



Filed electronically

October 10, 2023

Ms. Vanessa A. Countryman
Secretary
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, DC 20549

Re: Conflicts of Interest Associated with the Use of Predictive Data Analytics by Broker-Dealers and Investment Advisers, Rel. Nos. 34-97990, IA-6353, File No. S7-12-23

Dear Ms. Countryman:

T. Rowe Price is a global investment management organization with \$1.40 trillion in assets under management.¹ We serve a wide range of clients, from individual investors to large institutions and funds. We sponsor a range of pooled investment vehicles, including close to 200 U.S. mutual funds and exchange-traded funds available to the public. Through various SEC-registered investment adviser entities, we provide services to our sponsored investment vehicles, institutional and subadvised clients, and high net worth clients. In addition, we have an SEC-registered investment adviser, T. Rowe Price Advisory Services, Inc., which provides discretionary and non-discretionary advisory services exclusively to retail clients. Our broker-dealer, T. Rowe Price Investment Services, Inc. (“**TRPIS**”), offers customers the ability to buy and sell mutual funds, ETFs, equities, options, fixed income securities and, in limited circumstances, private funds. TRPIS also provides education to assist investors in making decisions. TRPIS does not recommend investments except for those in certain private funds and only to retail investors meeting sophistication and asset ownership requirements. TRPIS uses technology to offer tailored investment content, insights, and tools to investors to help them achieve their financial goals.

Given the broad range of services offered by our firm and our widespread use of technology to engage with our clients and customers, we have great interest in the SEC’s predictive data analytics proposal (the “**Proposal**”). The Proposal would require a broker-dealer (“**BD**”) or a registered investment adviser (“**RIA**”), who uses (or foreseeably may use) a “covered technology” in connection with an “investor interaction” to: (1) evaluate each covered technology as to whether the use involves a conflict of interest, (2) determine whether the conflict could put the interests of the BD or RIA ahead of the investor’s interests, and, if so, (3) eliminate or neutralize the conflict.

¹ As of August 31, 2023.

Executive Summary

We generally support the views on the Proposal expressed in the letters submitted by the Asset Management Group of the Securities Industry and Financial Markets Association (“SIFMA AMG”), the Investment Company Institute (“ICI”), and the Investment Adviser Association (“IAA”).

We strongly agree with these organizations that the Proposal should be withdrawn and not adopted. While there are a variety of reasons why a withdrawal is appropriate, the four most important to us are that:

-The Proposal does not identify new or unique conflicts.

-Existing regulations sufficiently protect RIAs’ and BDs’ clients and customers.

-The proposed rules are fundamentally flawed.

-If adopted, the proposed rules would stifle innovation and harm investors by constraining the legitimate and beneficial use of technology to interact with investors and to manage portfolios and trade securities.

Although we believe it is reasonable for the SEC to consider the role of new and emerging technologies in the investment ecosystem and how these technologies intersect with the SEC’s existing regulatory framework, the Proposal’s definition of “covered technology” includes existing, established, and in many cases, straightforward technologies that are easily understood by firms and investors alike (e.g., the delivery of curated content and timely educational messages via email to investors based on their responses to an online questionnaire about their financial goals). The use of these technologies enables scale and helps to keep the costs of investing low. Over the last decade, innovation in technology has enabled firms like T. Rowe Price to expand valuable education and advice to increasing numbers of Americans. New technologies have also driven down the cost of supplying investors with personalized, comprehensive financial planning and investment advice to which they otherwise would not have access. As drafted, the Proposal covers almost the entirety of modern BDs’ and RIAs’ digital capabilities. The vast majority of “covered technologies” are not novel and are already designed to address relevant risks and conflicts of interest. By casting an extraordinarily wide net, the intent of the Proposal is undermined and if adopted, would result in extreme and detrimental unintended effects for investors.

We believe a more deliberate and targeted approach is in order for assessing regulatory considerations associated with firms’ technology use.² Specifically, we suggest the SEC continue

² We acknowledge the SEC undertook an “RFI” on BDs’ and RIAs’ digital engagement practices in 2021. However, we view this as merely a single input to what should be a broader exercise of consultation and dialogue with industry on the real-world use and benefits of emerging technologies, as well as firms’ due diligence practices associated with these technologies.

to study certain newer technologies to inform whether guidance is necessary on factors firms should consider when evaluating if their technology aligns with the existing standards of conduct obligations for investment advice and recommendations.³

Properly calibrating the scope of this future work will be crucial. Specifically, the scope of technology to be studied for potential guidance should be limited and based on a robust dialogue with the industry and its technology experts.

We hope that all of this future work could be done in a productive, collaborative discussion with the industry and other stakeholders. And given the cutting-edge nature of the technologies, if the SEC ultimately believes there is a need for guidance, it should be subject to a meaningful period of notice and public comment.

Detailed Discussion

The Proposal does not identify new or unique conflicts. The primary examples of conflicts cited by the Proposal are:

- Predictive models that encourage clients to keep assets in an advisory account instead of other accounts like a 401(k) plan or other retirement account;
- Transaction-based incentives that could encourage predictive models to maximize the frequency of transactions;
- Revenue sharing for investment products that creates incentives for RIAs and BDs to favor those investments; and
- Software that promotes a firm’s proprietary products over other products (regardless of the best interests of the customer).⁴

None of these conflicts are new or exclusive to technology. Regulators, as well as the industry, have been aware of and navigating them for years, and they are contemplated by the existing standards of conduct for BDs and RIAs.

The Proposal contends that a new approach to conflicts is needed for “covered technologies” because of their scalability. In our view, the fact that a conflict may be replicated and arise for more investors does not change the substantive nature of the conflict, nor does it make the existing standards of conducts’ requirements for addressing the conflict ineffective.

Existing regulations sufficiently protect RIAs’ and BDs’ clients and customers. Despite the new and highly prescriptive requirements contemplated by the Proposal, the SEC acknowledges that BDs and RIAs must already comply with “extensive obligations ... that are designed to

³ Focusing this study on the investment advice and recommendation context would better align with Section 913 of the Dodd-Frank Act, as opposed to the broad array of activity the SEC seeks to regulate through the Proposal. We note this observation because the SEC views its authority for the Proposal as rooted in Section 913, despite the Proposal’s requirements extending well beyond investment advice and recommendations and applying to institutional arrangements and not merely retail relationships. The comments of the IAA, ICI, and SIFMA AMG include more analysis and details that validly question the SEC’s authority to promulgate the proposed requirements.

⁴ See Proposal at pgs. 7-8.

promote conduct that, among other things, protects investors from conflicts of interest.”⁵ For example, broad antifraud provisions within the federal securities laws and regulations prohibit manipulative or deceptive conduct. BDs must at all times “deal fairly with their customers and observe high standards of commercial honor and just and equitable principles of trade.”⁶ And RIAs, as fiduciaries, owe their clients a duty of care and a duty of loyalty.

The comments of the IAA, ICI, and SIFMA AMG on the existing regulations that apply to BDs’ and RIAs’ use of technology provide excellent summaries of firms’ current obligations. When viewed together, these existing regulations are extremely comprehensive in their scope. Accordingly, we do not see a regulatory gap that needs to be filled or a clear problem that the Proposal would fix.

To illustrate the breadth of firms’ existing obligations, we looked at the way T. Rowe Price uses “covered technologies” in three broad contexts, and in each case, identified the applicable regulations. For purposes of this exercise, the categories are: (1) educational/informational materials and interactive tools; (2) advertising/marketing materials; and (3) investment advice/recommendations and discretionary advisory arrangements.

Educational/informational materials and interactive tools

Like many financial services and investment management firms, T. Rowe Price uses technology to provide informational and educational materials, tools, and personalized insights to investors on a variety of subjects, including market events, investment strategies and vehicles, and personal finance. We use personalized and targeted digital messaging to encourage clients to review their asset mix, plan for their future, track their progress toward their investment goals and to consider a variety of actions that may lead them closer to those goals. Interactive tools are particularly valuable to our self-directed investors who can engage via our websites or mobile applications to explore, for example, asset allocation strategies, diversification, and goal-based planning. Investors can choose to engage with a number of interactive tools and calculators on our website designed to assist them in evaluating their readiness for retirement or how much they should be saving for their children’s college education. Existing clients can log in to their T. Rowe Price account and populate the personal information we have on record for them (such as age, account balance, etc.) into the tool. In addition, we offer screening and other tools to assist investors in evaluating securities for investment. We also aspire to make these tools and digital experiences increasingly personalized based on information investors either provide to us directly or what we can glean from the pages they visit on our website or their search history, for example.

Existing regulations governing educational/informational materials and tools: For BDs, these materials are governed by FINRA and SEC rules regarding communications with the public.⁷ RIAs must comply with recently updated Rule 206(4)-1 under the Investment Advisers Act of 1940. Even though these tools and materials do not promote specific products or services, they are required to be “fair, balanced, and complete” and not omit material facts that may cause investors to be misled.

⁵ See Proposal at p. 228.

⁶ FINRA Rule 2010.

⁷ FINRA Rule 2210 and Securities Act of 1933 Rule 482.

Advertising/marketing materials

Many full service and self-directed firms, including T. Rowe Price, use digital means to market their offerings. Personalized communications and marketing can provide clients with relevant information to consider given a life event such as retirement or the birth of a child, introduce clients to products and services in which they have expressed a prior interest, or inform them about upcoming educational events. Such engagement, in turn, increases client knowledge about the choices available to them. Technological innovations allow firms to more precisely and effectively deliver information of interest to clients, while at the same time avoid unnecessary outreach to clients on matters likely not relevant to them.

Existing regulations governing advertising/marketing materials: FINRA requires BDs' advertising to be fair, balanced, and not misleading, among other content standards, and subject to supervisory review and, in some instances, FINRA review, to ensure the communications adhere to those standards. These standards apply to electronic communications, including digital advertising and marketing, as well as electronic communications via email or social media.

Investment adviser advertising regulations prohibit fraudulent, deceptive or manipulative advertisements. Recent amendments to these regulations expanded the definition of advertising as well as the general prohibitions to prohibit information "reasonably likely to cause an untrue or misleading implication or inference to be drawn concerning a material fact relating to the adviser" and added the requirement that certain communication be presented in a "fair and balanced" manner to the already general catch-alls of "untrue statements of material fact" and otherwise misleading information.⁸

This is a good example of a context where adoption of the Proposal may undermine or conflict with existing rules. If the Proposal was adopted, RIAs that recently revised their marketing materials, sales practices and related compliance programs in response to these amendments, which were designed to "accommodate the continual evolution and interplay of technology and advice"⁹ would now have to substantially revise those programs to ensure any use of covered technology to market products or services is evaluated for the existence of conflicts, which then must be either neutralized or eliminated.

Investment advice/recommendations and discretionary advisory arrangements

T. Rowe Price offers a broad array of advisory services to investors across the spectrum from large institutions to small-balance retail customers. As the number of retail investors who use technology to keep track of and manage their assets has increased, digital advisory services have proliferated, allowing unprecedented access to lower-cost advice. Our advisory mandates for our institutional and governmental clients are generally fully discretionary.

Existing regulations governing investment advice/recommendations and discretionary advisory arrangements: The obligations of Regulation Best Interest ("Reg BI") apply to investor interactions that result in a BD recommending that a client buy or sell a particular security or

⁸ Investment Adviser Act Rule 206(4)-1(a)(3).

⁹ See p. 6 of Investment Adviser Marketing, Release No. IA-5653 (December 22, 2020) (effective May 4, 2021).

follow a specific investment strategy involving securities. Similarly, where an RIA uses technology to communicate a recommendation or provide other investment advice or exercise investment discretion, the fiduciary obligations under Section 206 of the Investment Advisers Act of 1940 apply. How firms are expected to address conflict of interest situations is a central element in both of these regulatory frameworks.

The proposed rules are fundamentally flawed. An analysis of existing regulations not only illustrates the Proposal is unnecessary; it also reveals flaws in its design. For example, in advisory relationships and when acting on broker-dealer advice and recommendations, the client/customer places unique and significant levels of trust and confidence in the firm. Accordingly, an RIA's fiduciary duty and a BD's Reg BI obligations entail especially high standards for conduct as noted above. The Proposal calls for the elimination (or "neutralization," which appears to be the functional equivalent) of conflicts of interest that place the interests of the BD or RIA or an associated person ahead of an investor's interest. Under the fiduciary duty for RIAs and Reg BI for BDs, firms have extensive obligations to disclose conflicts and in certain instances, should eliminate or mitigate conflicts. In some cases, informed consent by the client or customer may also be warranted under the fiduciary and Reg BI frameworks.

By migrating away from this principles-based-approach and only allowing elimination/neutralization as the means to address "covered technology" conflicts, in practical terms the Proposal creates "fiduciary plus" and "Reg BI plus" duties that are significantly stricter than current standards of conduct. The Proposal even goes so far as applying its "fiduciary plus" standard to self-directed investors in registered funds and private funds, despite there being no advisory/fiduciary relationship between the investor and the fund's RIA. As a large sponsor of funds with many self-directed investors, we not only find this result illogical, but fail to see how it would benefit investors.

The Proposal's prescriptive and one-size fits all approach to addressing conflicts is also problematic in the case of technology that limits itself to consideration of a firm's proprietary products. By requiring elimination/neutralization of conflicts, it is not clear how such firms could navigate this scenario. In addition, an adviser that recommends only proprietary products can leverage its close knowledge and understanding of the firm's investment strategies and methodology to generate economic value beyond what could be achieved if the conflict was neutralized (e.g., by using third-party investment products).¹⁰

We also found there to be a misalignment between the "investor interaction" definition¹¹ and the harms the Proposal seeks to address. Those harms are that: (a) predictive data analytics might be used to produce investment recommendations or advice that could be influenced by opaque biases that skew the outputs towards products, strategies, and investments that are profitable for

¹⁰ Rather than neutralizing the conflict, advisers that recommend proprietary products currently can clearly and prominently disclose this fact to investors prior to their enrollment in the advisory service so they can make an informed investment decision.

¹¹ "Investor interaction" means "engaging or communicating with an investor, including by exercising discretion with respect to an investor's account; providing information to an investor; or soliciting an investor...." (Proposal at pgs. 234 and 241).

the BD or RIA to the detriment of the investor; and (b) enhanced data analysis and computing power may allow for faster and more effective “behavioral nudges” that could induce sub-optimal behaviors by investors.¹² As drafted, the “investor interaction” definition includes the exercise of discretion, which suggests it may be intended to capture various uses of technology that in reality are not interactions with investors. The technology used with an asset management firm’s portfolio management and trading activities provides a good example, where the technology does not seek to influence decisions made by investors or nudge them to take action, and thus does not implicate the harms the Proposal seeks to address. In our view, these types of technologies should be out of scope.¹³

These are just a few examples of elements in the Proposal’s design that concern us. The IAA, ICI, and SIFMA AMG letters cover additional deficiencies in the proposed requirements and detail the overbroad and vague nature of the Proposal’s definitions.

If adopted, the proposed rules would stifle innovation and harm investors by constraining the legitimate and beneficial use of technology to interact with investors and as part of the portfolio management/trading process. At T. Rowe Price, we use a broad range of technologies to engage with clients and support our portfolio management and trading professionals. We fear the prescriptive compliance requirements to identify and evaluate a myriad of technologies, and to document the evaluations and determinations with respect to each, will cause firms to curtail their use of valuable tools that benefit investors.¹⁴ Moreover, we would not anticipate these reviews would unearth significant numbers of conflicts.

We believe the Proposal fails to appreciate the impact the proposed compliance requirements would have on firms as we found the Proposal’s time and cost estimates for compliance to be exceptionally low. The Proposal estimates a firm would need from 15 – 150 hours just to inventory and evaluate its use of technology for conflicts and to determine which conflicts require elimination or neutralization.¹⁵ The Proposal makes clear that firms should employ some form of testing or validation before a technology is deployed or modified, and periodically thereafter.¹⁶

In the real world, that kind of evaluation would take far longer. For example, for a single piece of technology used by T. Rowe Price, we recently devoted over 1,000 hours of personnel time (which equated to several hundred thousand dollars) to assess and modify an existing asset allocation tool that analyzes the holdings in a financial professional’s model. Although this project did not entail the exact tasks contemplated by the Proposal, it demonstrates the

¹² See Proposal at pgs. 7-12.

¹³ We are not certain that the SEC intends for the proposed definition to apply to portfolio management and trading activities, and would welcome clarification that these types of technologies are not in scope of the rule. If the SEC actually intends these technologies to be in scope, we strongly urge it to reconsider. As explained in more detail below, expanding the rule to cover these types of technologies would result in a range of negative consequences, vastly complicating compliance for little or no appreciable benefit to clients.

¹⁴ Compliance with the proposed requirements may prove more difficult for firms that utilize third-party technologies.

¹⁵ Proposal at p. 188.

¹⁶ See Proposal at p. 62.

significant level of costs that can be associated with even a single existing technology used by a firm.

Based on the Proposal's sweeping definitions, we utilize a variety of "covered technologies" in our client engagement activities and a multitude of "covered technologies" in our portfolio management and trading processes.¹⁷ Given the breadth of the definition of "covered technology," the applications and tools anticipated to be in scope involve varying levels of complexity. By requiring elimination of conflicts as the only course for mitigation and by setting uniform and prescriptive testing/evaluation standards over a very broad range of technologies, the proposed rules would result in increased costs to firms that ultimately would either be borne by investors or would make the use of certain technology commercially infeasible, thus reducing resources for investors.

Portfolio management & trading

For example, in the case of portfolio management and trading, we are concerned that the far-reaching "covered technology"¹⁸ and "investor interaction"¹⁹ definitions may be interpreted broadly, which would have a compounding effect on the costs of compliance by subjecting a multitude of investment activities involving technology to the Proposal's prescriptive requirements for inventorying, assessing, and potentially resolving conflicts. First, rather than reference specific technologies such as blockchain, cloud servers, or generative AI, the "covered technology" definition speaks in broad terms to methods or processes for making calculations. Second, "investor interaction" is defined to include activities that are not actually interactions – i.e., the mere exercise of investment discretion. As previously noted, our advisory business, especially for funds and institutional/governmental clients, is overwhelmingly discretionary where an RIA selects and manages the investments in accordance with its fiduciary duty and the fund's or client's investment objectives and guidelines. As a result, to the extent that these technologies are deemed to be in scope, most of our daily portfolio management and trading activities would need to be evaluated against the covered technology definition.

For purposes of this evaluation, it is crucial to recognize that to undertake numerical analysis for the purpose of anticipating investment outcomes, and to direct portfolio allocations favorably under the anticipated outcomes, is the essence of investing itself. Given the covered technology definition's focus on predictive calculation methods and processes, it appears each discrete act of anticipatory numerical analysis would need to be logged and evaluated.

¹⁷ We acknowledge that the Proposal includes a limited exception for technologies used for "back office or administrative functions" such as trade settlement and routing of customers' orders (see Proposal at p.51), although the scope of this exception is not entirely clear to us. For example, routing of orders is not defined and we are uncertain what the SEC intended in the various contexts in which order routing arises for RIAs with discretionary authority.

¹⁸ "Covered technology" means "an analytical, technological, computational function, algorithm, model, correlation matrix, or similar method or process that optimizes for, predicts, guides, forecasts, or directs investment-related behaviors or outcomes." (Proposal at pgs. 234 and 241.)

¹⁹ "See footnote 11 for definition of "investor interaction."

We believe firms' staffing levels for investment professionals are also informative when gauging the magnitude of the Proposal's compliance burden. For example, as of June 30, 2023, T. Rowe Price's investment professionals totaled over 900. In addition to the many systems and applications utilized across our investment teams, it is not unusual for individual portfolio managers and analysts to have customized models and analysis tools that are unique to the individual's coverage areas. These models and analysis tools may be spreadsheet-based and have varying levels of linkage to systems and applications used more broadly by our investments and trading teams, or they may be more stand-alone and independent in nature. Because of this dynamic, we are concerned that each discrete system, application, model, and analysis tool would need to be inventoried and vetted to determine whether its specific use case presents a conflict.

Similarly, T. Rowe Price relies heavily on our proprietary and fundamental research as an important driver of value-added active management. The firm employs hundreds of research analysts and each analyst typically covers between 20 to 150 issuers depending on their sector. In addition to other models utilized by research analysts, it is not unusual for an analyst to have a model for each issuer they cover. Our investment professionals staff also includes sizeable quantitative analyst and portfolio modeling analyst teams. Given these staffing levels and the number of issuers covered by each analyst, if within scope, the volume of covered technology items subject to the Proposal's requirements would quickly mushroom to unmanageable levels.²⁰

Engagement with clients and customers

We strongly believe in the value these technologies and tools provide to investors. T. Rowe Price has a long history of leveraging technology to deliver award-winning educational tools and resources directly to investors because we believe investor education is critical to our core value of putting clients first. Like many of our peers in the financial services industry, we spend a significant amount of time and resources designing communications and client experiences to respond to investors' growing utilization of digital and mobile channels to consume information and make transactions, and their demand for user-friendly information accessible via a variety of electronic devices. We recognize the importance of tailoring content and user experiences to meet the needs of those who may be unfamiliar with the myriad of investment options available to them and the vehicles that can be used to achieve financial goals. Personalization of content, experiences and interactions is expected and desired by investors – as opposed to an “encyclopedia” approach to investing (in which firms post thousands of pages of content on their websites for investors to sift through). We believe the use of technology to educate investors, assist them in making important decisions that will significantly impact their ability to achieve their financial goals, and help them overcome inertia caused by information overload, is essential. We are concerned that the Proposal's prescriptive requirements to inventory and assess covered technologies, as well as its inflexible approach to conflicts, would substantially interfere with this worthwhile endeavor.

²⁰ To further exacerbate the challenges associated with inventorying and assessing a significant universe of covered technologies, we anticipate firms would face difficult interpretive questions as to whether a model based on one analyst's template has been modified by another analyst to the extent that it becomes a discrete covered technology item warranting testing and a new assessment for conflicts.

How we use technology to benefit clients and customers and to support our investment process
Given the costly compliance burdens associated with the Proposal and their potential to discourage firms' use of technology, we provide in two appendices examples further demonstrating how technology is used to benefit our clients and customers (see Appendix A for those relating to direct interaction with investors and Appendix B for those relating to portfolio management/trading).

T. Rowe Price supports strong standards for BDs and RIAs that protect investors and manage conflicts, while at the same time preserve investor access to digital tools that can educate, inform, and empower them. We acknowledge the potential risks and conflicts associated with the use of certain technologies such as artificial intelligence and the need to ensure investor protection in connection with their use.

We cannot, however, support the Proposal. We believe the SEC's and FINRA's existing regulatory frameworks provide sufficient protections for investors against unjust and fraudulent practices, misleading communications, and recommendations not in a client's best interest. We believe that the Proposal, if adopted, would have a chilling effect on the responsible use of technology and thus curtail access to valuable investor information, tools, and assistance. In our view, the Proposal's lack of tangible and evidence-based benefits, combined with the harmful impacts detailed above, do not justify its dramatic requirements or the significant burdens placed on firms that could lead to a reduction in personalized services for retail investors and/or make these services less affordable.

Thank you for your consideration of our comments. We would welcome the opportunity to speak with you further about our views. Feel free to contact the undersigned at [REDACTED] and [REDACTED].

Sincerely,

/S/ Danielle Nicholson Smith

Danielle Nicholson Smith, Vice President & Managing Legal Counsel (U.S. Communications and Digital Services)

/S/ Jonathan Siegel

Jonathan Siegel, Vice President & Managing Legal Counsel (Legislative & Regulatory Affairs)

Appendix A (Examples of Specific Technologies Related to Direct Interactions with Investors that Could be in Scope)

- Encouraging investors to invest for their retirement, children's college educations, and significant purchases such as a house;
- Evaluating contributions to retirement plans to help investors assess whether their savings in retirement will be adequate;
- Helping investors avoid overreacting to short-term market instability when investing to achieve long-term goals;
- Reviewing a client's/customer's investments allocation to determine if they are appropriately diversified to meet their time horizon, goals, and risk tolerance;
- Providing through digital messaging, informational and educational materials and personalized insights that remind investors to, for example, review their asset mix, investment strategy, beneficiaries, and other important account features to ensure they reflect the investor's current situation and financial goals;
- Providing retail investors access, through websites and mobile applications, to educational webcasts and videos on a variety of subjects, including market events, personal finance, investment products, and investment strategies;
- Encouraging retail investors, through digital messaging, to plan for their future and to help them track their progress towards retirement goals and to consider a variety of actions that may lead them closer to these important goals;
- Offering a selection of digital planning and investment analysis tools for retail investors;
- Sending a targeted email to individual retirement account clients/customers reminding them to take their required minimum distribution; and
- Sending a targeted email to investors with retirement accounts heavily invested in money market funds about the importance of diversification and allocation based on their time horizon.

Appendix B (Examples of Technologies Related to Portfolio Management and Trading that Could be in Scope)

- At the heart of each equity investment thesis lies a financial model that is used to predict the future evolution of the company's financial performance (such as earnings or revenue growth). Under the rule, these models may be in scope. In addition to these core models, research analysts will also engage in more ad-hoc or localized predictive analysis many times in a given year. It is difficult to imagine many instances where an analyst makes calculations in spreadsheets like Microsoft Excel for reasons other than to somehow anticipate aspects of a company's future commercial and financial trajectory.

-Prudent, forward-looking risk management is a critical aspect of any investment process. Additionally, much of modern-day risk management is quantitative in nature. Measures such as portfolio volatility or tracking errors serve as analytical predictions for the range of possible future investment outcomes for a given portfolio in different market conditions. T. Rowe Price routinely employs a suite of sophisticated risk analytics to inform portfolio managers and facilitate governance and oversight. The calculations in these analytics tools are specific to the then current holdings of a given portfolio and the tools are run on a regular basis to generate updated results as a portfolio's investments change over time, creating a large number of individual instances that might be subject to the proposed requirements.

-Investment staff in quantitative analyst roles are focused almost entirely on using coding or other sophisticated analytical or data driven tools to systematize the analysis and management of investment portfolios. Doing the very thing the Proposal seems to contemplate (using computational functions to predict investment-related outcomes) is their core responsibility. Much of these analysts' work is manifested in nimble, ad-hoc analysis, in addition to the development of a limited number of more permanent code structures for which technology governance and change management practices are already in place. We believe any given quantitative analyst might create an essentially unknowable number of the former as part of their daily responsibilities, not only creating a large number of individual instances that might be subject to the proposed requirements, but also potentially requiring material workflow adjustments towards the cataloguing and documenting of ad-hoc, explorative analysis.

-Our trading team utilizes a variety of tools to optimize trade execution. For certain orders that require less human intervention, we use predictive analytics throughout the life-cycle of a trade to determine execution channel, selection of venue and broker, and execution strategy. Traders rely on tools, data, and analytics to predict the short-term (minutes, hours, days) price movement of securities on a pre-trade and intra-trade basis whether they are using algorithmic capabilities to execute orders or negotiating prices on block transactions. Our ability to utilize data and technology in the trading process allows us to achieve scale and efficiency and ultimately leads to better execution outcomes for our advisory clients.