tools do not necessarily eliminate conflicts of interest. Conflicts could include, for example, commission payments and other incentives for a registered representative in a financial professional-facing context, and revenue sharing or sale of proprietary or affiliated products for a firm in a client-facing context.").

191. See id. For a general discussion of algorithmic bias in other contexts, see Nanette Byrnes, Why We Should Expect Algorithms to Be Biased, MIT Tech. Rev. (June 24, 2016), http://www.technologyreview.com/s/601775/why-we-should-expect-algorithms-to-be-biased [http://perma.cc/QV58-P2UH] (quoting Kickstarter's former data chief to say "[a]lgorithm and data-driven products will always reflect the design choices of the humans who built them").

192. Cf. Morgan Lewis, supra note 5, at 16 ("[T]he algorithms used by digital advisers are developed by humans, and are monitored and overseen by investment and technology professionals.").

193. E.g., WiseBanyan, Inc., Brochure: Form ADV Part 2A, at 7 (2015), http://adviserinfo.sec.gov/IAPD/Content/Common/crd_iapd_Brochure.aspx?BRCHR_VRSN_ID=345707 [http://perma.cc/Q789-UL2W] ("While WiseBanyan has a reasonable belief that Interactive Brokers and Apex [WiseBanyan's affiliate broker-dealer, which executes all trades for WiseBanyan] are able to obtain best execution and competitive prices, WiseBanyan will not be independently seeking best execution price capability . . . .").

194. This figure comes from a RAND study commissioned by the SEC and is current as of the fourth quarter of 2006. Angela A. Hung et al., Investor and Industry Perspectives on Investment Advisers and Broker-Dealers 42 tbl.4.3 (2008),

nonetheless concerning to client interests. As a sample, Betterment's brochure states that

> clients must establish a brokerage relationship with our affiliated broker-dealer, Betterment Securities . . . . [C]lient authorizes and directs Betterment to place all trades in client's account through Betterment Securities . . . . Clients should understand that the appointment of Betterment Securities as the sole broker for their accounts under this Wrap Fee Program may result in disadvantages to the client as a possible result of less favorable executions than may be available through the use of a different broker-dealer.[195]

Thus, all client transactions are executed through Betterment's affiliate, regardless of whether this is in a client's best interests.[196] This benefits Betterment because its affiliated broker-dealer both collects a fee for the execution and also profits from the bid–ask spread.[197] The execution fee the affiliate collects is not an issue for Betterment clients; they, like most robo-advisor clients, are charged through a wrap-fee model, meaning they pay a flat, asset-based fee for all advisory, brokerage, and custody services.[198] This fee stays the same, regardless of the execution fee. The profits the affiliate makes from the bid–ask spread are concerning, on the other hand, because they can affect client returns. Betterment Securities has an incentive to quote less favorable prices than other broker-dealers so that it can profit from the spread,[199] and it is not deterred from doing so because, as the brochure establishes, Betterment clients cannot select a different broker-dealer without changing advisory services.[200] If Betterment clients pay more for assets than other investors in the market, their returns will be lower.

2. *Promoting Affiliated Services and Products.* — Robo-advisor services run by traditional money managers have additional troubling conflicts. These services generally charge clients a very low advisory fee. Instead of relying on these fees, the money manager profits when the robo-advisor

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http://www.sec.gov/news/press/2008/2008-1_randiabdreport.pdf [http://perma.cc/5PY4-3MYT].

195. Betterment, Betterment Wrap Fee Brochure: Form ADV Part 2A–Appendix 1, at 14 (2017) [hereinafter Betterment Brochure], http://www.adviserinfo.sec.gov/IAPD/Content/Common/crd_iapd_Brochure.aspx?BRCHR_VRSN_ID=457288 [http://perma.cc/LNU7-B4LL].

196. See id.

197. Affiliated broker-dealer arrangements are explicitly permitted by the SEC so long as they are disclosed to the client. See Dodd-Frank Study, supra note 65, at 29.

198. See Traff, supra note 100, at 43 (stating that most robo-advisors charge clients by taking a fee based on percentage of AUM). For background on wrap-fees, see generally Eric C. Freed, Wrap Fee Programs, *in* 1 Financial Product Fundamentals: Law, Business, Compliance § 10-1 (Clifford E. Kirsch ed., 2d ed. 2012).

199. The "bid" in the bid–ask spread is the highest amount a dealer is willing to pay for an asset; the "ask" is the lowest amount for which the dealer is willing to sell it. Broker-dealers profit when the bid–ask spread is very high, because investors pay higher rates when they buy and receive lower rates when they sell.

200. Betterment Brochure, supra note 195, at 14.

recommends another one of the money manager's proprietary products or services. These recommendations are problematic when they do not align with client interests.

As one example, Schwab advertises its robo-advisor, SIP, as a service with "$0 advisory fees, account service fees or commissions."[201] However, when the service first launched, SIP's brochure disclosed that a significant portion of every client's portfolio—seven percent to thirty percent—would be allocated to cash and invested into Schwab's retail banking service.[202] SIP allocated this portion to cash even when a smaller percentage would have been ideal for a client, likely because Schwab's retail bank profits on the spread between the interest rate it pays on the deposit and the returns it makes investing the deposit.[203] This practice has significant negative repercussions for clients because they effectively miss out on all the returns they would have accrued had the assets allocated to cash been invested more efficiently. In fact, financial firm Raymond James estimated that SIP clients could be forgoing up to the equivalent of seventy-five basis points.[204]

Schwab received significant backlash as a result of this disclosure[205] and has since changed SIP's fee structure somewhat. SIP still does not

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201. Schwab Wealth Inv. Advisory, Inc., Schwab Intelligent Portfolios, http://intelligent.schwab.com [http://perma.cc/TB5B-98UX] (last visited July 25, 2017).

202. Specifically, Schwab's brochure stated:

> The Sweep Allocation will generally range from 7% to 30% of an account's value, depending on the investment strategy the client selects. The Sweep Program is a feature of the Program that clients cannot eliminate. The deposit balances at Schwab Bank will not be used to purchase securities for a client's account unless those balances exceed the Sweep Allocation for the selected investment strategy.

Schwab Wealth Inv. Advisory, Inc., Schwab Intelligent Portfolios Disclosure Brochure: Form ADV Part 2A, at 2 (2015) [hereinafter Charles Schwab 2015 Brochure], http://adviserinfo.sec.gov/Iapd/Content/Common/crd_iapd_Brochure.aspx?BRCHR_VRSN_ID=277224 [http://perma.cc/67K7-NNKS].

203. Id. Thus, it follows that the more SIP allocates to cash, the more Schwab makes from this spread. For an explanation of how retail banks function, see generally Frederic S. Mishkin, The Economics of Money, Banking, and Financial Markets 219–23 (10th ed. 2013).

204. Raymond James & Assocs., The Charles Schwab Corporation 1 (2015) (on file with the *Columbia Law Review*).

205. A number of press outlets criticized Schwab for this fee structure. See Kathleen Pender, Schwab Raises Eyebrows, New Issues with Robo-Investment Tool, SFGate (Mar. 9, 2015), http://www.sfgate.com/business/networth/article/Schwab-raises-eyebrows-new-issues-with-6119963.php [http://perma.cc/YQC4-M5HB] (discussing SIP's potential for conflicts of interest). A piece that garnered significant attention was a blog post by Wealthfront CEO Adam Nash. Adam Nash, Broken Values & Bottom Lines, Medium (Mar. 9, 2015), http://medium.com/@adamnash/broken-values-bottom-lines-3d550a27629#.egtsb9rcl [http://perma.cc/67QX-G29H] (showing that a twenty-five-year-old investor saving ten percent of her salary with a cash-heavy portfolio could lose out on hundreds of thousands of dollars). Schwab responded to Nash's post with a blog post arguing that the cash allocations were not against a client's interests. Gareth Jones,

charge an advisory fee, and it continues to promote Schwab's ETFs and retail bank.[206] However, SIP now makes a "nominal calculation" and caps the compensation Schwab earns on affiliate services to the equivalent of thirty basis points.[207] If Schwab earns more than this amount, the excess is either refunded to the client or used to pay "account administrative expenses."[208] This revised arrangement alleviates the conflict somewhat—SIP is not incentivized to favor Schwab products and services after Schwab reaches the cap. Until that point, however, SIP still has a vested interest in weighting client portfolios toward assets from which Schwab collects fees; without these outside fees, SIP is not sustainable.

This subsection uses SIP as an illustrative example, but conflicts relating to promoting affiliate products and services are common among money manager robo-advisors. Vanguard's Personal Adviser Services charges clients thirty basis points[209]—a rate comparable to many independent robo-advisors[210]—and thus, unlike SIP, is not fully reliant on affiliate service profits. Vanguard nonetheless receives additional fees

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Response to Blog by Wealthfront CEO Adam Nash, Charles Schwab & Co., Inc., http://web.archive.org/web/20160329094846/https://www.aboutschwab.com/press/statements/response-to-blog-by-wealthfront-ceo-adam-nash [http://perma.cc/E8K8-HLYG] (last visited July 25, 2017) (available through the Wayback Machine). Shortly afterwards, SIP changed its fee structure and disclosure text. It is not public whether regulator intervention prompted the change.

206. Schwab acknowledges this in its brochure:

> Each ETF, including a Schwab ETF, pays investment advisory, administrative, distribution, transfer agent, custodial, legal, audit, and other customary fees and expenses, as set forth in the ETF prospectus. An ETF pays these fees and expenses, which ultimately are borne by its shareholders. Therefore, CSIM will earn fees from Program clients who invest in Schwab ETFs.

Schwab Wealth Inv. Advisory, Inc., Schwab Intelligent Portfolios Disclosure Brochure: Form ADV Part 2A, at 3 (2017) [hereinafter Charles Schwab 2017 Brochure], http://intelligent.schwab.com/public/file/SIP-SCHWAB-WEALTH-ADVISORY-DISCLOSURE-BROCHURE [http://perma.cc/2Z8T-ZG74]. It explains the fees it earns in greater detail later in the brochure:

> Schwab affiliates do earn revenue from the underlying assets in client accounts. This revenue comes from: (i) revenue earned by Schwab Bank, on the Cash Allocation in the investment strategies; (ii) advisory fees received by CSIM from Schwab ETFs that CSIA selects to buy and hold in client accounts; (iii) fees received by Schwab from third-party ETFs in client accounts for services Schwab provides to them as participants in ETF OneSource; and (iv) remuneration Schwab may receive from the market centers where it routes ETF trade orders for execution.

Id.

207. Id.

208. Id.

209. Vanguard 2017 Brochure, supra note 127, at 4.

210. See Does Not Compute, supra note 100 (stating that most robo-advisors charge about 0.25% of a client's portfolio).

when its robo-advisor recommends its own funds and ETFs[211] and thus faces the same conflict. Similarly, Merrill Edge Guided Investing charges forty-five basis points,[212] while also still receiving additional fees for recommending affiliated products.[213]

III. Recommendations for Regulating Robo-Advisors

Part II laid out the issues of robo-advisor regulation and explained that (1) robo-advisors' duty of care issues are less concerning than critics claim; and (2) robo-advisors can and often do face conflicts of interest. The SEC has been in the process of learning about robo-advisors and determining how best to regulate them,[214] and this Part provides a recommendation for how the Commission should proceed. Section III.A argues that the SEC should shift its focus away from the quality of algorithmic advice and gives reasons why the regulatory focus should be on conflict of interest issues. Drawing upon this, section III.B proposes a two-part robo-advisor disclosure rule that would increase transparency.

A. *Shifting the Focus to Conflicts of Interest*

Section II.B.2 has established that, under both common law and investment advice law, the investment adviser duty of care standard should be interpreted flexibly. As such, the Advisers Act duty of care obligation is actually far more lenient than the dialogue criticizing robo-advisor quality assumes. This, coupled with the SEC's general leniency in enforcing investment adviser duty of care obligations,[215] indicates that monitoring the quality of robo-advisor advice should not be a regulatory priority.

On the other hand, the *Capital Gains* Court created the investment adviser fiduciary duty expressly to address conflict of interest concerns, and investment advice law has always governed conflicts issues

211. Vanguard 2017 Brochure, supra note 127, at 11 ("[A]cting in accordance with VAI's advice to purchase Vanguard's proprietary funds will result in the payment of fees to the Vanguard Funds and ETFs . . . .").

212. About Merrill Edge Guided Investing, What Are the Costs for the Guided Investing Program?, Merrill Edge, http://www.merrilledge.com/guided-investing/faq [http://perma.cc/YH35-3DKC] (last visited Aug. 17, 2017).

213. Merrill Lynch, Pierce, Fenner & Smith Inc., Merrill Edge Guided Investing Wrap Fee Program Brochure: Form ADV Part 2A, at 14–15 (2016), http://adviserinfo.sec.gov/IAPD/Content/Common/crd_iapd_Brochure.aspx?BRCHR_VRSN_ID=401896 [http://perma.cc/REY5-GE9W] ("[W]e . . . may effect transactions for any of the ETFs offered through the Program, and any compensation paid to us . . . by the ETF, or its Affiliates, is in addition to the Program Fee. Due to the additional economic benefit to us . . . a conflict of interest exists.").

214. See Mary Jo White, Chair, SEC, Opening Remarks at the Fintech Forum (Nov. 14, 2016), http://www.sec.gov/news/statement/white-opening-remarks-fintech-forum.html [http://perma.cc/LA7H-NWZT].

215. See supra section I.C.1 (discussing quality and competence, or duty of care, obligations).

surrounding traditional advisers more rigorously.[216] This section establishes why robo-advisor conflicts are, for a number of reasons, even more concerning than the human adviser conflicts the SEC generally polices. Accordingly, the SEC should shift its focus to robo-advisor conflict of interest issues and enact a rule to monitor how conflicts are disclosed.

1. *Programmed Bias.* — First, robo-advisor conflicts have larger and more certain effects than human adviser conflicts. Individual employees of traditional investment advisers may be influenced differently by outside incentives;[217] some employees may be easily tempted by kickbacks and bonus incentives, while others are not. If a conflict biases a robo-advisor algorithm, however, that conflict will without a doubt impact all clients and their investment returns.[218] Thus, robo-advisor conflicts have a larger and more certain impact.

2. *Unsophisticated Investors.* — Second, robo-advisor clients are less sophisticated than most investment advice clients and will therefore have more difficulty understanding the consequences of conflicts. As a lower-cost service,[219] robo-advisors are marketed toward younger and less financially sophisticated investors.[220] The general functional purpose of the Form ADV disclosure is to equip customers with the information necessary to make educated decisions between services.[221] To facilitate this function, the SEC requires brochures to be written in plain English, "taking into consideration [the] *clients'* level of financial sophistication."[222]

216. See supra section I.C.2; see also Laby, Fiduciary Obligations, supra note 73, at 718 ("Disclosure of conflicts of interest, such as in *Capital Gains Research Bureau*, has been a flash point for determining liability under the Advisers Act.").

217. That there is more ambiguity over how other incentives may affect human investment advisers is supported by the current brochure instructions, which state that "[t]he brochure should discuss only conflicts the adviser has or is reasonably likely to have, and practices in which it engages or is reasonably likely to engage." Form ADV Part 2 Instructions, supra note 85, at 1. This language indicates the SEC's acknowledgement that conflicts can influence investment adviser decisions differently.

218. See supra notes 189–191 and accompanying text (differentiating between employee–client conflicts and firm–client conflicts).

219. See Traff, supra note 100, at 43–49 (comparing the fees of robo-advisors to the fees of traditional wealth managers and showing robo-advisors' lower account minimums).

220. Cf. Polyak, supra note 8 (explaining that robo-advisors are a good fit for millennials due to their low cost).

221. See Amendments to Form ADV, Advisers Act Release No. 3060, 98 SEC Docket 3502, 3537 (July 28, 2010) [hereinafter Amendments to Form ADV] (explaining how the brochure will enable clients "to compare business practices, strategies, and conflicts of a number of advisers, which may help them to select the most appropriate adviser for them"); Michael P. Coakley & Matthew P. Allen, The New Form ADV Part 2 and the "Plain English" Movement of the SEC, FINRA, and Michigan's OFIR, Mich. Bus. L.J., Spring 2011, at 19, 21 ("The SEC's goal was to make the Form ADV Part 2 more understandable to adviser customers and better enable them to compare the costs, risks, and services of different advisers.").

222. Form ADV Part 2 Instructions, supra note 85, at 1. In introducing the plain English standard, the SEC emphasized that the format would "benefit clients by improving

Given robo-advisor clients' general lack of finance knowledge, robo-advisor conflict disclosures should be additionally transparent to be consistent with this requirement.

3. *Market Trends.* — Finally, properly regulating robo-advisor conflicts is additionally pressing because of broader trends in the robo-advisor market. First, the robo-advice market is rapidly growing.[223] In particular, robo-advisors have opened financial advice to millennials and, because young investors inherently trust technology and prefer their services to be delivered at a faster pace, they often actually find robo-advisors preferable to traditional advice.[224] As the demographic grows wealthier, robo-advisors are likely to continue to gain traction, and effective regulation will be increasingly necessary to ensure that clients are protected and maintain trust in the services. Second, the increased prevalence of robo-advisors operated by traditional money managers—which have greater potential to be conflicted than independent robo-advisors[225]—also increases the need for a comprehensive regulatory system for conflicts. Third, as artificial intelligence continues to develop, automated investment advice will only become more sophisticated.[226] The SEC should begin developing an effective means of regulation now.

B. *Solutions for Addressing Robo-Advisor Conflicts*

With the importance of addressing robo-advisor conflicts established, this section next recommends that the Commission promulgate a two-part rule that would make robo-advisor conflicts more

their ability to thoroughly evaluate advisers, their business practices and their conflicts of interest, and by better equipping them with the knowledge to make informed decisions about whether to hire or retain a particular adviser." Amendments to Form ADV, supra note 221, at 3538 (citations omitted).

Plain English requires using short sentences, using "definite, concrete, everyday" language, using active voice, employing tables or bullet lists for complex materials when possible, avoiding legal jargon or technical business terms, and avoiding multiple negatives. Id. at 3556. The SEC has released "A Plain English Handbook" to assist advisers in meeting requirements. SEC Office of Inv'r Educ. & Assistance, A Plain English Handbook: How to Create Clear SEC Disclosure Documents (1998), http://www.sec.gov/pdf/handbook.pdf [http://perma.cc/JD5Z-XMWY].

223. See supra notes 6–10 and accompanying text (describing the growth potential of robo-advisors).

224. See Polyak, supra note 8.

225. See supra notes 134–138 and accompanying text (explaining that money manager robo-advisors are taking market share from independent robo-advisors); supra section II.C.2 (describing the additional conflict of interest concerns that money manager robo-advisors face).

226. See Richard M. Weber, Back to the (Technology) Future, J. Fin. Serv. Profs., Mar. 2016, at 42, 43 ("The aforementioned robo advisor is just the tip of the iceberg as mechanical devices gain more dexterity . . . ."); Traff, supra note 100, at 41–42 (hypothesizing that "expert systems," a form of artificial intelligence, could gradually replace many of the essential functions of human investment advisers and revolutionize robo-advisor technology).

transparent. On a broader level, the SEC should require robo-advisor firms to clearly specify when conflicts are intentionally programmed into their algorithms. Then, when robo-advisors purposely factor conflicting incentives into their algorithms, there should be a heightened disclosure requirement. More specifically, the SEC should require robo-advisors to provide clients with a "shadow commission" figure, which would quantify the effective amount conflicts of interest cost a client, each time the Form ADV brochure is delivered.

1. Delineating Intentional Conflicts. — The SEC should require that robo-advisors, in their disclosures, clearly delineate between conflicts that are programmed into their algorithms and conflicts that *may affect* the design of algorithms. Currently, the language in most brochures leaves this distinction unclear. For instance, this excerpt from Schwab's January 2015 brochure implies that a conflict is programmed into SIP's algorithm, but does not state so explicitly:

> Because Schwab Bank earns income on the Sweep Allocation for each investment strategy, SWIA has a conflict of interest in setting the parameters for the Sweep Allocation. In most of the investment strategies, this results in a Sweep Allocation which is higher than the cash allocation would be in a similar strategy in a managed account program sponsored by a Schwab entity or third parties.[227]

Some brochures indicate that conflicting incentives exist, but are not intentionally programmed into the algorithm, by acknowledging "competing interests" while stating that the robo-advisor strictly abides by its investment methodology.[228] This, again, leaves ambiguity as to the effect of the "competing interests." Still other brochures are explicitly equivocal: For example, FutureAdvisor, the robo-advisor owned by BlackRock, discloses that "[i]nvestment . . . in an affiliated product may mean that BlackRock, Inc. may receive directly or indirectly advisory fees and other compensation from the affiliated product."[229] Problematically, each of these phrasings leaves unclear exactly how a robo-advisor's conflicting interests affect investment decisions and client returns. The SEC could rectify this issue by requiring advisers to state whether conflicts are deliberately programmed into investment allocation algorithms.

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227. Charles Schwab 2015 Brochure, supra note 202, at 1.

228. See Charles Schwab 2017 Brochure, supra note 206, at 3 ("[Cash allocation decisions] are set based on a disciplined portfolio construction methodology designed to balance performance with risk management appropriate for a client's goal, investing time frame, and personal risk tolerance, just as with other Schwab managed products."); Vanguard 2017 Brochure, supra note 209, at 11 ("VAI addresses the competing interests that could arise between us and our clients as a result of recommending propriety funds by relying on our time-tested investment philosophies and beliefs . . . .").

229. FutureAdvisor, The Brochure: Form ADV Part 2A, at 5 (2016), http://www.adviserinfo.sec.gov/IAPD/Content/Common/crd_iapd_Brochure.aspx?BRCHR_VRSN_ID=401480 [http://perma.cc/W6LE-F5HQ].

A requirement that robo-advisors explicitly indicate whether conflicts are incorporated into their algorithms would be consistent with the intent of the brochure document. The brochure exists to educate investors[230] and, to facilitate this purpose, the SEC generally requires brochure disclosures to be as specific as possible.[231] Robo-advisors are capable of making disclosures about conflicts with greater specificity than traditional investment advisers, so they should be obligated to. Furthermore, the SEC's instructions for brochures require advisers to "provide the client with sufficiently specific facts so that the client is able to understand the conflicts of interest . . . and can give informed consent . . . or reject them."[232] If anything, robo-advisor clients, as less sophisticated investors, need more clarity to understand disclosures.[233] Currently, clients cannot determine from existing disclosures whether a conflict will certainly or only possibly affect recommendations.[234] Therefore, it would be entirely consistent with SEC policy to require that, when robo-advisors intentionally bias algorithms, they state so clearly in their brochures, without hedging language.

2. *Addressing the Tiers.* — Due to the different natures of unintentional and intentional robo-advisor conflicts, the SEC should establish different disclosure requirements for each type of conflict. Conflicting incentives that exist, but that are not intentionally programmed into algorithms, should be disclosed as traditional investment adviser conflicts are. These incentives could subconsciously influence algorithm programmers, but it would be impossible to determine if they actually do and, if so, to what extent. Because, as with human investment adviser conflicts,[235] there is ambiguity as to how unintentional bias impacts recommendations, the current regulatory scheme is appropriate.

There is, however, more certainty with conflicts that are deliberately programmed into algorithms. Increased transparency is therefore possible[236] and should be mandatory.[237] The SEC should implement a

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230. See, e.g., Amendments to Form ADV, supra note 221, at 3546 ("Improved disclosure by SEC-registered investment advisers could result in enhanced efficiencies for clients in selecting an investment adviser and improved allocation of client assets among investment advisers."); see also supra notes 221–222 and accompanying text (discussing the purpose of the Form ADV and the plain English requirement).

231. As an example, if a conflict exists for some, but not all, types or classes of clients, advisers must "indicate as such rather than disclosing that [they] 'may' have the conflict or engage in the practice." Form ADV Part 2 Instructions, supra note 85, at 1.

232. Id. at 2.

233. See supra notes 219–222 and accompanying text.

234. See supra notes 227–229 and accompanying text (noting examples of ambiguous disclosures).

235. See supra note 217 (explaining the ambiguous impact of human investment adviser conflicts).

236. See supra section III.A.1 (explaining why algorithmic conflicts can be disclosed with more certainty).

rule requiring robo-advisors to disclose to every client a "shadow commission" that indicates the impact of conflicts programmed into robo-advisor algorithms. To determine this figure, robo-advisors would first calculate for each investor the difference between what the client's expected returns would be if the algorithm worked in the client's best interest (i.e., if allocation decisions were not affected by conflicts) and what the client's expected returns are in the actual algorithm (which is affected by conflicts).[238] Advisers would then need to convert this figure to a basis point equivalent, so that prospective clients are able to easily compare between advisers. This shadow commission figure should be provided to the client at the time the brochure is first delivered, and it should be updated each time the brochure is delivered thereafter.[239]

Currently, Schwab's brochure does quantify the effects of its conflicts to an extent, but the disclosure is inadequate:

> While clients are not charged a Program fee for services . . . SWIA makes a nominal calculation that fully offsets in the amount of 0.30% the compensation its affiliates receive from ETF transactions in clients' accounts. This includes advisory fees for managing Schwab ETFs™ and fees earned for providing services to third-party ETFs . . . if CSIA selects them . . . . If this affiliate compensation ever exceeds 0.30% of client assets, SWIA would refund the additional amount to client accounts . . . .[240]

Here, SIP informs clients how much SIP is earning on each portfolio, but it does not state how much clients are forgoing as a result of the conflict.[241] If a client could be earning a higher return from another asset allocation, but is allocated to a less ideal asset so that the adviser can collect its 0.30% fee, the client should be made aware of the conflict's entire impact. The "shadow commission" would accomplish this by accounting for the returns clients missed out on because of a robo-advisor conflict. It would also be simpler for unsophisticated investors to understand and would better enable investors to compare services and reach an informed decision.[242]

A more draconian alterative would be to completely prohibit robo-advisors from intentionally biasing algorithms toward conflicting interests, but such a rule would not be feasible. A blanket prohibition would admittedly be even simpler for investors to understand and would protect investors most fully. It would, however, be inconsistent with the

237. See supra note 231 and accompanying text (establishing that specificity in disclosures is generally required when possible).

238. For a primer on how expected returns are calculated, see Ronald J. Gilson & Bernard S. Black, (Some of) The Essentials of Finance and Investment 86–94 (1993).

239. For delivery requirements, see supra note 90 and accompanying text.

240. Charles Schwab 2017 Brochure, supra note 206, at 3.

241. See id.

242. Cf. supra notes 221–222 and accompanying text (explaining that the brochure is to help investors reach informed decisions about investment advisers).

United States' securities regulation regime, which favors disclosure over prohibition.[243] On a practical level, a prohibition would also harm the robo-advice market because it would cause money manager robo-advisors to exit the market to the detriment of investors. Money managers develop and offer robo-advisors to drive business to their other services and products[244]—if SIP were not permitted to favor Schwab's ETFs and retail bank, the service would not exist.[245] These money manager robo-advisors are currently the strongest force fueling the growth of the robo-advisor market.[246] Their disappearance would stall the development of the technology, consequently limiting the investment advice options available to investors.

CONCLUSION

Robo-advisors are an innovative development with the potential to transform how Americans use investment advice. As services grow in size and popularity, regulators must find efficient and effective methods by which to regulate them. This Note argues that, despite skepticism from the popular press, investment advice professionals, and some government agencies, robo-advisors are structurally capable of meeting the Advisers Act's duty of care standards. In regulating robo-advice, the SEC should shift its focus from advice quality to conflict of interest issues. Specifically, the Commission should impose a rule that requires robo-advisors to explicitly indicate when conflicting incentives are intentionally programmed into asset allocation algorithms. For these intentional conflicts, robo-advisors should be required to disclose a "shadow commission," which would quantify for clients how much biased algorithms are costing them. Such a disclosure would give consumers access to more information so that they are in a better position to decide whether to reap the potential benefits of robo-advice.

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243. See supra note 75 and accompanying text (explaining that the United States regulates the securities markets through a disclosure-based regime, rather than a merit-based one).

244. See supra section II.C.2 (explaining that money manager robo-advisors exist to promote affiliated products and services).

245. This can be assumed given that SIP does not charge an advisory fee. See supra note 201 and accompanying text.

246. See Robbins, supra note 10 (stating that a S&P Global Market Intelligence Report shows that "traditional companies" such as Vanguard, Charles Schwab, and E*Trade "are now the primary driver in robo-advisor asset growth").