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On the Future of Wall Street's Crystal Ball: How the SEC's Proposed Conflicts Rule Affects the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers

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Introduction

On July 26, 2023, the Securities and Exchange Commission (“SEC”) proposed a new rule that would require broker-dealers and investment advisers to eliminate, or neutralize the effects of, conflicts of interest associated with the use of predictive data analytics (“PDA”) technologies by their firms. The conflicts of interest at bar are those that “place a firm’s interests ahead of investors’ interests.”¹ The proposed rule defines PDA technologies as technologies that “[draw] inferences from large data sets...to uncover patterns and make predictions.”²

In the *Background* section of the rule proposal, the Commission wrote that previous technological improvements such as “computers, email, spreadsheets, and the internet...have helped to promote transparency, liquidity, and efficiency in our capital markets.”³ Furthermore, it noted that “new technologies can aid firms’ interactions with investors, and bring greater access and product choice, potentially at a lower cost, without compromising investor protection, capital formation, and fair, orderly, and efficient markets.”⁴ The proposed rule aims to strike a careful balance between ensuring the vitality of the potential market benefits of emerging PDA technologies and the protection of investors by enhancing the transparency, accountability, and fairness of the usage of PDA technologies by broker-dealers and investment advisers. Despite the proposed rule’s likely positive impacts on consumer protection and market efficiency, the proposed rule is not without its potential negative effects on industry innovation and competition.

¹ Conflicts of Interest Associated with the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers, 88 Fed. Reg. 53960 (proposed Jul. 26, 2023) (to be codified at 17 C.F.R pt. 240 and pt. 275), at 11.

² Conflicts of Interest Associated with the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers, 88 Fed. Reg. 53960 (proposed Jul. 26, 2023) (to be codified at 17 C.F.R pt. 240 and pt. 275), at 9 (citing Nathan Cortez, *Predictive Analytics Law and Policy: Mapping the Terrain: Challenging Issues in Specific Private Sector Contexts, Substantiating Big Data in Health Care*, 14 ISJLP 61, 65 (Fall 2017)).

³ Conflicts of Interest Associated with the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers, 88 Fed. Reg. 53960 (proposed Jul. 26, 2023) (to be codified at 17 C.F.R pt. 240 and pt. 275), at 12.

⁴ *Id.*

Given the history of market benefits from emerging technologies, the main research question that this paper seeks to answer is: *to what extent will the SEC's proposed conflicts rule affect the use of PDA technologies by broker-dealers and investment advisers?*

The first step towards answering this question is to define why PDA technologies are receiving heightened regulatory scrutiny in the SEC's proposed conflicts rule. One reason may be the desire to regulate technologies that utilize artificial intelligence ("AI") systems, which are used by PDA technologies to decode patterns and develop predictions. AI comprises "computer systems able to perform tasks that normally require human intelligence."⁵ AI provides broker-dealers and investment advisers with capabilities that may achieve higher investment returns, provide unique customer experiences, and solicit greater investment from clients. A broker-dealer is a person or firm that engages in the business of trading securities on behalf of its customers (as a broker) or for its own account (as a dealer).⁶ An investment adviser is a person or firm that, for compensation, engages in the business of providing investment advice to others about the value of or about investing in securities.⁷ Broker-dealers and investment advisers use the technology in consumer-facing chatbots, robo-advisers, recommendation engines, and more. This paper will examine how the consumer and enterprise market have driven broker-dealers and investment advisers to utilize PDA technologies, and how the proposed rule affects their ability to create and operate innovative financial products and services that utilize PDA systems.

⁵ Oxford Reference, *Artificial Intelligence*, <https://www.oxfordreference.com/display/10.1093/oi/authority.20110803095426960> (last visited Sept. 23, 2023).

⁶ Office of the Advocate for Small Business Capital Formation, U.S. Securities and Exchange Commission, *What is a broker-dealer?*, <https://www.sec.gov/files/oasb-broker-dealer-building-block.pdf> (last visited Oct. 30, 2023).

⁷ U.S. Securities and Exchange Commission, *Investment Adviser*, <https://www.investor.gov/introduction-investing/investing-basics/glossary/investment-adviser> (last visited Oct. 30, 2023).

As per the summary of the proposed rule, the purpose of the rule is “to eliminate, or neutralize the effect of, certain conflicts of interest associated with broker-dealers’ or investment advisers’ interactions with investors through these firms’ use of technologies that optimize for, predict, guide, forecast, or direct investment-related behaviors or outcomes.”⁸ The proposed rule’s definition of a conflict of interest between the firm and its customers is one that places “a firm’s interests ahead of investors’ interests.”⁹ Regulation of PDA technologies is crucial to the mitigation of these conflicts because of the technologies’ significant potential impact on investor protection, market efficiency and integrity, and fairness of competition.

The SEC seeks to protect clients from conflicts of interest that may compromise their relationships with broker-dealers and investment advisers and lead to unjust financial loss. Given this goal, the SEC must assess whether its existing rules remain sufficient to address the possible conflicts of interest that the new technologies may generate or exacerbate. Therefore, it is not out of the ordinary for the SEC to propose a rule like this to address the potential conflicts implications of an emerging technology. This paper will explore the drivers for the emergence of PDA technologies in the financial services market and will analyze the impact of the proposed rule on the future of the use of PDA technologies by broker-dealers and investment advisers. This paper will also discuss how the current regime of conflicts regulation capabilities are insufficient in addressing the conflicts that may arise as a result of broker-dealers’ and investment advisers’ use of PDA technologies, and how the proposed rule makes up for existing gaps in regulation. Challenges for SEC enforcement and the proposed rule’s potential impact on investor outcomes will also be examined.

⁸ Conflicts of Interest Associated with the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers, 88 Fed. Reg. 53960 (proposed Jul. 26, 2023) (to be codified at 17 C.F.R pt. 240 and pt. 275), at 1.

⁹ *Id.* at 11.

Drivers that Have Led to the Proposed Rule

History of the Adoption of Predictive Analytics by Broker-Dealers and Investment Advisers

The history of the usage of PDA-related technologies in the financial sector spans multiple decades. In the 1980s, Bayesian analysis, regression models, and other statistical methods were used to analyze financial data and inform trading decisions.¹⁰ As the field of computer science began to boom after the dotcom era, the field of machine learning in the 2000s and 2010s built off this background to generate high-frequency trading and risk modeling capabilities.¹¹ Machine learning gained popularity as the next step of computer-driven statistical analysis because of increasing access to data, decreasing marginal costs of data storage, and greater computational power. 15 U.S.C. § 9401, which establishes the National Artificial Intelligence Advisory Committee, defines machine learning as “an application of artificial intelligence that is characterized by providing systems the ability to automatically learn and improve on the basis of data or experience, without being explicitly programmed.”¹² For example, robo-advisory service Wealthfront, which will be discussed later in this paper, uses an AI-powered system that translates investor risk assessment questionnaires into customized investment portfolios.¹³

Reasons for Broker-Dealer and Investment Adviser Adoption of PDA Technologies

¹⁰ Forest Colyer et al., *The Convergence of AI and Digital Assets: A New Dawn for Financial Infrastructure*, AWS DATABASE BLOG (Oct. 19, 2023), <https://aws.amazon.com/blogs/database/the-convergence-of-ai-and-digital-assets-a-new-dawn-for-financial-infrastructure/>.

¹¹ *Id.*

¹² 15 U.S.C. § 9401.

¹³ Randy Bean & Thomas H. Davenport, *The Pursuit of AI-Driven Wealth Management*, MIT SLOAN MANAGEMENT REVIEW (Jul. 7, 2021), <https://sloanreview.mit.edu/article/the-pursuit-of-ai-driven-wealth-management/>.

The vast advantages that PDA technologies provide broker-dealers and investment advisers in their abilities to discern trading analyses and provide personalized recommendations to clients have driven broker-dealers and investment advisers to employ them in both their back-end data collection practices and their front-end investor-facing offerings. In the back-end, PDA technologies enable firms to gather client investment preferences while better understanding their risk tolerance and trading patterns. This data can then be utilized by a firm's PDA systems to gain insights that will be fed back to clients in the front-end forms of push notifications, in-app chatbot messaging systems, or in the automatic management of their portfolio through robo-advisory services. As back-end technology improvements have opened the door for the modification of front-end user experiences, PDA technologies have become essential tools that power broker-dealers and investment advisers' abilities to create innovative financial products that can develop new consumer markets and help firms compete for market share.

The Drivers' Potential Impact on Conflicts of Interest

PDA technologies have the capability to take in the prolific amount of data received by financial institutions and then apply the data to front-end gateways to automated analysis. In proposing this rule, the SEC aims to quell conflicts of interest that result from the distribution and repackaging of this data from the firms to their clients. Broker-dealers, for example, may utilize PDA technologies to push customers to purchase investment products that generate higher fees or commissions for the firm or its affiliates. Investment advisers may utilize PDA technologies to form affiliate partnerships that incentivize automated or in-person adviser referrals in the pursuit of higher profits.

This practice of using PDA technologies to develop and execute affiliate partnerships may create a conflict of interest between the investment adviser and the client. In this scenario,

the investment adviser may use a PDA system to act in the best interest of their firm instead of the best interest of their client. For example, an investment adviser may use an automated notification system built off PDA data to recommend a mutual fund that pays a higher referral fee to the adviser, even if there are other funds that are less costly for the client. Furthermore, an investment adviser may use the same notification system to steer clients away from certain products or services that do not generate any revenue for the adviser or its affiliates, regardless of the client's needs or preferences. Despite these potential conflict of interest concerns, the popularity of the usage of PDA technologies has been maintained among broker-dealers and investment advisers because of how the technology drives firms to compete for market share through innovative product development and user experience personalization.

Chatbots and robo-advisors are two examples of innovative digital technologies that have been developed by broker-dealers and investment advisers since the dawn of the era of PDA technologies. These digital technologies offer a strikingly low marginal cost for the onboarding of new customers and the retention of existing ones when compared to the employment of traditional human brokers and advisers.¹⁴ Chatbots provide consumers with the unprecedented ability to communicate with a digital adviser that can answer their questions, volunteer information, and execute transactions. However, chatbots create conflicts of interest when they provide recommendations that may benefit the firm at the expense of the client. Cited in the SEC proposed rule, the Financial Stability Board's AI Report indicated that chatbots are "increasingly moving toward giving advice and prompting customers to act."¹⁵ Robo-advisors take PDA-

¹⁴ See Yakov Bart et al., *Brave New World? On AI and the Management of Customer Relationships*, 51 JOURNAL OF INTERACTIVE MARKETING 44 (2020), <https://www.sciencedirect.com/science/article/pii/S1094996820300839>.

¹⁵ Conflicts of Interest Associated with the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers, 88 Fed. Reg. 53960 (proposed Jul. 26, 2023) (to be codified at 17 C.F.R pt. 240 and pt. 275), at 27 (citing Financial Stability Board, *Artificial Intelligence and Machine Learning in Financial Services: Market Developments and Financial Stability Implications* (Nov. 11, 2017), <https://www.fsb.org/wp-content/uploads/P011117.pdf>).

powered recommendation engines similar to those that are utilized by chatbots to the next level by automatically making portfolio decisions for the client based on factors such as the client's risk tolerance. The SEC proposed rule also cited how “robo-advisors can be, and often are, intentionally programmed to favor the institution.”¹⁶

Robo-Advisors: Illustrative Examples

The SEC proposed rule indicates that robo-advisors, or “automated systems for providing financial advice and services,” have become “more and more popular” over the past decade.¹⁷ Both new companies and established financial institutions have begun to utilize robo-advisors as a way to distinguish their business and gain market share. Wealthfront, for example, initially launched in 2008 as a social investment site but pivoted its business when it launched an automated tax-loss harvesting service in 2012.¹⁸ Today, Wealthfront is a robo-advisor that personalizes a customer's portfolio based on “age, financial situation, and attitude toward risk.”¹⁹ The company oversees over \$50 billion in client assets as of November 2023.²⁰ Robo-advisors like Wealthfront retain customers through automatically rebalancing their customers' portfolios and providing comparatively advantageous return-on-investment results.

¹⁶ Conflicts of Interest Associated with the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers, 88 Fed. Reg. 53960 (proposed Jul. 26, 2023) (to be codified at 17 C.F.R pt. 240 and pt. 275), at 20 (citing Sophia Duffy and Steve Parrish, *You Say Fiduciary, I Say Binary: A Review and Recommendation of Robo-Advisors and the Fiduciary and Best Interest Standards*, 17 Hastings Bus. L.J. 3, at 26 (2021)).

¹⁷ Conflicts of Interest Associated with the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers, 88 Fed. Reg. 53960 (proposed Jul. 26, 2023) (to be codified at 17 C.F.R pt. 240 and pt. 275), at 14 (citing Sophia Duffy and Steve Parrish, *You Say Fiduciary, I Say Binary: A Review and Recommendation of Robo-Advisors and the Fiduciary and Best Interest Standards*, 17 Hastings Bus. L.J. 3, at 26 (2021)).

¹⁸ Kin-Mai Cutler, *Financial Planning Startup Wealthfront Woos Silicon Valley Workers With A Once-Secret Investment Trick*, TECH CRUNCH (Oct. 9, 2012), <https://techcrunch.com/2012/10/09/wealthfront-tax-loss-harvesting/>.

¹⁹ *Your Guide to Investing with Wealthfront*, <https://www.wealthfront.com/investing-guide> (last visited Sept. 21, 2023).

²⁰ *Wealthfront Now Oversees More Than \$50 Billion in Client Assets and is on Track to Grow Revenue by Over 140% in 2023*, PR NEWSWIRE (Nov. 16, 2023), <https://www.prnewswire.com/news-releases/wealthfront-now-oversees-more-than-50-billion-in-client-assets-and-is-on-track-to-grow-revenue-by-over-140-in-2023-301990087.html>.

Historic financial institutions such as Vanguard have also begun to offer robo-advisory services to their clients. Vanguard Digital Advisor is a robo-advisor that similarly offers a personalized, digitally-managed portfolio to their clients. Client portfolios are compiled through a risk management analysis similar to that of Wealthfront. Vanguard furthermore offers additional options for customization, including providing the client with the ability to choose between all-index, active/index, or ESG investment options.²¹ Vanguard also provides clients with the choice to enroll in their tax-loss harvesting service.²²

Both Wealthfront and Vanguard, however, have the ability to primarily comprise their robo-advisor portfolios of affiliated funds or ETFs. Examining this practice illustrates how robo-advisors can be “intentionally programmed to favor the institution.”²³ This practice generates fees or commissions for the companies and their affiliates that would not be generated if they were to invest in non-affiliated funds. Wealthfront highlights a flat 0.25% annual advisory fee in its marketing materials, while also showcasing that the firm “does not charge any account-opening fees, withdrawal or account-closing fees, trading/commission fees, or account transfer fees.”²⁴ Vanguard Digital Advisor similarly boasts a flat fee structure in their marketing: 0.15% for its all-index and ESG investment options, and 0.20% for its active/index investment option.²⁵

However, all ETFs have “portfolio management, administration, marketing, and distribution” fees calculated into their daily price fluctuations, which is expressed as their

²¹ VANGUARD DIGITAL ADVISOR, <https://investor.vanguard.com/advice/robo-advisor> (last visited Dec. 9, 2023).

²² *Id.*

²³ Conflicts of Interest Associated with the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers, 88 Fed. Reg. 53960 (proposed Jul. 26, 2023) (to be codified at 17 C.F.R pt. 240 and pt. 275), at 20 (citing Sophia Duffy and Steve Parrish, *You Say Fiduciary, I Say Binary: A Review and Recommendation of Robo-Advisors and the Fiduciary and Best Interest Standards*, 17 *Hastings Bus. L.J.* 3, at 26 (2021)).

²⁴ UNDERSTANDING WEALTHFRONT FEES, <https://support.wealthfront.com/hc/en-us/articles/13992378758676-Understanding-Wealthfront-fees> (last visited Dec. 9, 2023).

²⁵ VANGUARD DIGITAL ADVISOR, <https://investor.vanguard.com/advice/robo-advisor> (last visited Dec. 9, 2023).

expense ratio.²⁶ Therefore, by including their own ETFs into their robo-advisory fund allocation, firms may “double dip” on their ability to gain fees from customers. This methodology may drive firms to use PDA technologies because doing so provides them with the ability to increase their margins at a near-zero marginal cost. In one sweep of a client signing on for a robo-advisory service, the firm may be able to receive fund advisory fees in addition to ETF-based fees. This lack of transparency surrounding the black box of potential fees from robo-advisory services showcases an example of why the SEC is seeking to specifically mitigate PDA-powered potential conflicts of interest.

Information Asymmetry: A Potentially Conflicting Driver

Information asymmetries are not solely the result of PDA technologies. Fund managers and retail investors alike face information asymmetry in their day-to-day interactions with the financial system. Information asymmetry between all investors and public companies in the traditional sense is a barrier that leads to a fair and efficient public market, where insider trading law protects the public market from traders acting with insider information. However, broker-dealers and investment advisers may use PDA technologies to gain client insights that can lead to enhanced profitability and market share for their firms. This form of information asymmetry is especially problematic because privacy or cookie policy consent can make broker-dealers and investment advisers the constructive owners of client data, and they may have a right to act on and utilize this information.²⁷

²⁶ EXPENSE RATIOS: WHAT THEY ARE AND HOW THEY WORK, <https://investor.vanguard.com/investor-resources-education/education/expense-ratio> (last visited Dec. 9, 2023).

²⁷ See Privacy of Consumer Financial Information (Regulation S-P), 65 Fed. Reg. 40333 (Jun. 29, 2000) (codified at 17 C.F.R. pt. 248).

Whether in use in robo-advisory services or the back-end support software of a human-led broker-dealer or investment adviser, PDA technologies allow firms to utilize the aforementioned “black box” of opaque investment strategies. Companies are required to issue audited financial statements, but are not required to issue audits of their investment algorithms.²⁸ Without disclosure and audit requirements, investors are left to trust that the frequent algorithmic changes that are undertaken by firms are in their best interest. Investors are left without the information that a prudent investor would typically seek, including the firm’s level of risk tolerance, their distribution of ETF fees, and adjustments to fund allocations. However, by being willing to adopt robo-advisory services, consumers are assenting to the “black box” format. They are knowingly opting into a form of investment that operates with an opaque automated back-end, and firms are driven to pursue the use of PDA technologies to gain market share from those in this category.

Whereas investors may be aware of the automated nature of a robo-advisor and comfortable with the information asymmetry involved in that relationship, they may be less aware of the information asymmetry surrounding their relationships with broker-dealers and investment advisers that utilize PDA technologies in a less upfront way. Firms may utilize PDA technologies to provide investors with recommendations or targeted advertisements towards investment products or services that would increase profits or commissions for the firms. Investors’ reactions to these nudges can be logged into the firms’ databases, and PDA technologies can help firms decipher these actions to find the optimal way to convince the investor to change their behavior.

²⁸ See Will Bible et al., *Why We Need to Audit Algorithms*, HARVARD BUSINESS REVIEW (Nov. 18, 2018), <https://hbr.org/2018/11/why-we-need-to-audit-algorithms>.

An example of a behavior change that would lead to a conflict of interest would be a PDA-powered smartphone app push notification that aims to persuade an investor to invest in a fund that generates higher fees for the firm, as compared to the funds that they are currently invested in. In this scenario, PDA technologies could inform the firm of the best timing, messaging format, and call to action for the investor. The information asymmetry present in this situation is twofold. First, the broker-dealer or investment adviser has information about the fees and profitability of the recommended product that the investor does not. Second, the broker-dealer or investment adviser has a plethora of user interaction data from the investor's use of the app that the investor does not. In this second case, the investor also does not know what kind of data the firm is tracking or is capable of tracking. This exploitation of investor information and preferences places the firm's interests ahead of investors' and is exactly the type of situation that the SEC is looking to guard against by enforcing the proposed rule.

Conclusion to Drivers

In conclusion, what has driven broker-dealers and investment advisers to utilize PDA technologies are their desires to whet the appetite of digital-hungry consumers, better compete in an innovative market, and develop new products that improve margins. However, PDA technologies can put investors at risk by creating an incentive for information asymmetry between the firms and their investors, enabling the firm to enter into self-interested transactions or offer biased advice that manipulates investors' actions. Understanding the balance between maintaining firms' abilities to develop PDA-powered products while creating safeguards for consumer protection is key to analyzing the SEC's motivations for proposing the rule at bar.

Analysis of the Proposed Rule

Defining the Conflicts at Bar and Introducing the Basics of the Proposed Rule

The SEC's proposal aims to quell conflicts of interest that may place a firm's interests ahead of the interests of investors. These conflicts of interest may arise from sources such as the data used to train or test the PDA models, the design or implementation of the PDA models, or the human oversight or intervention of the PDA models. An example of a conflict of interest arising from PDA model training or testing data is a firm scraping an investor's search or browser history and then utilizing PDA technologies to recommend investment products that best fit the investor's analyzed financial condition. Someone who is searching for a personal loan, for example, may be recommended to use an investment product that generates higher commissions or fees for the firm over time but begins with one year without fees. An example of a conflict arising from the design or implementation of the PDA model is a trading app design that utilizes behavioral nudges to guide investors to invest in funds that are managed (and therefore yield fees to be paid to) the app's registered broker-dealer. Furthermore, an example of a conflict of interest arising from human oversight or intervention could involve a broker-dealer employee re-weighting the assets within a robo-advisor's fund allocation to propel the fund's investment in ETFs controlled by the broker-dealer just before the end of a quarter where the broker-dealer has underperforming earnings.

The SEC's proposed rule seeks to address conflicts like these by requiring firms to eliminate, or neutralize the effect of, any conflicts that result in the firm's interests being placed ahead of investors' interests.²⁹ The proposed rule highlights that such conflicts "should be eliminated or their effects should be neutralized."³⁰ Noting this goal, there are three main

²⁹ Conflicts of Interest Associated with the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers, 88 Fed. Reg. 53960 (proposed Jul. 26, 2023) (to be codified at 17 C.F.R pt. 240 and pt. 275), at 31.

³⁰ *Id.* at 26.

objectives that the SEC aims to achieve. The first objective is on the consumer protection end, as the SEC aims to protect investors from the potential harm or loss that may result from biased, misleading, or fraudulent PDA practices by firms. The second objective is on the market efficiency end, as the SEC aims to use these rules to help ensure that the market for securities is fair, transparent, and accountable. The third objective is to ensure that the proposed rule does not suppress the nonconflicting and consumer-friendly innovation and competition that the financial sector has begun to experience since the mass utilization of PDA technologies began.

The Proposal's Impact on Consumer Protection

Consumer protection is the lens to which the SEC draws its authority to promulgate this rule, noting in the proposed rule that SEC authority stems from Section 211(h) of the Advisers Act and Section 15(l) of the Exchange Act, including the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010's additions to both pieces of legislation.³¹ The proposed rule aims to enhance investor protection by preventing or mitigating the potential harm or loss that may result from biased, misleading, or fraudulent practices by firms involving the use of PDA technologies. For example, the proposed conflicts rule would be triggered if a firm increases PDA-powered trading because doing so increases commissions or revenue sharing for the firm from the wholesaler that executes the trade.³²

On the other hand, addressing this issue may discourage or limit the adoption, development, and innovation of PDA-powered technologies by firms. Increased costs, risks, and regulatory uncertainties will be associated with complying with the rule. For example, the implementation of the rule may discourage a broker-dealer from including its own fund that is

³¹ *Id.* at 39.

³² *Id.* at 82.

outperforming the market in its PDA-powered robo-advisory service for fear of a lack of compliance with the rule. In this example, the consumer is protected against a conflict of interest. However, the consumer in this example may also miss out on the ability to invest in a fund that is outperforming the market.

The Proposal's Impact on Market Efficiency

The SEC expects the elimination or neutralization of conflicts of interest to impact market efficiency positively by increasing competition for advisory fees, management fees, brokerage fees, and execution quality.³³ NYU Stern School of Business Professor and internationally renowned valuation guru Aswath Damodaran has taught that the definition of market efficiency links with “assumptions about what information is available to investors.”³⁴ By implementing a regulatory structure that encourages market transparency among the broker-dealers and investment advisers that utilize PDA technologies, the SEC seeks to empower investors’ abilities to distinguish between the financial institutions that they would like to work with.

The proposed rule aims to keep the market for securities efficient by preventing broker-dealers and investment advisers from using PDA technologies to influence, manipulate, or deceive investors; or gain an unfair advantage over competitors or the market. These conflicts may undermine the fiduciary duty that investment advisers owe to their clients³⁵ as well as the FINRA Rules of Fair Practice that broker-dealers must follow.³⁶ In the proposed rule, the SEC

³³ *Id.* at 193.

³⁴ Aswath Damodaran, Market Efficiency – Definition and Tests, NYU STERN SCHOOL OF BUSINESS (last visited Dec. 9, 2023), https://pages.stern.nyu.edu/~adamodar/New_Home_Page/invemgmt/effdefn.htm.

³⁵ *Id.* at 104.

³⁶ *Id.* at 165.

indicated that the rule would “positively impact efficiency by providing investors with greater confidence regarding the conflicts of interest associated with the use of covered technologies.”³⁷ The SEC cites that the enforcement of the rule will prevent investors from expending “costly efforts...on understanding the effects of complex and opaque technologies,” noting that this enhances efficiency “by enabling the resources thereby saved to be allocated to more productive economic outcomes.”³⁸ The SEC is in accord with Professor Damodaran in that transparency of information contributes to market efficiency.

The Proposal’s Impact on Innovation and Competition

The proposed rule aims to balance a potentially negative effect on innovation by forging a competitive playing field that can help ensure broad application of PDA technologies, even if the potential spectrum of technical innovation must be slightly curbed to avoid conflicts. The SEC noted in the proposal that “the proposal is intended to be technology neutral.”³⁹ The Commission made clear that they are not aiming to discriminate against the usage of specific individual technologies that utilize PDA systems in this proposed rule. The proposed rule instead delineates its jurisdiction to “covered technologies,” the proposed definition of which includes a broad set of “technologies that optimize for, predict, guide, forecast, or direct investment-related behaviors or outcomes.”⁴⁰ The proposed rule notes that this definition is designed to “capture a broad range of actions.”⁴¹

³⁷ *Id.* at 191.

³⁸ *Id.*

³⁹ *Id.* at 39.

⁴⁰ *Id.* at 43.

⁴¹ *Id.* at 43.

The new, more level industry playing field that the SEC seeks by enacting this rule may be a more conducive environment for PDA development and adoption. With more information available, informed investors will be less likely to choose to work with broker-dealers and investment advisers that do not act on addressing conflicts of interest. Over time, the vast market driver of investor trust will establish a market of broker-dealers and investment advisers that are less likely to be prone to conflicts. To build investor trust, the proposed rule may encourage firms to differentiate themselves from their competitors by demonstrating their commitment to eliminating or neutralizing conflicts of interest in their PDA practices, or by offering more transparent, accountable, and fair PDA-powered services and products. For example, firms may be incentivized by public investor sentiment to advertise “conflicts-free algorithms” in their robo-advisors. This market reality may also leave room for a new robo-advisor competitor to be formed that highlights that their fund allocation does not include any fund that their firm has a direct or affiliate interest in.

In enforcing this rule, the SEC seeks to balance the trade-off involved between client and firm expectations for innovation and protection. The rule aims to optimize this balance, but there may be a potential chilling effect on financial technology innovation. The implementation of the proposed rule will require firms to utilize less sophisticated approaches that allow for easier identification of the dynamics that may create conflicts of interest. Therefore, the rule may have an anticompetitive effect of decreasing the new product innovation among the broker-dealer and investment advisor firms that are utilizing PDA technologies to compete for new customers and greater market share.

Discussion

Measuring the Proposed Rule Against the Current Regime

To better understand the SEC’s ability to enforce the proposed rule and the likely effects that the rule is to have on broker-dealers and investment advisers, firms must measure the regulatory changes between the proposed rule and the existing regulatory regime for conflicts of interest. The SEC’s proposed rule specifically addresses the risks and challenges posed by PDA technologies in the financial sector. However, it is not a novel regulation, as it instead builds off the existing standards in place that are applicable to the regulation of conflicts of interest for broker-dealers and investment advisers.

The foundational connections for the SEC’s proposed rule in terms of alignment with the existing regulatory regime are those with the Exchange Act and the Advisers Act. As previously mentioned, these acts comprise the statutory authority for the promulgation of this rule.⁴² The framework for rulemaking stems from Section 3(f) of the Exchange Act and Section 202(c) of the Advisers Act, which require rulemaking to “consider or determine whether an action is necessary or appropriate in the public interest,”⁴³ and also to “consider, in addition to the protection of investors, whether the action will promote efficiency, competition, and capital formation.”⁴⁴

Whether this rule is in furtherance of these factors goes without question. At its most basic sense, the Exchange Act protects against fraud and deceit (as does the Securities Act of 1933 and FINRA Rules of Fair Practice, which are also noted in the proposed rule).⁴⁵ However,

⁴² Conflicts of Interest Associated with the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers, 88 Fed. Reg. 53960 (proposed Jul. 26, 2023) (to be codified at 17 C.F.R pt. 240 and pt. 275), at 39.

⁴³ *Id.* at 142.

⁴⁴ *Id.* at 143.

⁴⁵ *Id.* at 165.

the SEC indicated in the proposed rule that the new rule reaches beyond the Exchange Act to enforce the elimination or neutralization of the effects of conflicts of interest.⁴⁶

To understand the extent to which the proposed rule reaches beyond the current standard of conflicts of interest regulation, broker-dealers' and investment advisers' current standards for identifying and addressing conflicts of interest must be examined. Broker-dealers are governed by the Regulation Best Interest ("Reg BI") standard,⁴⁷ while investment advisers are governed by the fiduciary standard outlined in the Investment Advisers Act of 1940 ("the Advisers Act").⁴⁸

Reg BI requires broker-dealers to "act in the retail customer's best interest" by complying with four components of obligations: disclosure, care, conflict of interest, and compliance.⁴⁹ As part of the conflict of interest component of Reg BI, broker-dealers are required to "identify, and at a minimum disclose, or eliminate, all conflicts of interest associated with a recommendation."⁵⁰ The proposed rule discusses how a limitation of Reg BI is that broker-dealers' "non-recommendation interactions with investors are not subject to conflict of interest requirements under Reg BI."⁵¹ The SEC defeats this limitation by covering non-recommendation interactions with investors in the proposed rule. In doing so, the SEC's proposed rule places broker-dealers under a new dawn of regulatory scrutiny. The SEC justifies this expansion of regulation in the proposed rule by noting how "advances in covered technologies" have given

⁴⁶ *Id.* at 224.

⁴⁷ Regulation Best Interest: The Broker-Dealer Standard of Conduct, 84 Fed. Reg. 33318 (Jul. 12, 2019) (codified at 17 C.F.R. pt. 240).

⁴⁸ Investment Advisers Act of 1940, 15 U.S.C. § 80.

⁴⁹ Regulation Best Interest: The Broker-Dealer Standard of Conduct, 84 Fed. Reg. 33318 (Jul. 12, 2019) (codified at 17 C.F.R. pt. 240), at 35.

⁵⁰ Regulation Best Interest: The Broker-Dealer Standard of Conduct, 84 Fed. Reg. 33318 (Jul. 12, 2019) (codified at 17 C.F.R. pt. 240), at 41.

⁵¹ Conflicts of Interest Associated with the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers, 88 Fed. Reg. 53960 (proposed Jul. 26, 2023) (to be codified at 17 C.F.R. pt. 240 and pt. 275), at 174.

non-recommendation interactions “the potential to influence investor behavior” and place the firm’s interest ahead of that of investors.⁵²

The Advisers Act, on the other hand, places a fiduciary standard on the actions of investment adviser, which includes the duty of loyalty and duty of care.⁵³ The duty of loyalty requires investment advisers to “eliminate or make full and fair disclosure of all conflicts of interest...such that a client may provide informed consent,”⁵⁴ while the duty of care requires investment advisers “to provide investment advice in the best interest of its client, based on the client’s objectives.”⁵⁵ Furthermore, the Advisers Act requires investment advisers to “adopt and implement policies and procedures that are reasonably designed to prevent” violations of the Act.⁵⁶

The proposed rule does not broaden the scope of either duty nor update the standard of “reasonably designed” policies and procedures. Nevertheless, the SEC stipulates how these existing duties and rules are applicable to investment advisers that utilize PDA technologies. For example, the proposed rule specifies that firms that use “covered technologies” must have “written policies and procedures reasonably designed to achieve compliance” with the rule, and to make and preserve records related to these requirements.⁵⁷ Investment advisers that utilize PDA technologies will have to adjust to this new reality of recordkeeping to comply with the proposed rule.

⁵² *Id.*

⁵³ Commission Interpretation Regarding Standard of Conduct for Investment Advisers, 84 Fed. Reg. 33669 (Jul. 12, 2019) (codified at 17 C.F.R. pt. 276), at 2.

⁵⁴ *Id.* at 8.

⁵⁵ *Id.*

⁵⁶ *Id.* at 21.

⁵⁷ Conflicts of Interest Associated with the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers, 88 Fed. Reg. 53960 (proposed Jul. 26, 2023) (to be codified at 17 C.F.R pt. 240 and pt. 275), at 41.

Reg BI and the Advisers Act hold a standard of compliance regulation that broker-dealers and investment advisers must uphold. By forging a connection between the existing regulatory landscape and the use of PDA technologies, the SEC's proposed rule begins a new era for broker-dealer and investment adviser compliance that highlights its ability to regulate conflicts that stem from specific user interactions. The SEC is careful to distinguish that the proposed rule covers more than just recommendation interactions, but also "design elements, features, or communications that nudge, prompt, cue, solicit, or influence investment-related behaviors or outcomes from investors."⁵⁸ Any firm that utilizes PDA technologies must prepare for a reality where all user interactions may be scrutinized.

SEC Enforcement Challenges

The purpose of this paper is to determine how the SEC's proposed conflicts rule affects the use of predictive data analytics by broker-dealers and investment advisers. Therefore, an evaluation of the impact of the proposed rule on firms must include a discussion on SEC enforcement capabilities. For the rule to be effective in its goal of eliminating, or neutralizing the effects of, conflicts of interest that arise from the use of predictive data analytics, the rule must be enforceable. The SEC is likely to face several challenges in enforcing the proposed rule, including challenges based on the lack of a standard for measuring the effects of conflicts of interest on investor outcomes and the lack of a detailed framework for the monitoring of conflicts that stem from the use of PDA technologies. The following paragraphs will discuss how these conflicts enforcement challenges apply to the SEC's ability to audit broker-dealer and

⁵⁸ *Id.*

investment advisers' usage of PDA technologies, and how the SEC seeks to employ the rule to mitigate them.

SEC enforcement will likely struggle with measuring and mitigating the effect of conflicts of interest on investor outcomes. The proposed rule does not provide a consistent methodology for measuring the effect of conflicts of interest on investor outcomes, such as performance, risk, or satisfaction. This is especially relevant because of how the proposal noted that the effect of a technology's impact "may not be immediately apparent without testing."⁵⁹ The inclusion of a testing component in the rule without outlining standards for such tests may create difficulties and complexities for both firms and regulators. Firms may not know how to track their best practices for conflict prevention, and regulators may then propose inadequate or ineffective procedures for testing for them.

Instead of providing a specific test for conflict presence in the proposed rule, the SEC utilizes a catch-all approach that could be coined the "net effect test." The SEC admits that "a covered technology may consider many factors (e.g., as part of an algorithm or data input)."⁶⁰ Thus, the SEC lays out how "one conflicted factor among thousands in the algorithm or data set upon which a technology is based may, or may not, cause the covered technology to produce a result that places the interests of the firm ahead of the interests of investors."⁶¹ In other words, the net effect of one sole factor on conflict creation among thousands of potential factors could result in a conflict of interest. The SEC utilizes this test to justify its broad definition of covered technologies from an enforcement and measurement perspective, noting that "without a broad definition and resulting evaluation, this differentiation among factors that do, and do not, result

⁵⁹ *Id.* at 81.

⁶⁰ *Id.*

⁶¹ *Id.*

in investor interactions that place the firm’s interests ahead of investors’ interests may be impossible.”⁶²

Despite how one sole factor could indicate a conflict of interest under the proposed rule, the question still remains as to how the SEC will be able to enforce their proposed regulations without the ability to constantly track the thousands of data points that could indicate a lack of compliance. It is unclear how the SEC is set to monitor or audit firms’ utilization of PDA technologies. The proposed rule does not provide a clear or detailed framework or mechanism for monitoring or auditing the use of PDA technologies by firms, such as the data used to train or test the PDA models, the design or implementation of the PDA models, or the human oversight of neural network and machine learning processes that may be utilized to create these consumer-facing investment products. Without a clear framework, firms may be unable to provide sufficient or accurate information that would lead to the mitigation of conflicts. For the rule to be enforced, the SEC must be able to gain evidence that can verify compliance with the rule, or a lack thereof. Furthermore, the use PDA technologies may power a black box of market, investor, and asset information that can manifest itself “among thousands” of covered technologies.⁶³ To effectively enforce this proposed rule, the SEC will have to develop enforcement tools that can test for a wide range of usage of PDA technologies, allocating enforcement mechanisms for use in back-end “black box” algorithms and front-end user interactions.

Complications that may arise in the monitoring process extend far beyond a simple lack of human disclosure by firms that have something to hide. For example, the technical design of a PDA-influenced algorithm that powers a broker-dealer’s robo-advisory service may feature a

⁶² *Id.*

⁶³ *Id.*

machine learning system that creates yet another black box of artificially intelligent interactions between client and firm data that the firm itself has a lack of control over.⁶⁴ In the brave new world of PDA-powered financial technologies, the SEC will have to prepare its investigatory staff to conduct distinct technical analyses in order to mitigate the conflicts of interest at risk.

The Proposed Rule's Impact on Investor Outcomes and Relationships

The SEC's proposed rule will affect how firms can build relationships with their investor clients using PDA technologies, and also may affect the financial outcomes of investors that utilize PDA-powered products and services. In terms of the development of firm-investor relationships, the application of the proposed rule will have an immediate impact on the front-end user experience of the firms' PDA-powered technologies. The proposed rule's disclosure requirement may require firms to change or improve their user interface, communication style, and investor interaction methods. The need to disclose potential conflicts of interest may drive fearful investors away from utilizing the same PDA-powered technologies that could have improved their investment outcomes.

Robo-advisors and chatbots, for example, may help investors manage risk automatically, or provide investors with advice that they can use to better manage their portfolio. These tools may help decrease the education gap among retail investors, and if this education is successful in terms of providing investors with the ability to gain satisfactory returns on investment, may

⁶⁴ See Joanna Radin & Cynthia Rudin, *Why Are We Using Black Box Models in AI When We Don't Need To? A Lesson From an Explainable AI Competition*, HARVARD DATA SCIENCE REVIEW (Nov. 22, 2019) ("In machine learning, these black box models are created directly from data by an algorithm, meaning that humans, even those who design them, cannot understand how variables are being combined to make predictions. Even if one has a list of the input variables, black box predictive models can be such complicated functions of the variables that no human can understand how the variables are jointly related to each other to reach a final prediction."), <https://hdsr.mitpress.mit.edu/pub/f9kuryi8/release/8>.

contribute to leveling income inequality.⁶⁵ In a world with ballooning college education costs, the use of PDA technologies can provide investors with a customized toolkit of financial information that they may use to educate themselves on their pathway to financial success, either through firms' direct sharing of customized educational resources or through the experiential learning process of gaining investing experience.⁶⁶

The proposed rule is set to have a multifaceted impact, including providing an effect on broker-dealers' and investment advisers' data collection methods, user interaction design strategy, and roles of human oversight. As investors are able to achieve returns that outperform benchmark market indices⁶⁷ from PDA-powered robo-advisors like Wealthfront, the SEC must balance its desire to regulate conflicts with its need to provide a competitive market landscape that Americans can take part in. PDA-powered financial technologies provide investors with customized user experiences that can assist them with the portfolio allocation, risk management, or tax efficiency strategies that were once only available from costly human advisers. Beyond an improvement in user experience, PDA technologies may help deliver promising returns to retail investors through the automation or suggestion of these strategies.

In proposing this rule, the SEC rightfully and unequivocally seeks a lawful and transparent free market. However, the commission must maintain a keen eye in examining the

⁶⁵ See MICHAEL REHER AND STANISLAV SOKOLINSKI, AUTOMATION AND INEQUALITY IN WEALTH MANAGEMENT (2021) (“We conclude that automation, in the form of robo advisors, leads to Pareto improvements by reducing inequality in wealth management.”), <https://bpb-us-e2.wpmucdn.com/sites.utdallas.edu/dist/8/1090/files/2021/09/finance-conference-paper-automation-inequality-wealth-management.pdf>.

⁶⁶ See Rubin Hao et al., *Beyond Performance: The Financial Education Role of Robo-Advising* (2023) (“This study empirically investigates whether the adoption of BangNiTou [the leading Chinese robo-advisor] facilitates individuals' learning processes and improves their investment decisions.”), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4230191.

⁶⁷ HISTORICAL INVESTMENT PERFORMANCE | WEALTHFRONT, <https://www.wealthfront.com/historical-performance> (last visited Dec. 9, 2023).

effects of this rule after promulgation to ensure that the market for broker-dealers' and investment advisers' PDA-powered products and services remains innovative and competitive.

Conclusion

This paper aims to analyze the extent to which the SEC's proposed conflicts rule will affect the use of PDA technologies by broker-dealers and investment advisers. After analyzing industry drivers, the goals of the proposed rule, the SEC's ability to enforce the rule in light of the current regulatory regime, and the proposed rule's impact on investor outcomes, this rule is set to have significant implications for the future of the usage of PDA technologies by broker-dealers and investment advisers. The rule will affect both the technical back-end and the consumer-facing front-end of PDA-powered products and services. Firms' level of engagement with consumers may change, along with their ability to personalize their products and services.

In examining the rule's broader effect on the financial services industry, the rule poses challenges and opportunities that will depend largely on the technical scope of the rule's enforcement and firms' abilities to invest time, money, and effort in mitigating potential conflicts. As PDA and AI technologies evolve rapidly and dynamically, it is essential for the SEC to have a clear and comprehensive understanding of these technologies and the second order affects that result from regulating them.

There is an immense need for innovation in a competitive and saturated market for broker-dealers and investment advisers. The SEC's proposed rule will rightfully advance the prospects of firms that are able to build their PDA-powered financial products and services with the proper protections built around conflicts of interest. Careful product design choices that keep

the mitigation of conflicts at the top of mind can help these firms achieve a balance between technical innovation and conflict mitigation. Furthermore, the benefits reaped from compliance will distill beyond the regulatory realm and into the world of customer satisfaction, as investors will bring their business to the firms that are not taking advantage of them.

By complying with the rule, broker-dealers and investment advisers may not only protect their customers from potential harm, but also increase their satisfaction, loyalty, and retention. As the pendulum between innovation and regulation continues to swing, the worlds of artificial intelligence and predictive data analytics are bound to continue to have an impact on the financial services industry. As the harbinger of regulation for the usage of PDA technologies by broker-dealers and investment advisers, the SEC's proposed rule will have an impact that is felt globally by setting the tone for the elevated prioritization of human protections in an increasingly automated industry.