



February 21, 2023

***Submitted Electronically***

Ms. Vanessa Countryman  
Secretary  
Securities and Exchange Commission  
100 F Street, NE  
Washington, DC 20549

**Re: Remand of Proposed Rule Change to Establish a Corporate Bond New Issue Reference Data Service (Release No. 34-85488; File Number SR-FINRA-2019-008)**

Dear Ms. Countryman:

In *Bloomberg L.P. v. SEC*, the United States Court of Appeals for the D.C. Circuit (“the Court”) in August 2022 issued an extremely rare remand, finding that the SEC’s approval of FINRA’s proposed corporate bond new issue reference data service (“the Proposal”) was arbitrary and capricious owing to the SEC’s failure to address the problem that FINRA had provided no information about the costs of its proposed service.<sup>1</sup> As the Court observed, this is necessary under long-settled requirements of the securities laws and the Administrative Procedure Act. The Commission failed to “respond[] to comments that urged it to assess not only the financial impact of the service on FINRA, but also the entities that fund FINRA, and “failed to respond adequately to Bloomberg’s concerns about the cost of building and maintaining the program and the extent to which those costs ... will be borne by market participants.”<sup>2</sup> “That is not reasoned decisionmaking.”<sup>3</sup>

Bloomberg appreciates the Commission’s decision to seek public comment on this important matter. And we reiterate our request that the Commission disapprove the Proposal. After five years of deliberation, FINRA has not even tried to show what the costs or the benefits of the Proposal would be, and certainly has not shown the benefits would be greater. In this letter, we show in detail that they would not be. In particular, we provide substantial data and analysis to show that FINRA has understated the cost of its Proposal by at least sevenfold and in fact significantly more.

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<sup>1</sup> *Bloomberg L.P. v. SEC*, 45 F.4th 462 (D.C. Cir. 2022).

<sup>2</sup> *Id.* at 476-78.

<sup>3</sup> *Id.* at 477.

In its arguments to the Court, the SEC contended that it need not consider the costs that FINRA incurs for the service because those will be internal to FINRA. Bloomberg responded that the costs be funded from somewhere, and ultimately those costs will bounce back to investors whether directly through fees for the data service or indirectly through effects on FINRA's budget. Moreover, agencies routinely account for their internal costs in cost-benefit analysis.<sup>4</sup> A cost does not disappear simply because it is funded by taxpayers (for an agency) or by membership dues (at FINRA). For the Commission to make a reasoned assessment of the economic impact of FINRA's proposed rule, the Commission must of course make a quantitative estimate of the costs of the rule. Those must, it is now clear, include the costs to FINRA of building and operating its data service as well as quantitative estimates of the very real costs that will be incurred downstream by FINRA members, in the form of possible technology and infrastructure enhancements, head count increases, licenses, etc. in order to comply with the proposed rule. The Commission must also, of course, make a quantitative estimate of the benefits of the rule, without which it cannot assess whether the costs (whatever they are) are reasonable.

FINRA's Proposal, even as supplemented by FINRA's latest submission, does not satisfy the criteria of the Exchange Act, for multiple reasons. The cost of building and running its system would be substantially higher than FINRA guesses; underwriters and end users would face additional costs that FINRA has not even addressed; and the benefits, which FINRA has not attempted to quantify, would be minimal and illusory.

1. FINRA, as the proponent of the rule, has the burden to provide the information that the SEC needs to assess the costs and benefits of FINRA's proposed rule. The Commission's rules make that burden explicit in 17 C.F.R. § 201.700(b)(3); and the Commission has explained that an SRO "must present sufficient evidence to demonstrate that [its] Proposed Rule Changes are consistent with the Exchange Act," without demanding from the Commission "unquestioning reliance on an SRO's defense of its own actions." *In the Matter of the BOX Exchange LLC*, Release No. 34-88493, 85 Fed. Reg. 18,617, 18621 (Apr. 2, 2020).

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<sup>4</sup> The prevailing guidance to regulatory agencies says "[y]ou should include ... in your analysis ...: Government administrative costs and savings." OMB, Circular A-4, p.37, at <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A4/a-4.pdf>. Circular A-4 is not directly binding on the SEC, but it lays out the best principles for cost-benefit analysis, and the SEC would need good reasons to deviate from those principles. Agencies regularly count their own administrative costs in cost-benefit analyses. See, e.g., 86 Fed. Reg. 3,804, 3,810 (agency's analysis "identifies expected business and administrative costs that the [agency] would incur"); 86 Fed. Reg. 41,668, 41,677 (agency's "administrative time and resources" are "explicitly included"). For example, in 2020, the government confessed that an agency's estimate of internal administrative costs (\$536,000 annually) was too low, helping make the agency's rule arbitrary and capricious. *Wyoming v. Dep't of Interior*, 493 F. Supp. 3d 1046, 1077 (D. Wyo. 2020); *Wyoming v. Dep't of Interior*, ECF No. 278, p.13 (D. Wyo. Aug. 18, 2020).

FINRA has not met that burden. In response to a fresh opportunity to provide data about its costs, FINRA's three-and-a-half page submission of January 19, 2023, devoted one paragraph to address the "combination of costs" that FINRA expects to incur as a result of its Proposal. FINRA lists broad, generic categories that might generate costs to it, but makes no effort to suggest what those costs might actually be.<sup>5</sup> FINRA simply provides an unsupported aggregate assertion of initial costs, and an unsupported aggregate assertion of recurring annual costs.

This nonchalant response is shocking. FINRA should have had a serious understanding of its Proposal at the time of submission in 2019. But it has been over two years since the Commission approved the Proposal, and more than three years since the Division of Trading and Markets approved it. FINRA has had ample time to plan its system. Indeed, the Commission did not stay its approval of the Proposal. If building the system cost only \$1.3 million as FINRA claims, and that amount is easily absorbed within FINRA's \$2 billion reserve fund as FINRA further claims, there is no reason FINRA could not have completed the setup by now. Certainly, FINRA ought to be able to provide hard information with details about how much the system costs, rather than empty guesses about how much it might cost.

2. FINRA's estimates are, on their face, significantly too low, as an independent third-party estimate confirms. We asked Compass Lexecon—one of the world's leading economic consulting firms that provides critical insights in legal and regulatory proceedings—to provide an assessment of any empirical basis for the sums listed in FINRA's submission. In the absence of that empirical basis in the submission, Compass Lexecon as a fallback attempted to ascertain the rough magnitude of the cost of the new issue bond service via reference to other comparable FINRA platforms. Compass Lexecon concludes that FINRA's proposed cost estimates seem understated compared to what data is publicly available but insufficient data is publicly available for a meaningful assessment.<sup>6</sup>

If FINRA's unsupported aggregate estimate proves inadequate, FINRA asserts broker-dealers should not be concerned because FINRA can dip into "its" \$2 billion strategic reserve for whatever the cost overrun might be. Of course, that reserve is also paid for by FINRA's broker-dealer members. So, the costs to be borne by FINRA's members start at \$1.3 million but could then also include some undisclosed portion of the FINRA members' \$2 billion strategic reserve. FINRA does not estimate how large those overruns might be.

3. Bloomberg has conducted its own analysis, detailed below, to assess what the cost of FINRA's service would be. We cannot know the full scope of FINRA's costs, but we conclude

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<sup>5</sup> See "FINRA Remand Response Letter" from Ms. Marica E. Asquith, Corporate Secretary, EVP, FINRA, January 19, 2023 available at <https://www.sec.gov/comments/sr-finra-2019-008/srfinra2019008-20155240-323579.pdf>

<sup>6</sup> We have included Compass Lexecon's input as Appendix A.

that in reality the service would cost well over \$8.75 million to build and \$2.5 million per year to operate—and likely substantially more.

4. While FINRA’s description of its own costs is inadequate, FINRA does not even attempt to address the costs that will be imposed on reporting parties and end users including the burdens that the Proposal places on its members to comply with the Proposal. The Court demanded an accounting of the financial impact of the Proposal on “the entities that fund FINRA” and on “market participants.” FINRA has made no effort to inform the Commission what infrastructure and other costs are being forced downstream on FINRA members.

5. Meanwhile, FINRA has provided no estimate at all of the benefits to be gained from its Proposal. Even if the 10-year cost is \$8.2 million (FINRA’s low-ball assertion), that cost is sensible only if there is a comparable, quantifiable benefit to be gained. Thus far, FINRA has done no more than provide anecdotes that some unspecified set of investors may have trouble accessing information about some unspecified set of bonds. It is impossible, from those anecdotes, to know how much traders might benefit from FINRA’s Proposal. That benefit is quantifiable and could be predicted. But FINRA has entirely failed to offer such information.

In truth, the benefits from the Proposal, if any, would be minimal. The supposed benefit that FINRA hoped for in terms of increased electronic trading has happened anyway, over the past years. And at its last meeting on October 1, 2020, FIMSAC observed that there were no settlement or clearing issues during the COVID period, even though there was a record volume of new bond issuance and a difficult working environment. Thus, the supposed benefit that FINRA proposed, of reducing settlement problems, is not available because FIMSAC itself acknowledges there are no significant settlement or clearing issues. Meanwhile, these have been years in which FINRA has not implemented its data service. The data service did not produce the current beneficial conditions. Rather, the market has moved on with no need for the quasi-governmental data utility that FINRA wants to mandate.

In sum, this FINRA offering falls far short of statutory requirements, Commission precedent, and guidance and of the express directives of the Court. If the Commission accepts FINRA’s scant disclosures here, it will be engaging in a straightforwardly arbitrary and capricious decision, by relying on a baseless assertion that is on its face unreliable; and the Commission will be setting a new and dangerous precedent for future SRO fee filings, and undermining the model that was set by the Commission’s handling of IEX’s fee change in early 2022.<sup>7</sup>

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<sup>7</sup> In January 2022, the SEC suspended a proposed rule that IEX had made immediately effective. Release No. 34-93883, 87 Fed. Reg. 523 (Jan. 5, 2022). The SEC indicated that IEX had not provided enough information on important topics such as “sufficient information regarding its current market data subscriber base.” IEX then resubmitted the proposal with significant additional information, and the SEC allowed the resubmitted fee rule to

Bloomberg L.P.<sup>8</sup> writes to supplement our prior letters regarding the—now remanded—Commission approval of FINRA’s rule to establish a FINRA-run corporate bond reference data service. First, we review the history of the proceeding, and discuss the U.S. Court of Appeals decision and the significance of the remand; then, we present further details on each of the defects outlined above.

## II. BACKGROUND.

In 2018, the SEC’s “Fixed Income Market Structure Advisory Committee” (FIMSAC), led by then-SEC Chair Clayton, argued that a lack of access to bond reference data had slowed the movement toward electronic trading in the bond market and created problems in settlement and clearing. As FIMSAC put it, “comprehensive and timely reference data is necessary for efficient electronic trading.”<sup>9</sup> (FINRA later adopted this rationale: “For trading platforms, clearing firms and electronic trading platforms, inaccurate reference data creates inconsistencies in trading and the settlement process and increases transaction costs.” 84 Fed. Reg. 13,977, 13,980 (Apr. 8, 2019).) FIMSAC recommended remedying this alleged problem by having FINRA create a “Corporate Bond New Issue Reference Data Service.” Under this Proposal, underwriters would be compelled to create the infrastructure necessary to provide 32 new fields of data to FINRA and then compelled to fund the creation of the infrastructure necessary for FINRA to consolidate, verify, and disseminate that data. FINRA would then sell this data back to the market.

In total, the FIMSAC issued 16 recommendations. FINRA contemplated the other recommendations and sought feedback from its membership through a Regulatory Notice Request for Comment process. Those other recommendations faced widespread opposition from a broad cross section of membership, and FINRA took those other recommendations no further. But for the reference data service, FINRA did not seek member feedback. Unusually for such a significant alteration to the market, FINRA chose not to ask the views of its members before plunging ahead. Given the intense opposition that FINRA’s Proposal generated when FINRA

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stay in place. Release No. 34-94630, 87 Fed. Reg. 21,945 (Apr. 13, 2022) (IEX’s resubmission with additional information).

<sup>8</sup> Bloomberg – the global business, financial information, and news leader – increases access to market data by connecting market participants of all stripes to a dynamic source of information, people, and ideas. The company’s strength – quickly and accurately delivering data, news, and analytics through innovative technology – is at the core of the Bloomberg Terminal. The Terminal provides financial market information, data, news, and analytics to banks, broker-dealers, institutional investors, governmental bodies, and other business and financial professionals worldwide.

<sup>9</sup> FIMSAC, “Recommendation for the SEC to Establish a New Issue Reference Data Service for Corporate Bonds,” p.2 (Oct. 29, 2018). *See also id.* at 1 (“To support the trading of newly issued bonds on electronic platforms, it is necessary that all platform participants price and trade bonds based on consistent and accurate information.”); *id.* (“Reliable and timely reference data is necessary to support ... efficient trading and settlement.”).

filed at the SEC, we suspect membership would have objected at the outset had they been consulted.

When FINRA submitted its Proposal to the SEC, it explained that it would require each underwriter to submit dozens of data fields about a new issue, before the first trade. FINRA would collect those submissions into a database, and it would then sell the data as a “regulated utility” service. A firm could subscribe for a fee of \$250 monthly for only internal use, or \$6,000 monthly to be able to redistribute the data. The Proposal included no details about what the data system would look like, what it would cost, or how underwriters would have to submit data.

Investor groups (like the Healthy Markets Association), think tanks (like The Heritage Foundation and Committee on Capital Markets Regulation), industry trade associations (like SIFMA, the U.S. Chamber of Commerce, and The Credit Roundtable) and vendors (like Bloomberg) filed multiple objections.<sup>10</sup> Criticisms focused on FINRA’s failure to:

- provide evidence of an actual market failure – i.e. the failure to provide sufficient details to explain and support why FINRA was making the proposal in the first place;
- provide data illustrating the alleged challenges to electronic trading, settlement, and clearing;
- provide data supporting the conclusion that – if there were to be a centralized data firm – the centralized data firm should be FINRA;
- articulate whether the proposal was to be a regulatory or a business function;
- failure to address conflicts of interest created by having regulator’s leverage regulatory powers to create commercial products;
- explain why the rule’s burden on competition is necessary or appropriate;
- address operational concerns raised by industry;
- address concerns about the accuracy of the limited information FINRA currently collects in TRACE;
- provide the cost data required by statute. This created the prospect that underwriters would bear substantial costs, even if the Proposal ultimately proved to not be viable, and;
- provide even rudimentary cost-benefit analysis.

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<sup>10</sup> See Comments on FINRA Rulemaking, “Notice of Filing of a Proposed Rule Change to Establish a Corporate Bond New Issue Reference Data Service” [Release No. 34-85488; File No. SR-FINRA-2019-008] available at <https://www.sec.gov/comments/sr-finra-2019-008/srfinra2019008.htm>.

In response to the negative feedback, FINRA made two changes to its Proposal. First, it withdrew even the scant cost information it had provided. Commenters objected that FINRA had provided no basis for the amounts of its planned fees, so FINRA simply withdrew them, to be resubmitted at some later time as a fee rule. Second, FINRA added more data fields (with the associated burden) that underwriters would have to submit.

In January 2021, the Commission approved the FINRA Proposal, in a decision spanning 23 pages in the Federal Register.<sup>11</sup> Bloomberg filed suit in the D.C. Circuit in March 2021.

A month after that filing, FINRA indefinitely postponed the implementation of its service. The Commission's original approval required FINRA to make the Proposal effective—*i.e.* begin collecting the mandatory data submissions and disseminating those data—within 270 days after the approval. In an April 2021 proposed amendment (made immediately effective pursuant to section 19(b)(3)(A)), FINRA eliminated that 270-day deadline. As of today, FINRA has not announced any schedule for when it will implement the reference data rule.

In its August 16, 2022, remand decision, the Court concluded that the SEC's approval order failed to address concerns about the cost of building and maintaining the program and the extent to which those costs—which the Court recognized could be in the tens of millions of dollars—will be borne by market participants. This failure rendered the SEC's approval “arbitrary and capricious” and a violation of the Administrative Procedure Act.<sup>12</sup>

From 1996 to 2022 the SEC approved more than 1,500 rules proposed by FINRA or its predecessor the NASD. We have not found any that were vacated by a Court, and only one that was even remanded, back in 1993.<sup>13</sup> Even among the many thousands of SRO proposed rules that the SEC has approved, we have found only five or six remands. The most recent example, before this proceeding, was the D.C. Circuit's 2017 remand in *Susquehanna Int'l Grp., LLP v SEC*.<sup>14</sup>

A proposed rule needs to be extremely defective to make this extraordinarily short list. When the Commission receives a remand as in this matter, that outcome reflects a significant criticism and concern from the court. Accordingly, what follows must be a serious reconsideration of the prior approval decision. The Commission has both the authority and the obligation to reverse its prior approval and terminate FINRA's rule. That is what the

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<sup>11</sup> See Order Setting Aside Action by Delegated Authority and Approving a Proposed Rule Change, as Modified by Amendment No. 2, to Establish a Corporate Bond New Issue Reference Data Service (January 15, 2021), available at <https://www.sec.gov/rules/sro/finra/2021/34-90939.pdf>.

<sup>12</sup> *Bloomberg*, 45 F.4th at 466.

<sup>13</sup> *Timpinaro v. SEC*, 2 F.3d 453 (D.C. Cir. 1993).

<sup>14</sup> *Susquehanna Int'l Grp., LLP v. SEC*, 866 F.3d 442 (D.C. Cir. 2017).

Commission did after the remand in *Susquehanna*: The SRO (there, the Options Clearing Corporation) failed to provide enough information to show its rule would actually meet the criteria for approval, and the Commission then reversed its prior decision and disapproved the rule under consideration. Release No. 34-85121 (Feb. 13, 2019).

Here, many commenters submitted letters raising the issue that FINRA, and subsequently the Commission, failed to consider the costs FINRA will incur in building the new issue reference data system and the extent to which FINRA will pass along those costs to market participants. FINRA failed to provide meaningful cost data throughout the process, and the court noted that the Commission subsequently failed “to respond adequately to Bloomberg’s comments” on costs and “rendered its decision arbitrary and capricious under the Administrative Procedure Act.” These are exactly the topics on which the Commission needs real information, and on which FINRA has yet again failed to substantiate its proposal.

### **III. THE COSTS TO FINRA WILL BE HIGHER THAN IT GUESSES.**

#### **A. Original failure to provide cost information**

FINRA’s submissions leading up to the Commission’s approval included zero information about the costs of the service—the costs to FINRA of building it and running it, or the cost to underwriters of submitting data to it. There was no such information in FINRA’s proposal (or in its amendment), or in FINRA’s two subsequent submissions to the Commission supporting its proposal. The only quantification FINRA provided was its original proposal for subscription fees, which (as noted above) were to be \$250 monthly for non-disseminators and \$6,000 monthly for distributors. The fees were described as representing “cost plus margin” needed to “meet ongoing operating costs” while committing to offer this service “on a commercially reasonable basis,” 84 Fed. Reg. at 13,979; but FINRA provided no information about how it had calculated the cost to come up with these fees as “cost plus margin.”

As pointed out by numerous commenters—including the Healthy Markets Association, The Heritage Foundation, SIFMA, the U.S. Chamber of Commerce, the Committee on Capital Markets Regulation, Bloomberg, and others—the Commission is legally obligated to ensure that FINRA carries its burden of proof that the Proposal complies with the Exchange Act criteria, including about its economic consequences, and to demonstrate that those proposed fees were sensible under the statute.

FINRA’s response was to amend its proposed rule. Unfortunately, FINRA did not amend the proposed rule to provide the data upon which its fee proposal had allegedly been based. Instead, it retreated entirely, amending its proposal to eliminate any reference to costs or fees.



The Proposal went forward with zero further information about what fees FINRA would charge; what costs FINRA would incur to build or run the service; and what costs underwriters would bear to comply with FINRA's new data-submission mandate. Lacking that information, the Commission could not possibly comply with its obligation to assess the costs and benefits of the Proposal and verify that it would fulfill the economic criteria of the Exchange Act.

Consequently, at this juncture the Commission has no cost information from FINRA, from the pre-2021 proceedings, to draw from. There is nothing to combine with FINRA's latest submission, no statistical information, no data or data analysis as background. To assess the costs of FINRA's Proposal, the Commission has from FINRA nothing but its January 2023 letter.

## **B. FINRA's continued failure to provide cost information**

A central purpose of the Commission's reconsideration of the Proposal on remand is to assess the costs FINRA will incur to build and then to operate the data service. This assessment is necessary for the Commission to understand the economic consequences of the Proposal, its quantifiable costs and benefits, as the Court called for. The Commission invited FINRA to provide such cost information. FINRA's response is nugatory.

FINRA still offers no cost data, and instead simply provided an unsupported aggregate assertion of initial costs and an unsupported aggregate assertion about recurring annual costs. FINRA makes no effort to address the costs that its members will incur to comply with the rule.

The entirety of FINRA's cost information says:

"FINRA has performed an assessment of the direct and indirect costs associated with the New Issue Reference Data Service. Specifically, the New Issue Reference Data Service involves a combination of costs, including: (1) the development of a cloud-based user interface for intake of new filings, an application programming interface submission process, and submission validations; (2) system requirements maintenance, quality assurance, and user acceptance testing of system implementation; (3) development of the reference data files for subscribers; (4) enhancements to regulatory programs; and (5) necessary infrastructure upgrades, among other things. Additional ongoing associated costs relate to personnel costs for data vendor support, billing support, project management support and other internal systems support, among other things. FINRA

currently estimates initial costs of approximately \$1,300,000 and ongoing annual costs of approximately \$700,000.”<sup>15</sup>

Noting there will be a “combination of costs,” without specifying what they will be, is not consistent with a “utility basis”, the requirements of the Exchange Act, or the Court’s directive. The list of generic and uninformative chapter headings (“necessary infrastructure upgrade, among other things”) provides no insight. FINRA is asking the Commission simply to take FINRA’s word that the costs will be only \$1.3 million up front and \$700,000 per year. The Commission has to determine whether the Proposal is consistent with the requirements of the Exchange Act and Commission regulations. 15 U.S.C. § 78s(b)(2)(C)(i); and FINRA is obligated to provide analysis that is “sufficiently detailed and specific to support an affirmative Commission finding,” 17 C.F.R. § 201.700(b)(3); *see, e.g., In re SIFMA*, Release No. 34-84432 (Oct. 16, 2018). If such a determination is missing or inadequate, the Proposal may not be approved. *See* 15 U.S.C. § 78s(b)(2)(C)(ii). The Commission has recently and repeatedly refused to approve rules that lacked evidentiary support on this point. *See, e.g., In re Bloomberg*, Release No. 34-83755 (July 31, 2018), at 14–16; *In re SIFMA*, Release No. 34-84432 (Oct. 16, 2018), at 17–54; *In re BOX*, Release No. 34-88493 (Apr. 2, 2020); *In re BOX*, Release No. 34-90987 (Jan. 29, 2021); *In re Cboe EDGA*, Release No. 34-88261 (Feb. 27, 2020).

Section 15A of the Exchange Act requires that FINRA’s rules, among other things, “not impose any burden on competition not necessary or appropriate in furtherance of the purposes” of the Exchange Act.<sup>16</sup> As the Commission has previously noted, an SRO must provide “**specific information, including quantitative information.**”<sup>17</sup> A qualitative and general description of cost categories is not sufficient. Rather, the SRO must provide a detailed analysis that “describe[s], among other things, its methodology for determining the baseline costs and revenues for the product or service, as well as its methodology for estimating the expected costs and revenues for the product or service.”<sup>18</sup> Such data and analysis are not simply a matter of assuring equitable allocation. They are necessary for the SEC to assess the economic consequences of an SRO rule, i.e. the “burden on competition.” The SEC has an obligation to understand the costs and benefits of a proposed rule before approving it, and it cannot do that without real information about both the costs and the benefits.

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<sup>15</sup> See “FINRA Remand Response Letter” at 3.

<sup>16</sup> Exchange Act § 15A(b)(9).

<sup>17</sup> See SEC Staff Guidance on SRO Rule Filings Relating to Fees (May 21, 2019), available at <https://www.sec.gov/tm/staff-guidance-sro-rule-filings-fees>.

<sup>18</sup> *Id.*

For example, the Commission disapproved EDGA’s proposed “liquidity provider protection delay” because EDGA provided only “limited empirical information” to substantiate its claims.<sup>19</sup> EDGA made assertions about the economic effects of its proposed rule, and it provided several charts illustrating those effects. But it did not provide sufficient explanation of its analysis, or sufficient supporting data, and the Commission found it impossible to “independently verify the Exchange’s conclusions.”<sup>20</sup> FINRA has provided even less information than EDGA did, and the Commission has no way to “independently verify” FINRA’s assertions about cost.

Meanwhile, the most informative statement from FINRA remains that of FINRA’s Senior Vice President of Transparency Services. A few FIMSAC members had discussed the reference data project as if it were an incremental addition to TRACE. FINRA’s official corrected those impressions and explained that the new service and data system are actually a novel undertaking for FINRA and a heavy lift. Needless to say, that assessment is not reflected in FINRA’s unsupported cost estimate, just as the acknowledged but unaddressed costs to underwriters is not addressed.

“Speaking for FINRA, not the effort on behalf of the underwriters, but speaking for FINRA, we would have some work to do. The technology today does not lend itself very well to this. We would need to create the ability for underwriters to come in, give us partial information and have the ability to edit their own records, et cetera. Today, that is a – as I said, it is a bit of a one-way street. It is set up on TRACE and anything that changes from there, we either source from a vendor or the underwriter calls us up to correct it. So, we would need to do that. We would also need to create a separate distribution channel for this. And the reason being, today, since the only thing that really matters is that the security gets on TRACE... this would have to be a service that would be a service that would be entirely sourced from underwriters we know common link vendor data, and then we would have to build that obviously, the amounts of fields. I think one thing to consider, depending on how many fields we end up with, there may still – obviously timeliness of TRACE reporting can’t be compromised.”<sup>21</sup>

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<sup>19</sup> Release No. 34-88261, 85 Fed. Reg. 11,426, 11,432 (Feb. 27, 2020).

<sup>20</sup> *Id.*

<sup>21</sup> See “Ola Persson, Senior Vice President of Transparency Services, FINRA Testimony” from the transcript of the U.S. Securities and Exchange Commission Meeting of the Fixed Income Market Structure Advisory Committee, Monday, October 29, 2018, 9:30am, Amended 11-8-2018, with excerpts starting at 0088-02 to 0089-09, available at <https://www.sec.gov/spotlight/fixed-income-advisory-committee/fimsac-102918transcript.txt>

In the previous round of deliberations, SIFMA noted repeatedly that its members had difficulty quantifying costs due to ambiguities in the Proposal.<sup>22</sup> SIFMA called on FINRA to describe its proposed system in more detail to accurately determine the costs of building the new system that will initially be incurred by FINRA on behalf of its members,<sup>23</sup> and the costs they will incur to operate the system on an ongoing basis.<sup>24</sup>

Simply put, FINRA's say-so that the service will cost \$1.3 million to build, with zero information about the basis for the estimate, and the similarly arbitrary \$700,000 per year in operating cost, is not adequate. These numbers are not credible by comparison to the cost of other FINRA systems; they are not reliable given the lack of supporting information; and they are likely incorrect, given Bloomberg's detailed analysis of what it would take to build and run FINRA's system.

### **C. FINRA's costs for other data services are substantially higher than what it claims for the brand-new reference data service.**

We asked Compass Lexecon – one of the world's leading economic consulting firms that provides critical insights in legal and regulatory proceedings – to provide an assessment of any empirical basis for the sums listed in FINRA's submission. In the absence of that empirical basis in the submission, Compass Lexecon as a fallback attempted to ascertain the rough magnitude of the cost of the new issue bond service via reference to other comparable FINRA platforms. Compass Lexecon concludes that FINRA's proposed cost estimates seem understated compared to what data is publicly available but insufficient data is publicly available for a meaningful assessment. (See Appendix A).

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<sup>22</sup> In each of their three letters to Ms. Vanessa Countryman, SIFMA noted that FINRA's proposed new service would greatly expand the reporting obligations of the underwriting community in a manner that will increase costs and create the risk that firms will not be able to meet FINRA's proposed reporting timelines. Summarizing in SIFMA letter III, from Christopher Killian, Managing Director, SIFMA, October 24, 2019, at 2, "Our previous letters highlighted the burden of manually reporting the extensive amount of data that the proposed service would require, particularly in the context of the proposal simultaneously adding new data submission requirements while shortening the timeframe under which the data needs to be submitted. Amendment No.2 to the proposal does not address this concern". <https://www.sec.gov/comments/sr-finra-2019-008/srfinra2019008-6332439-195115.pdf>. See SIFMA Letter I, April 29, 2019, "(2) Mechanism of Submission" at 2 and SIFMA Letter II, July 29, 2019, at 1, <https://www.sec.gov/comments/sr-finra-2019-008/srfinra2019008-5885250-188752.pdf>.

<sup>23</sup> Initially, the start-up costs of FINRA developing a new issue reference data service system will be incurred by FINRA's membership. If demand does not materialize, then these costs will be incurred permanently by the membership as a result of building a service that is no longer needed.

<sup>24</sup> See SEC "Staff Guidance on SRO Rule Filings Relating to Fees", May 21, 2019. <https://www.sec.gov/tm/staff-guidance-sro-rule-filings-fees>.

Compass Lexecon analyzed financial reports from FINRA over the past two decades to determine what FINRA's costs for operating TRACE are. Two decades ago, the operating costs were \$9.8 million a year. They are presumably higher now, given significant increases in the cost of IT personnel and the heightened cost of cybersecurity. Presumably the infrastructure for the reference data system would be shared, to some extent, with existing data systems. But that has been true all along for TRACE as well (*see* Appendix A, at 3).

FINRA offers no explanation why the cost of operating the reference data service would be more than 10 times smaller than for TRACE. And it is hard to see why it would be, given that the reference data service will need additional functionalities (as FINRA's official explained, *see* the quotation above).

#### **D. FINRA's generalized description omitted important categories of cost.**

Among the other cost issues which FINRA has failed to address is the significant cost of improving the quality of its corporate bond data. FIMSAC member Larry Tabb, in a May 21, 2019 TABB Forum post entitled "An SEC-Mandated Corporate Bond Monopoly Will Not Help Quality", presented an analysis that showed that there were reconciliation differences between FINRA's and Bloomberg's data in more than 20% of new issues priced in April 2019. That error rate was determined from analyzing only three fields of reference data – the coupon rate, maturity date and the new issue's 144A status.<sup>25</sup>

An examination of current data shows no improvement. Analyzing the 67 new issues with issue sizes \$2 million or more priced from November 22 to 28, 2022, Bloomberg found that about 25% of the new issues in FINRA's daily end of day corporate bond file had a discrepancy with Bloomberg in one of those three basic pieces of reference data. Examining a cohort of just fixed rate new issue corporate bonds, the error rate was over 15%. While there are some discrepancies in the maturity date and 144A status, the vast majority are differences in the coupon rate. New issues with floating rate coupons tend to be populated with zero in FINRA's data. A similar error rate was found when examining the cohort of 38 new issues with issue sizes \$250 million or more – those most conducive to electronic trading.

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<sup>25</sup> See "An SEC-Mandated Corporate Bond Data Monopoly Will Not Help Quality" available at <https://www.sec.gov/comments/sr-finra-2019-008/srfinra2019008-5750523-186791.pdf> at 8-10. At the time of the analysis and the recommendation, Mr. Tabb was a member of FIMSAC and the Founder and Research Chairman of the TABB Group. "Mr. Tabb later became the Head of Market Structure Research for Bloomberg Intelligence in May 2020, after closing his firm in March 2020 due to COVID. *See* "Wall Street Firm Tabb Group Closes After Coronavirus Hits Conference Circuit," <https://www.wsj.com/articles/wall-street-firm-tabb-group-closes-after-coronavirus-hits-conference-circuit-11584364653>.

The Commission previously chose not to place much weight on the Tabb study because it professed uncertainty whether the errors were in FINRA’s data or Bloomberg’s. Respectfully, Bloomberg’s service survives in the market because customers are able to rely on it;<sup>26</sup> if its data had that rate of inaccuracy, it would not have a viable product. FINRA’s TRACE service does not face the same market pressures.<sup>27</sup> Thus, the existence and success of Bloomberg’s data service is a sound reason for the Commission to assume that a substantial proportion of the discrepancies reflects error in the FINRA data.

Moreover, in FINRA’s previous submissions it effectively acknowledged significant errors in TRACE data. It said various factors it described could explain *half* of the 20% discrepancies that Tabb observed. Thus, at best, FINRA acknowledged an error rate of 10% inaccurate, still an inaccuracy rate that demands improvement. And Bloomberg’s new analysis, described above, found that many new issues with floating rate coupons had interest rates of zero in FINRA’s data. Those “zero” entries cannot be correct.

The potential impact, as noted in July 2019<sup>28</sup> and which went unrefuted remains the same – the down-stream impact could be profoundly disruptive. As the government mandated “gold standard” for bond reference data, FINRA will need to achieve levels of accuracy approaching the best commercial enterprises. The 20% error rate of 2019 or the 25% error rate of 2022—for three, not 41 fields of data—underscores the substantial additional expertise that FINRA must recruit, and the extensive resources FINRA must expend.

The point of these observations is not that FINRA would necessarily be unable to achieve greater accuracy. Any such problem can be solved with enough money. FINRA previously represented that it would be taking a variety of steps for validation of data to reduce the error rate. Indeed, the Commission’s acceptance of that representation was important in its prior approval of FINRA’s proposal. The point is that, given that it has substantial work to do in this area, FINRA must explain how much those validation efforts will *cost*.

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<sup>26</sup> At the October 29, 2018, FIMSAC meeting, (See Transcript at 0081-17 to 19) Bob LoBue, Managing Director of the Global Fixed Income Syndicate Desk said that J.P. Morgan tends to use Bloomberg to distribute new issue reference data to ensure its accuracy.

<sup>27</sup> The record shows that Bloomberg has a detailed quality assurance process to validate new issue reference data. (<https://www.govinfo.gov/content/pkg/FR-2021-01-25/html/2021-01438.htm>) By contrast, Ola Persson, Senior Vice President and Head of FINRA’s Transparency Services Department, has said that “The [TRACE] technology today does not lend itself very well to this [a new issue bond reference data service]. We would need to create the ability for underwriters to come in, give us partial information and have the ability to edit their own records, et cetera. Today, that is a . . . bit of a one-way street.” (<https://www.govinfo.gov/content/pkg/FR-2021-01-25/html/2021-01438.htm>, FN 260). In other words, TRACE does not have the validation processes that Bloomberg uses to ensure accuracy.

<sup>28</sup> See Bloomberg L.P. Letter from Gregory Babyak, to Ms. Vanessa Countryman, SEC, July 1, 2019 at 6 available at <https://www.sec.gov/comments/sr-finra-2019-008/srfinra2019008-5750523-186791.pdf>.

FIMSAC stressed five times the importance of accurate data in their recommendation. A senior FINRA executive in Transparency Services candidly noted at the October 29, 2018 FIMSAC meeting that accuracy is not a focus of the current system, and that allowing underwriters to correct or modify their submissions (and the associated quality assurance) would need development. “We have some work to do,” as he put it. That work is not all technology-based. Bloomberg employs a team of more than a dozen bond researchers who contact underwriters to obtain, review and confirm bond reference data. This effort is partly automated and partly manual. Accuracy comes from two workstreams: rules-based data validations technology and a combination of technology and manual efforts of comparing documentation with the submitted data. Will FINRA establish a data quality feedback loop? Will there be a notification to the underwriters that FINRA found an inconsistency and the underwriter needs to review and confirm or correct their submission? Are underwriters going to be required to receive an “ok” on their submission prior to a new issue being free to trade? What is the workflow, given that the workflow is intricately related to quality of the proposed service and development costs? Respectfully, FINRA cannot simply rely on “(4) enhancements to regulatory programs” or what we infer will be the creation of regulatory report cards to improve accuracy rates. Without real-time data accuracy quality control mechanisms and interventions, embedded FINRA errors will corrupt the accuracy of data downstream. FINRA’s submission provides little insight into this critical (quality control) workstream, especially on how to do this work without adding employees. FINRA provides no insight, and no explanation how any substantial quality assurance or validation program could be squeezed into the asserted \$700,000 per year operating costs. The Commission simply has not received enough information to have confidence in the cost estimates to make a reasoned evaluation.

Second, FINRA has not-provided any information concerning the additional cybersecurity and information security costs it will face to implement a system in the cloud that allows user feedback and interaction. As discussed in Appendix B, Bloomberg assumes that there is a foundational relationship with a cloud-provider in place but if there is not, then the first-time selection of cloud-provider cloud security configuration and provisioning startup labor costs could be significant. As discussed above, it is clear that FINRA will have to allow underwriters to update and correct their data in the system. That is the only way to achieve a reasonable degree of accuracy, and FINRA’s official said openly that a reference data system would need that kind of interactivity that does not exist today (“it is a bit of a one-way street”). FINRA will incur costs to build and then to operate a system with adequate cybersecurity practices. Its cursory topline summary of cost categories does not even mention this one.

Third, FINRA does not fully explain how its cost estimate addresses the dissemination system FINRA is supposed to provide. FINRA’s only reference to data dissemination in their filing is: “(3) development of the reference data files for subscribers.” But FIMSAC repeatedly

said that the delivery had to be accurate and timely to support new issue electronic trading when the new issue is free to trade in the secondary market. That is why FINRA proposed to require that all of the 41 fields of data be uniformly reported into FINRA's new system by the underwriters before trading. Speed of data dissemination is allegedly at the heart of this project.

Yet even as to this core principle, it is impossible to discern what FINRA is actually proposing. Is FINRA: (a) developing a mechanism to immediately disseminate the data in electronic form as a "polling" mechanism where subscribers would periodically query a database to download the new issue reference data information to then process; (b) depositing data files periodically on a file transfer protocol site for subscriber to pick up and then process; (c) creating a real-time data feed; or (d) something else?

**E. The costs will be significantly higher than FINRA's estimates.**

Bloomberg has conducted a high-level analysis, which is attached as Appendix B. This analysis has been compiled by utilizing the metrics articulated in third-party materials, primarily the May 21, 2019 "Staff Guidance on SRO Rule Filings Related to Fees" and the Commission's application of law and guidance to its initial suspension and then ultimate acceptance of fee changes by Investors Exchange (IEX) in early 2022, to attempt to isolate some of the workstreams, expertise and hours to be expended which would be necessary to partially advance this FINRA project.

As IEX thoroughly explained through a 46-page proposal, "IEX's proposed market data fees were derived based on IEX's costs to produce the market data products to which the fees apply and applying a reasonable markup over those costs."<sup>29</sup> To support this "cost-plus" assertion, IEX provided a comprehensive and transparent methodology setting forth the costs that take into account a variety of factors. At a high level, the IEX survey took into account three categories of costs: (i) direct costs, such as servers, infrastructure, and monitoring, (ii) enhancement initiative costs, such as new functionality, and (iii) personnel costs. These general categories were broken down further into more granular categories, which included a narrative explanation of the purpose of each category and how the costs for each category were calculated.<sup>30</sup> For each cost identified in the methodology, IEX identified an annual dollar cost for each line item. There is no reason why a similar level of detail for understanding the costs of FINRA's new system should not be expected.

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<sup>29</sup> IEX Market Data Filing at 4.

<sup>30</sup> IEX Proposal at 15-17.



The analysis of FINRA’s proposal has only been able to estimate labor costs. It is unable to determine other costs – including infrastructure, hardware, cloud-provider fees, etc. Consequently, the analysis below reports cost figures only for labor. Because they leave out non-labor costs, the total is certainly a significant underestimation for the overall cost of the project. In addition, the analysis also leaves out certain types of labor cost as well; those other labor costs will also make the project more costly than the figures we present.

As described in the Appendix B breakdown of costs, the analysis concludes that initial labor costs for the project will be at least \$8.75 million. Ongoing yearly labor costs should decline gradually over time but would initially run about \$2.5 million.

This analysis is necessarily not comprehensive, because Bloomberg—like the Commission—has scant information from FINRA. The cost figures that Bloomberg presents are necessarily underestimates. In other words, while the analysis shows that the system will cost more than FINRA claims, the actual cost of the system will certainly be higher than the amounts that is presented in Appendix B because not all of the costs can be estimated.

### **III. THE AVAILABILITY OF A RESERVE FUND DOES NOT ELIMINATE THE COSTS.**

FINRA excuses the vagueness of its cost estimates on the ground that it has a more than \$2 billion reserve fund that can absorb the costs if they exceed the claimed amounts. That assurance essentially asks the Commission to renew the position that the Court rejected. The SEC told the Court that it does not have to consider FINRA’s costs because they are internal to FINRA. The Court rejected that view because ultimately all the costs come back to members or users, in some form or another and at one point or another. Invoking the strategic reserve just means that FINRA would be willing to float the cost of the data service for a longer period before recouping the cost. The money still eventually comes from somewhere.

FINRA’s strategic reserve is funded by revenues derived from broker-dealers via the initial sale of NASDAQ; fines paid by broker-dealers; membership fees paid by broker-dealers; and revenue from FINRA’s transparency services products when those revenues exceed the expenses of those products. FINRA bases its member fees not only on its operating expenses, but also on its total reserves.<sup>31</sup> In October 2020, FINRA announced an increase in member fees “to address the structural deficit in FINRA’s budget.”<sup>32</sup> FINRA has been “fund[ing] its annual budget deficits from reserves,” and intended to continue doing so unless reserves reached a target

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<sup>31</sup> See FINRA, “Financial Guiding Principles,” p.2 (2022), at <https://www.finra.org/about/annual-reports#financial-policies>.

<sup>32</sup> Release No. 34-90176, 85 Fed. Reg. 66,592, 66,594 (Oct. 14, 2020).

level (one year of operating costs).<sup>33</sup> Its 2022 budget forecasted an operating loss of \$164 million with a further drawdown on reserves.<sup>34</sup> And FINRA’s recent fee rule said that if the “actual structural financial deficit is materially reduced ... relative to current projections,” then FINRA would defer the fee increases.<sup>35</sup> Clearly, a further drawdown from reserves to fund this project on corporate bond reference data will, in the medium term, flow right through to members’ pocketbooks; FINRA’s documents confirm the unsurprising truth that its reserves are not a bottomless well and ultimately its funding comes from member fees.

FINRA’s short submission says that the cost would be covered from FINRA’s reserves “without raising member dues or fees.” Such a commitment—if indeed FINRA is purporting to offer a commitment—is contrary to FINRA’s Exchange Act mandate to allocate its costs equitably, and directly contrary to representations that FINRA has made to the SEC previously. In its proposal to raise member fees, FINRA explained that “it is not feasible to associate a direct affiliated revenue stream for each of FINRA’s programs,” and consequently “numerous operations and services must be funded by general revenue sources,” i.e. member fees.<sup>36</sup> Therefore, FINRA concluded, it “uses an overall cost-based pricing structure designed to be reasonable, achieve general equity across its membership, and correlate fees with regulatory costs to the extent feasible.”<sup>37</sup> In short, money is fungible. FINRA cannot promise not to raise user fees for *this* project, because it does not—indeed, has said it *cannot*—allocate costs and revenues to specific regulatory projects.<sup>38</sup> Any future change in member fees would be presented as necessary to balance FINRA’s budget and reserves as a whole, just as FINRA’s current fee increase has been. FINRA’s statement that member fees would not increase for this project is illusory.

Thus, to say that a project will cost an extra \$10 million and will be funded from the strategic reserve means that, again, the members will incur that \$10 million cost. The Court tasked the Commission to assess “not only the financial impact of the service on FINRA, but also the entities that fund FINRA.” So essentially FINRA is saying its members will pay \$1.3 million initially to construct the project (though there are no numbers to support that overall cost figure), and if that’s insufficient, its members will pay some undefined portion of their reserve to continue the project. Either way, the members pay, and they pay without seeing a cost

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<sup>33</sup> *Id.* at 66,596.

<sup>34</sup> FINRA, 2022 Annual Budget Summary, p.2 (2021), at <https://www.finra.org/about/annual-reports#annual-budgets>. FINRA has not yet released its annual report for 2022.

<sup>35</sup> 86 Fed. Reg. at 66,596.

<sup>36</sup> 86 Fed. Reg. at 66,594.

<sup>37</sup> *Id.*

<sup>38</sup> Of course, FINRA could presumably choose to allocate costs entirely as subscription fees for accessing the data. It is surely not promising to avoid such user fees. And the cost to the market, as a key economic consequence of the Proposal, works out the same whether FINRA passes it on explicitly through user fees or buried within a general member fee increase.

justification in advance consistent with the Court’s directive. And either way, the infrastructure, and other costs to be borne by FINRA’s members are not addressed.

Bloomberg pointed out in previous submissions that FINRA has no constraint on building an overly expensive system. The Commission rejected that concern because, it said, FINRA would not be able to impose excessive fees on subscribers; the Commission would reject a fee rule to support the data system if the fees are unreasonable. As the Court explained, that response was inadequate because it does not address the costs, which are borne by somebody even if the Commission rejects the subscriber fees. The proposition remains, that FINRA could build an overly expensive system, and as Bloomberg previously observed it is commonplace for quasi-governmental or “regulatory” utilities to do just that. And now FINRA has confirmed the point. By invoking its \$2 billion reserve fund, FINRA demonstrates that it perceives no meaningful constraint on its spending on the data system. As discussed below, the costs will surely be more than FINRA’s recent guesses. And if they grow, FINRA asserts that it can simply absorb them. That is exactly the arrangement that Bloomberg warned will lead to excessive costs.

The Exchange Act requires the provision of information sufficient to justify that a specific proposal or fee comports with the securities laws, and in particular that the costs are justified by the benefits. An assertion that there is no need for rigorous cost-assessment since an SRO can simply take other fee and fine income to cross-subsidize commercial ventures does not comport with the law. Hiding the costs means *not* analyzing them. FINRA’s bland assurance that it has the financial stability to cover costs above \$1.3 million means that FINRA is, yet again, refusing to provide real information about the costs of its project.

FINRA’s invocation of its greater than \$2 billion reserve fund raises a further concern as well. In previous submissions, Bloomberg pointed out that FINRA’s data service will compete with private-sector data vendors, yet will do so with unfair advantages in data collection. FINRA now presents an additional unfair advantage, namely that FINRA can cross-subsidize its reference data service by funding it from fee income that was supposed to be compensating costs for other services.<sup>39</sup> For private-sector companies, capital has a cost; but FINRA asserts the cost of its capital outlay is zero.

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<sup>39</sup> See “Cross-subsidization and cost shifting”, Bloomberg L.P. Letter from Gregory Babyak to Ms. Vanessa Countryman, SEC, July 29, 2019, at 3. <https://www.sec.gov/comments/sr-finra-2019-008/srfinra2019008-5881954-188778.pdf>. Additionally, it is important to note that this Proposal does not provide other benefits to FINRA. The current limited amount of underwriter data collected under FINRA Rule 6760 “Obligation to Provide Notice” enables TRACE efficiently and for FINRA to conduct surveillance.

#### **IV. FINRA IGNORES THE COSTS TO UNDERWRITERS.**

Besides the costs that FINRA itself will incur—on behalf of its members—the Proposal imposes costs on underwriters. Certainly, as IHS Markit<sup>40</sup> and SIFMA repeatedly noted<sup>41</sup> during the comment period, these include new technology expenses, and they are determined in part by the new system’s design and workflows. SIFMA also noted that costs also include implementing new compliance procedures, potentially needing to hire additional employees, and other impacts that will be based on certain FINRA operational expectations.

The Commission previously concluded that the costs to underwriters will be manageable because underwriters already provide reference data to data vendors. But that conclusion ignores the reality that FINRA will, evidently, be requiring some form of automated online submission, thus necessitating some technology upgrade for underwriters. SIFMA repeatedly noted that technological detail and an understanding of FINRA’s operational expectations were needed to accurately determine whether costs directly impacting the underwriters would disproportionately impact smaller underwriters. The Commission also believed that underwriters can manage the submissions because they already submit data to TRACE. But SIFMA pointed out that the TRACE submission mechanism will not be practical “given the additional data proposed to be required by this rule...”<sup>42</sup> SIFMA also noted that its members were very concerned about the “risk that firms will not be able to meet this new timeline because final pricing terms are generally not available until pricing is complete, and it can be a challenge to quickly report all of the required information given the manual and operationally intensive nature of the submission process.”<sup>43</sup> “[T]he ability to use an API becomes much more important, if not necessary, to deliver this information in a more efficient, timely, and accurate manner.”<sup>44</sup> Yet again, underwriters will have to do some technology upgrade.

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<sup>40</sup> See IHS Markit Letter from Salman Banaei to Ms. Vanessa Countryman, April 29, 2019, at 3.  
<https://www.sec.gov/comments/sr-finra-2019-008/srfinra2019008-5423708-184596.pdf>.

<sup>41</sup> See “SIFMA Letter I” (April 29, 2019) at 1, 2 and 3, SIFMA Letter II (July 29, 2019) at 1-2, SIFMA Letter III (October 24, 2019) at 1.

<sup>42</sup> Ibid.

<sup>43</sup> See “SIFMA Letter I” from Christopher Killian, Managing Director, SIFMA, April 29, 2019, “Requirement that all data elements be reported for new issues prior to the first transaction in the security” section at 1.

<sup>44</sup> Ibid. SIFMA also noted that the Proposal abridges the reporting timeline, and their members would prefer the option to submit limited information before the first trade and the remainder of the information within 60 minutes of the first trade. Absent that concession, SIFMA contends that the only practical way to comply with the new reporting requirements is for FINRA to create a reporting API that the industry would have to code to because, as IHS Markit also noted, no such API currently exists. In their April 29, 2019, letter, SIFMA requested that FINRA “expedite the exploration of business requirements for the development of such an interface” for the purpose of understanding the impact of the proposal on its members (both large and small underwriters) but it was not addressed in the October 29, 2019, Amendment 2.

FINRA's latest submission indicates that there will indeed be an API ("application program interface") submission mechanism. That is different from TRACE, which currently uses a simple webform.<sup>45</sup> Thus, exactly as SIFMA and Bloomberg foretold, underwriters will have to undertake some technology development. The Commission has not previously assessed this cost, and neither has FINRA.

That cost will be particularly significant for smaller underwriters. The disproportionate impact on smaller underwriters is not a trivial matter. FINRA's Proposal acknowledged the valuable role of smaller underwriters with new issue investment grade corporate debt.<sup>46</sup> FINRA noted (in April 2019) that through the first three quarters of 2018, smaller underwriters, defined as underwriters beyond the top 10 in the Bloomberg U.S. Investment Grade Corporate Bond League Table, were responsible for 28.76% of the dollar volume.<sup>47</sup> For the full-year 2018, smaller underwriters were responsible for 28% of the volume and 37% of League Table deals. A significant number of the deal sizes from these smaller underwriters are less than \$10 million. The critical import of smaller underwriters is illustrated below. (Table 1).<sup>48</sup>

FINRA acknowledged the prospect of disproportionate costs being imposed on smaller underwriters yet provided no analysis for the public or Commission to consider when assessing the impacts of a distorted re-allocation within a market that is already skewed against smaller firms.<sup>49</sup> Large underwriters have already created some of the infrastructure necessary for the proposed mandatory reporting to FINRA. Small underwriters are far less likely to have done so.

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<sup>45</sup> See "SIFMA Letter I" at 2, "SIFMA Letter II" from Christopher Killian, July 29, 2019, at 1, and "SIFMA Letter III" from Christopher Killian, October 24, 2019 at 2.

<sup>46</sup> See Notice of Filing of a Proposed Rule Change to Establish a Corporate Bond New Issue Reference Data Service, Release No. 34-85488 (April 2, 2019) ("Proposal"), at 18. <https://www.sec.gov/rules/sro/finra/2019/34-85488.pdf>. "The underwriter market is highly skewed towards large underwriters, with 71.24% of dollar volume being led by the ten largest underwriters in the first three quarters of 2018, according to Bloomberg league tables." Table 1 updates the data for the full year 2018.

<sup>47</sup> See "Proposal" at 18.

<sup>48</sup> See Bloomberg L.P. Letter, October 24, 2019, at 5, footnote 10: "Notably, the Partial Amendment fails to address concerns that the proposed rule would disproportionately burden smaller underwriters. To the contrary, the Amended Proposal would mandate additional fields without addressing the timing, technological, and compliance challenges previously raised by commenters. See, e.g., SIFMA letter I (April 29, 2019) at 1–2; IHS Markit letter (April 20, 2019) at 3. Despite its "outreach," Proposal at 13 n.18, FINRA has not attempted to assess the disproportionate impact its burdensome rule and lack of a technological solution may have on competition among underwriters. Bloomberg's 2019 new-issue league table for "U.S. Investment Grade Corporate Bonds" shows that, through October 7, 33 underwriters have each underwritten more than \$1 billion (notional) year to date, while 59 other underwriters also have priced issues during 2019 — overwhelmingly for small issues of less than \$25 million."

<sup>49</sup> See "Proposal" at 18.

**Table 1.**

Year	Total number of “smaller”* lead underwriters	% Par value issuance	% Number of deals
2018	107	28%	37%
2019	122	32%	40%
2020	115	30%	38%
2021	141	32%	43%
2022	113	30%	41%

\* Small defined as all the underwriters beyond the top 10 by par valued issued.

Source: Bloomberg Finance L.P., U.S. Investment Grade Corporate Bond League Table.

The Court held that the Commission should respond to concerns about the cost of FINRA’s rule “on market participants.” An obvious category of such costs is the cost for underwriters to comply with FINRA’s rule by submitting data in the mode FINRA requires, and on the timeframe that FINRA will require. FINRA has made no effort to assess those costs or inform the Commission about those costs. The cost to underwriters remains real and unquantified.

## **V. FINRA HAS PROVIDED NO ANALYSIS OF THE BENEFITS OF ITS PROPOSAL OR INFORMATION TO SUPPORT A COST-BENEFIT COMPARISON.**

Ultimately, the reason the Commission needs cost information is to assess the relative costs and benefits of the Proposal. If FINRA will be incurring and imposing costs significantly in excess of the benefits, the economic consequences of the Proposal will be negative, and it cannot be deemed to satisfy the criteria of the Exchange Act.

The lack of cost data precluded a cost-benefit analysis when the FINRA proposal was initially considered, and it still does. And FINRA has not provided any data to substantiate any amount of benefit from its Proposal.

While the Commission continues to lack meaningful data, it is clear that changes in the marketplace from the natural evolution of the technology and the market structure since 2019 have underscored that the alleged benefits are non-existent. Below, we show that for the various market ills that FINRA alleged, all have significantly decreased, or disappeared, or were not present in the first place. It bears emphasis that these changes occurred without FINRA’s new

service. The Commission approved FINRA’s Proposal, but FINRA has not yet implemented it. The market, and market participants, are thriving without the data service that FINRA wants to add. FINRA has a burden of proof to show that introducing its data service will actually produce some concrete benefit for market participants, and to quantify what that benefit will be. FINRA has not even attempted that showing.

Data often lead conventional wisdom. The world is a very different place than it was nearly five years ago when the Technology and Electronic Trading subcommittee of the Commission’s Fixed Income Market Structure Advisory Committee (“FIMSAC”) began discussing “matters concerning access to bond reference data.”<sup>50</sup> FIMSAC argued that FINRA needed to amend its rules as an SRO to compel its underwriter members to submit a substantial amount of data to establish a new issue reference data service for corporate bonds. FIMSAC argued that regulatory intervention was necessary “to support the trading of newly issued bonds on electronic platforms” and “support the settlement of [corporate] bonds.”<sup>51</sup>

The data clearly shows that the corporate bond market—for both secondary market trading and, specifically, the secondary market trading of new issues—had passed an inflection point and the trend toward electronic trading was rapidly accelerating by the time that recommendation was adopted. When FIMSAC began deliberations, it thought a lack of reference data was holding back the adoption of electronic trading; in fact, the market was simply still getting comfortable with using electronic methods of execution.

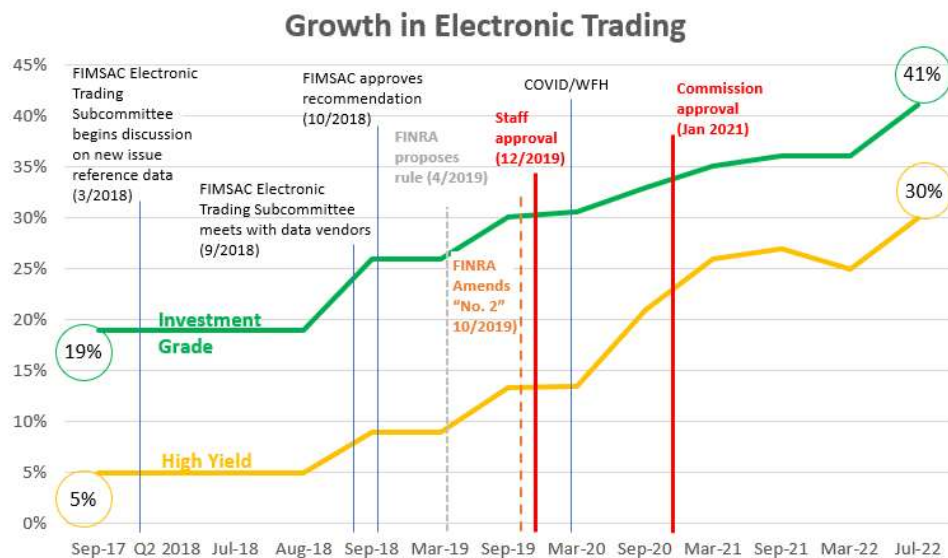
When FIMSAC’s Technology and Electronic Trading subcommittee began deliberations on electronic trading of new issues in March 2018<sup>52</sup>, Coalition Greenwich estimated that only 19% of all TRACE investment grade corporate debt volume was executed electronically; high yield was mired at 5% (Figure 1).

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<sup>50</sup> See The Securities and Exchange Commission’s Fixed Income Market Structure Advisory Committee (“FIMSAC”) Technology and Electronic Trading Subcommittee minutes, March 29, 2018. <https://www.sec.gov/spotlight/fixed-income-advisory-committee/fimsac-technology-and-electronic-trading-subcommittee-032918.htm>.

<sup>51</sup> See FIMSAC “Recommendation for the SEC to Establish a New Issue Reference Data Service for Corporate Bonds”, October 29, 2018, at 1. <https://www.sec.gov/spotlight/fixed-income-advisory-committee/fimsac-corporate-bond-new-issue-reference-data-recommendation.pdf>.

<sup>52</sup> See the “Summary Minutes of March 29, 2018, Call” of the Technology and Electronic Trading Subcommittee, at <https://www.sec.gov/spotlight/fixed-income-advisory-committee/fixed-income-market-structure-advisory-committee-subcommittees.htm>.



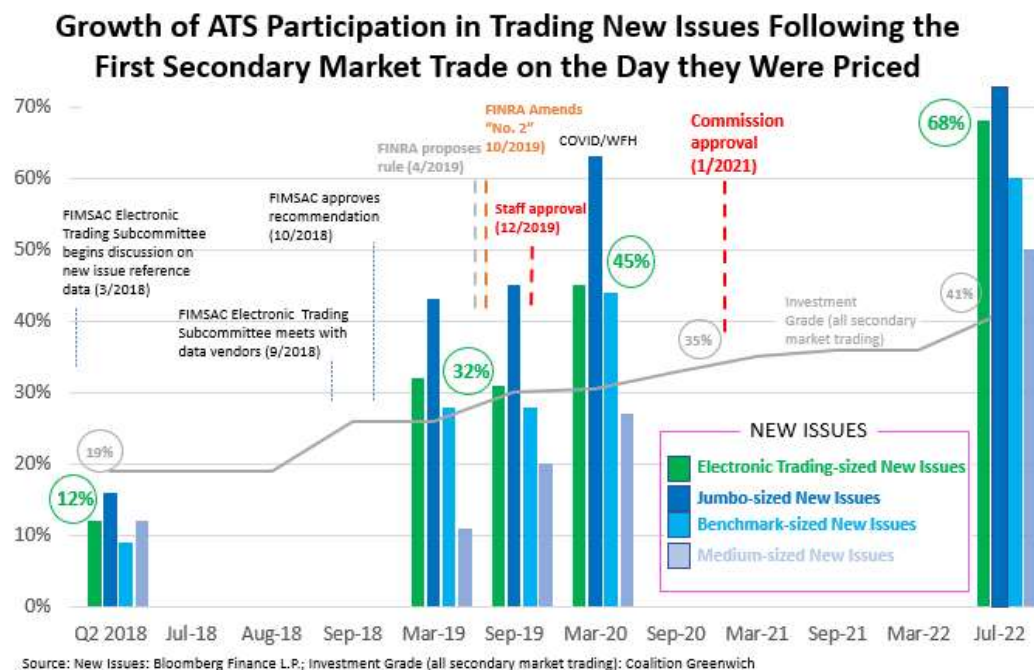
Source: Coalition Greenwich

**Figure 1.** Percentage of all Corporate Debt Secondary Market Executions Completed Electronically.

Bloomberg’s analysis of the TRACE transaction data, using the ATS flag as a very conservative proxy for electronic trading of new issues, showed that among Q2 2018 new issues with sizes greater than \$250MM – the new issues that that would be more conducive to trade electronically - if a new issue traded in the secondary market on the day it was priced, a paltry 12% of those new issues also had a trade electronically executed on an ATS (Figure 2).<sup>53</sup>

<sup>53</sup> Issue size and secondary market trading activity filters were used to isolate the relevant new issue activity to define “**electronic-trading sized issues**” and to benchmark the electronic trading in Figure 2. **(1) Issue size:** a \$250 million issue size filter was used to isolate the new issues most conducive or likely to trade electronically. This threshold comes from several sources. (i) The Staff of the Division of Economic and Risk Analysis of the Securities and Exchange Commission August 2017 report “Access to Capital and Market Liquidity”, supported by several academic research studies, identified \$250 million issue size as a liquidity threshold. (ii) Index providers use issue-size thresholds as a liquidity proxy for index inclusion. <https://www.sec.gov/file/access-capital-and-market-liquidity-study-dera-2017pdf>. For example, the Bloomberg Fixed Income Indices (<https://assets.bbhub.io/professional/sites/27/Fixed-Income-Index-Methodology.pdf> at 27), ICE Indices (<https://www.theice.com/publicdocs/data/ICECIG-factsheet.pdf> at 1), and FTSE Russell indices (<https://research.ftserussell.com/products/downloads/FTSE-Fixed-Income-Indexes-Guide.pdf> at 67) all have minimum issue sizes between \$250 – 300MM as a (liquidity) requirement for inclusion in an Investment Grade Corporate Bond index. **(2) Activity:** For a myriad of reasons, not all new issues trade in the secondary market on the day that they are priced. To judge whether electronic trading is impeded due to a lack of new issue bond reference data being available, the new issue must actually trade in the secondary market. The percentage of those new issues that actually traded on the day that they were priced (the denominator) and also had an execution on an ATS (the numerator) provides an indication of new issue electronic trading share. A “Jumbo-sized New Issues” cohort was formed by restricting the issue-size filter to \$1Bn or more; “Benchmark-sized New Issues” contain issue sizes of \$500MM to \$1Bn; and “Medium-sized New Issues” contain issue sizes of \$250MM to \$500MM.





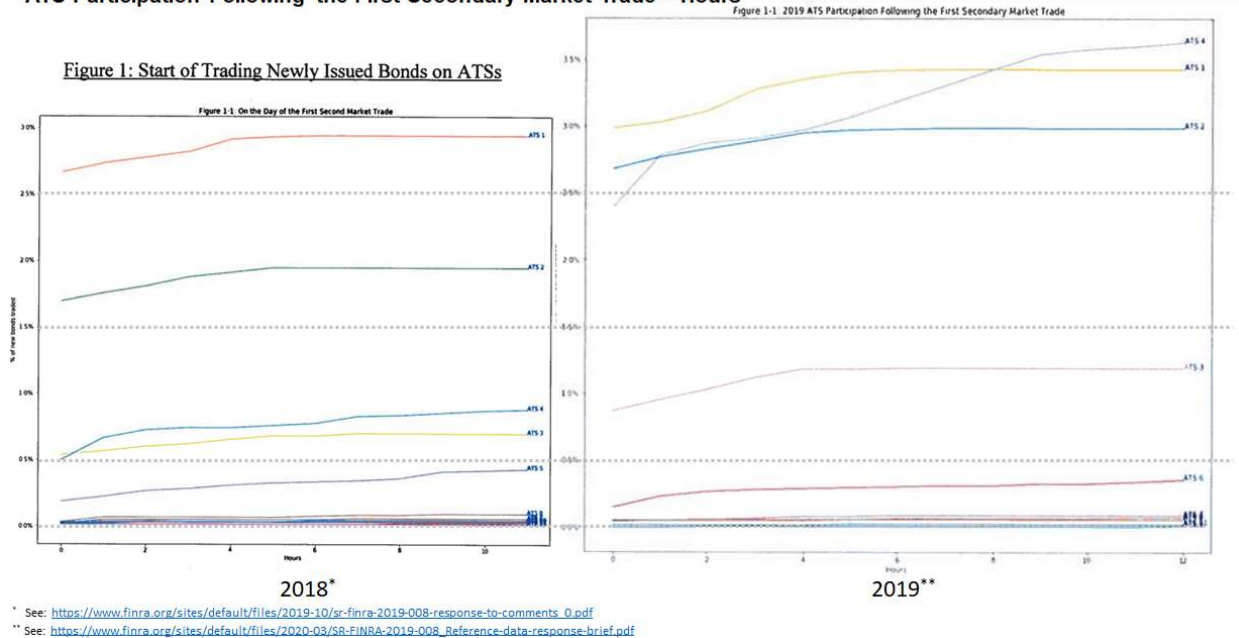
**Figure 2.** A Market Structure in Transition: The Rapid Growth of Electronic Trading of New Issue and all IG Corporate Debt 2018-2022.

The data confirm that by October 29, 2018, when FIMSAC approved its subcommittee’s recommendation, the evolution of corporate debt to trading more electronically was gaining significant traction – advancing from 19% to over 25% (Figure 1) of all secondary market executions. Over the ensuing year, electronic trading continued to grow, reaching 32% of overall secondary market trading when FINRA repropoed Amendment No. 2 on October 29, 2019. In fact, just before FINRA’s Amendment No. 2 repropoal, MarketAxess CEO and FIMSAC member Rick McVey noted in an interview that “the growth is now very evident in the fixed income markets as electronic trading and automation have taken hold... we see both dealers and investors embracing electronic trading...”<sup>54</sup> Bloomberg’s analysis of new issue TRACE data revealed that as electronic trading in the secondary market was growing, electronic trading of new issue corporate bonds on the day that they were priced was also gaining traction. If a new issue traded in the secondary market on the day that it was priced, 32% of those new issues also had a trade electronically executed on an ATS. Moreover, the analysis revealed that over 40% of Jumbo-sized new issues, if they traded in the secondary market on the day they were priced, also had an electronic trade executed on an ATS. In fact, using FINRA’s analysis but placing it side-by-side to compare FINRA’s 2018 and 2019 data, using a different methodology from

<sup>54</sup> See “MarketAxess CEO McVey on the Bond Trading Landscape”, Bloomberg Daybreak TV: Americas, April 10, 2019 seen at <https://www.bloomberg.com/news/videos/2019-04-10/marketaxess-ceo-mcvey-on-the-bond-trading-landscape-video> (emphasis added).

Bloomberg’s, also showed the same dramatic shift in the marketplace toward new issues trading electronically on the day that they were priced and confirmed that new issues were trading on more than one ATS (Figure 3).<sup>55</sup> The corporate bond market was evolving, and new issue bond reference data was available in order for this to occur.

**The Number of ATSs with Significant Market Share in New Issue Trading is Growing**  
**ATS Participation Following the First Secondary Market Trade – Hours**



**Figure 3.** FINRA confirms a market structure transitioning to electronic trading using all new issues, not just new issues with sizes conducive to trading electronically.

To summarize, at the inception of this rulemaking, only 12% of new issues large enough to trade electronically actually traded electronically in the secondary market on the day they were priced. Today that number is 68%, and for jumbo-sized new issues in excess of 70%. Given relationship and other commercial considerations—which argue against 100% electronic trading—we may be nearing the optimum level of electronic trading for new issues. A six-fold increase in relevant new issue electronic trading suggests there are not structural barriers to electronic trading. Certainly, there is no data to suggest that a lack of corporate bond data is a barrier to electronification.

<sup>55</sup> See 2018 data in October 29, 2019 Reponses to comments at 7 [https://www.finra.org/sites/default/files/2019-10/sr-finra-2019-008-response-to-comments\\_0.pdf](https://www.finra.org/sites/default/files/2019-10/sr-finra-2019-008-response-to-comments_0.pdf) and 2019 data in Appendix A in the March 16, 2020 Statement in Support of the Proposal at 30 <https://www.finra.org/rules-guidance/rule-filings/sr-finra-2019-008>

More broadly, FIMSAC was concerned that “access to accurate and timely reference data is of growing importance as fixed income market participants increasingly rely on electronic trading platforms.” We’d note that the electronic trading of new issue and seasoned corporate bonds – a universe that includes a larger percentage of illiquid issues that are unlikely to trade electronically – has grown from 19% to 41%.

More evidence of the market evolving without FINRA’s regulatory intervention is the emergence and integration of other private sector initiatives into new issue fixed income workflows. Bloomberg noted in its October 24, 2019 letter that “since FINRA first proposed its effort to standardize and centralize bond-reference data reporting, competition in this area has only increased. This very month, for example, leading financial institutions announced an effort to streamline communications and data among market participants by connecting underwriters and investors. Participants [in the consortium named DirectBooks] include J.P. Morgan, Bank of America, Barclays, Citi, BNP Paribas, Goldman Sachs, Deutsche Bank, Morgan Stanley, BlackRock, and Wells Fargo. Any FINRA proposal to perform many of the same functions by regulatory fiat must account for why its coercive option is superior to this and other private alternatives, and why it would not deter future capital-markets collaboration and investment. See 15 U.S.C. § 78o-3(b)(9).”<sup>56</sup> DirectBooks is now integrating primary issuance workflows directly into OMSs.<sup>57</sup> Liquidnet initially launched peer-to-peer electronic trading of corporate bonds in 2015<sup>58</sup> and evolved to electrifying the full lifecycle of new bond issuance<sup>59</sup> including a new issue electronic order book.<sup>60</sup>

FIMSAC had also expressed concerns about alleged settlement problems, supposedly caused by lack of access to new issue bond reference data. No data was ever cited in support of these allegations, though FINRA would be in possession of such data. The empirical data in our possession at the time demonstrated that the alleged settlement problem didn’t exist. Data in the intervening years has further underscored that finding.

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<sup>56</sup> See Bloomberg L.P. Letter, October 24, 2019, at 6.

<sup>57</sup> See press release, “Charles River® and DirectBooks Announce Collaboration to Streamline Primary Issuance in Charles River IMS”, November 11, 2022, available at <https://www.crd.com/press-releases/2022/charles-river-and-directbooks-announce-collaboration>.

<sup>58</sup> See Trader’s Magazine. Liquidnet Fixed Income Dark Pool Now Live and Trading Corporates. October 1, 2015 available at <https://www.tradersmagazine.com/departments/brokerage/liquidnet-fixed-income-dark-pool-now-live-and-trading-corporates/>.

et Fixed Income Dark Pool Now Live and Trading Corporates. October 1, 2015, available at <https://www.tradersmagazine.com/departments/brokerage/liquidnet-fixed-income-dark-pool-now-live-and-trading-corporates/>.

<sup>60</sup> See Liquidnet, “Record Trading Day. Over \$100 MM from a total of 24 new deal tranches trading on Liquidnet’s New Issue Order Book, available at [https://video.twimg.com/ext\\_tw\\_video/1623358786973888514/pu/vid/720x720/TMwCd\\_loQVEN692f.mp4?tag=12](https://video.twimg.com/ext_tw_video/1623358786973888514/pu/vid/720x720/TMwCd_loQVEN692f.mp4?tag=12).

As we noted in 2019, over 90 percent of electronically traded issues (Jumbo, Benchmark and Medium sized issues over \$250 million) settled 3 to 4 days after being issued—ample time for any errors to be fixed (Figure 4).

Ms. Vanessa Countryman, Securities and Exchange Commission  
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 April 29, 2019  
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Segment	Issue Size	Settlement Cycle (Pricing Date to Settlement)			
		T+4 or more	T+3 or more	Regular Way (T+2)	Next day (T+1)
All		66%	91%	8%	0.2%
Jumbo	1BN +	81%	96%	4%	0.1%
Benchmark	500MM to 1BN	74%	93%	7%	0.1%
Medium	250MM to 500MM	77%	93%	7%	0.0%
Small	50MM to 250MM	76%	89%	10%	1.3%
Micro	50MM	59%	90%	10%	0.2%

Source Bloomberg Finance L.P., New Issues January 2, 2018 to April 11, 2019

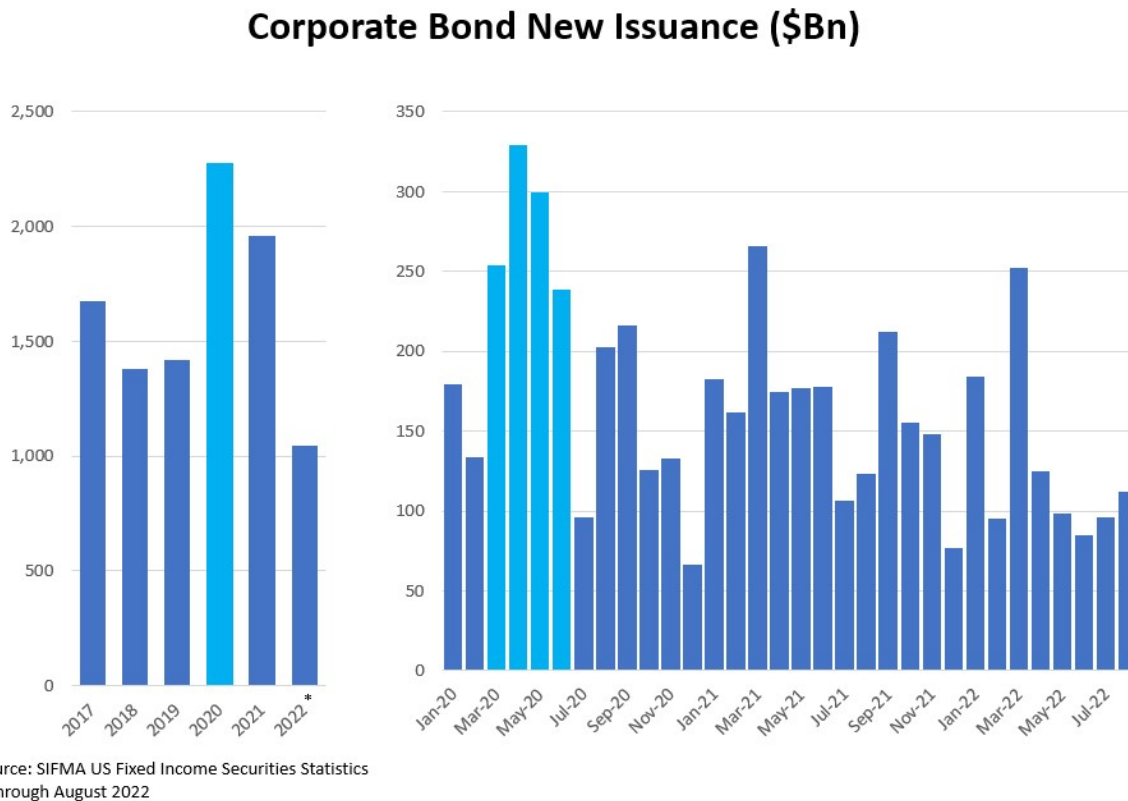
**Figure 4.** Most new issues settle three or more days after being priced.

A similar absence of settlement issues is reflected in data from 2020, 2021, and 2022 (Figure 5).

		Settlement is Pricing Date + 4 days				
		2018	2019	2020	2021	2022
Electronically Traded	Jumbo	84%	81%	79%	83%	80%
	Benchmark	80%	81%	76%	82%	82%
	Medium	79%	83%	81%	86%	79%
	Small	82%	81%	77%	77%	65%
	Micro	56%	49%	58%	55%	37%
		Settlement is Pricing Date + 3 Days				
		2018	2019	2020	2021	2022
Electronically Traded	Jumbo	96%	93%	90%	93%	91%
	Benchmark	94%	94%	89%	95%	93%
	Medium	92%	90%	93%	94%	93%
	Small	87%	84%	85%	81%	74%
	Micro	85%	78%	78%	83%	62%

**Figure 5.** Most new issues among those conducive for trading electronically, settle three or more days after being priced.

The data shows that during the COVID period in 2020, there was record new issuance (Figure 6) and an increase in the number of issues settling two-days after being priced, rather than the typical four (Figure 7). FIMSAC members observed during the COVID period, especially during the period of heavy new issuance, March-June 2020, “there was no noteworthy outages or issues for the electronic bond markets despite record updates, record transactions, settlements, that was an excellent outcome for the overall market ecosystem...”<sup>61</sup>



**Figure 6.** The record issuance during the Covid-period.

<sup>61</sup> See Transcript of the FIMSAC October 5, 2020, meeting at 48. <https://www.sec.gov/spotlight/fixed-income-advisory-committee/fimsac-100520-transcript.pdf> and associated “Corporate Bond Market Presentations” at <https://www.sec.gov/spotlight/fixed-income-advisory-committee>.

	2020		Settlement Cycle (Pricing Date to Settlement Date)			
	Segment	Issue Size	T+4 or more	T+3 or more	Regular Way (T+2)	Next Day (T+1)
Electronic Trading	Jumbo	1BN+	79%	90%	10%	0.1%
	Benchmark	500MM to 1BN	76%	89%	11%	0.3%
	Medium	250MM to 500MM	81%	93%	7%	0.7%
	Small	50MM to 250MM	77%	85%	11%	4.2%
	Micro	<50MM	58%	78%	18%	4.5%

**Figure 7.** During the Covid period record new issuance, there was an increase in the number of new issues that settled two-days and three-days after being priced, yet FIMSAC observed that there was no corresponding increase in settlement issues.

Typically, settlement times from pricing to settlement are long (T+4 or more) which makes settlement errors less likely. But during the Covid period, companies wanted the funds in the bank as fast as possible, so they moved from T+4 or more to T+2/3 settlement. The fact that market participants were actually able to accelerate settlement during a period of maximum volume and market stress is not consistent with the unsupported allegations that a lack of access to bond reference data is degrading settlement.

To summarize, the data actually underscores that the problems that FINRA proposed to create a costly new quasi-governmental service to address—alleged problems of electronic trading of new issue corporate bonds or problems in settlement owing to lack of bond reference data—do not actually exist.

**COVID Accelerated Corporate Bond Market and New Issue Electronic Trading Trend(s):** Because the record had closed in early Q4 2019, it is not clear whether the Commission was able to consider, when it approved the Proposal in January 2021, comments from FIMSAC members at their final meeting in October 2020 or 2020 data showing that COVID/WFH acted as an accelerant to the established trends toward electronic trading. In Q4 2020, electronic trading approached 35% of all TRACE eligible secondary market transactions. In the new issue market, 45% of all new issues and 65% of jumbo-sized issues had an electronic execution on an ATS if they had a secondary market trade on the day they were priced. Several members of the FIMSAC gave presentations at their final meeting on October 1, 2020. One FIMSAC member commented that during May through July 2020 there was “a record-setting new issue calendar beginning with high-grade and followed by high-yield”<sup>62</sup> (Figure 6) and “a

<sup>62</sup> See “Transcript of the October 5, 2020, Meeting of the Fixed Income Market Structure Advisory Committee” (“FIMSAC 10/5/20 Transcript”), at 50-51. <https://www.sec.gov/spotlight/fixed-income-advisory->

significant amount of increased activity coming through the electronic trading platforms”<sup>63</sup> (Figure 1). The member also noted that electronic trading expanded significantly driven by a “significant increase in turnover” in the “top 1,000 CUSIPs...[a]nd many of those were the newly-issued bonds”<sup>64</sup> (Figure 2). The member further noted that “...all of the e-trading venues in fixed income proved to be resilient and, I think, provided a valuable service through the credit event for market participants.”<sup>65</sup>

**Amid Record New Issuance, No Noteworthy Outages or Settlement Issues Emerged:**

Another FIMSAC member observed that during the COVID period, especially during the period of heavy new issuance, March-June 2020, “there was no noteworthy outages or issues for the electronic bond markets despite record updates, record transactions, settlements, that was an excellent outcome for the overall market ecosystem...”<sup>66</sup> That is certainly consistent with the data we have provided above.

## CONCLUSION

The Court’s remand bespeaks a serious deficiency in the Commission’s previous decision. That deficiency was caused by FINRA’s failure to provide information about the costs or benefits of its proposal, a failure that the Commission was previously willing to overlook. The Court has held that willingness was arbitrary and capricious; but FINRA has not rectified the shortcomings in its Proposal. Its assertions about the costs of its system significantly underestimate the costs it will incur to build and run the system, and FINRA has provided no supporting information to let the Commission rely on those underestimates. It ignores the other important costs of its Proposal, and it provides no data at all to estimate the benefits, a necessary element for the Commission to understand the real economic consequences of the Proposal.

In the past five years, changes in the market have made it even clearer that the alleged benefits of this Proposal have already been realized, calling into question the initial justification, and ensuring that the costs of this Proposal will far exceed the benefits.

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[committee/fimsac-100520-transcript.pdf](#). Also see at IOSCO, “Corporate Bond Markets – Drivers of Liquidity During COVID-19 Induced Market Stresses Discussion Paper, April 2022, at 13, “In the second quarter of 2020, IG bond issuance in the US totaled a record \$693 billion.”

<https://www.iosco.org/library/pubdocs/pdf/IOSCOPD700.pdf>.

<sup>63</sup> See “FIMSAC 10/5/20 Transcript”, at 54.

<sup>64</sup> See “FIMSAC 10/5/20 Transcript”, at 51.

<sup>65</sup> See “FIMSAC 10/5/20 Transcript”, at 54.

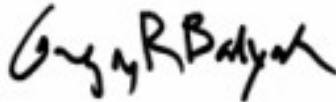
<sup>66</sup> See “FIMSAC 10/5/20 Transcript”, at 48.

There are other fixed income transparency initiatives - such as advancing U.S. Treasury pre and post trade transparency - that urgently require broker-dealer, Commission and FINRA attention and will require the dedication of scarce technology resources. Advancing a Proposal that had been found to be, and remains, legally suspect while imposing unnecessary costs on the market is a diversion from what should be a set of much more significant priorities. FINRA's inability over five years to provide data essential for consideration of its proposal argues convincingly for disapproval.

\* \* \* \* \*

We appreciate the opportunity to provide our comments on the Proposal and would be pleased to discuss any questions that the Commission may have with respect to this letter.

Very truly yours,

A handwritten signature in black ink that reads "Gregory R. Babyak". The signature is written in a cursive style with a large initial "G".

Gregory Babyak  
Global Head of Regulatory Affairs, Bloomberg L.P.

A handwritten signature in blue ink that reads "Gary Stone". The signature is written in a cursive style with a large initial "G".

Gary Stone  
Regulatory Analyst and Market Structure Strategist, Regulatory Affairs, Bloomberg L.P.



# APPENDIX A

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# Attempt to Ascertain Cost of Proposed New Issue Bond Service via Reference to Other FINRA Platforms

February 20, 2023  
Privileged and Confidential

## 1 Introduction

The Financial Industry Regulatory Authority (FINRA) has proposed to implement a New Issue Bond Reference Data Service. The United States Court of Appeals remanded FINRA's original proposal back to the Securities and Exchange Commission (SEC), so that "*the Commission can redress its failure of explanation by analyzing the costs FINRA will incur in building and maintaining its data service and how the costs of building the data service will be remunerated if the fee proposal is ultimately disapproved by the Commission*".<sup>1</sup> Following the Court Opinion, FINRA submitted a letter to the SEC, stating that FINRA estimates initial costs of approximately \$1.3 million and ongoing annual costs of approximately \$700,000.<sup>2</sup>

It is our understanding that the SEC must consider the impact of FINRA's proposal on "*efficiency, competition, and capital formation*," and ensure that the rule does not "*impose any burden on competition not necessary or appropriate to further the purposes of the*" Securities Exchange Act, and that consequently the SEC needs to assess the economic costs and benefits of FINRA's proposal.<sup>3</sup>

We could not ascertain the empirical basis, if any, for the cost estimates provided in FINRA's letter. The information provided was not sufficient to evaluate the reasonableness of the cost estimates.

We have researched publicly available information on costs of data collection which could provide better understanding of the magnitude of costs related to the implementation and maintenance of a new issue bond reference data reporting system, as planned by FINRA. In the absence of data on the New Issue Bond Reference Service, we attempted to garner insight by examining other FINRA's platform builds. Based on FINRA's public comments about the scope and magnitude this new project presents, it appears that this project could be in scope and magnitude similar to some of FINRA's prior initiatives, such as TRACE.

This memo describes our findings.

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<sup>1</sup> Bloomberg L.P. v. SEC, 45 F.4th 462 (D.C. Cir. 2022), Court Opinion

<sup>2</sup> FINRA's letter available at <https://www.sec.gov/comments/sr-finra-2019-008/srfinra2019008-20155240-323579.pdf>

<sup>3</sup> 15 U.S.C. § 78c(f); *id.* § 78o-3(b)(9); 86 Fed. Reg. 6,922, 6,924 n.26 (Jan. 25, 2021).

## 2 High-level view of FINRA's Effort

Based on publicly available information, FINRA apparently views the project as significant and akin to building a brand-new system similar to TRACE but requiring additional capabilities.

Ola Persson, FINRA's Senior Vice President of Transparency Services, at the October 29, 2018 meeting of the U.S. Securities and Exchange Commission Fixed Income Market Structure Advisory Committee commented,

*"Speaking for FINRA, not the effort on behalf of the underwriters, but speaking for FINRA, we would have some work to do. The technology today does not lend itself very well to this."*<sup>4</sup>

Mr. Persson then continued to describe that FINRA would be building a new system similar to TRACE but with new capabilities to enhance data accuracy and quality.

*"We would need to create the ability for underwriters to come in, give us partial information and have the ability to edit their own records, et cetera. Today, that is a -- as I said, it is a bit of a one-way street. It is set up on TRACE and anything that changes from there, we either source from a vendor or the underwriter calls us up to correct it. So, we would need to do that.*

*We would also need to create a separate distribution channel for this. And the reason being, today, since the only thing that really matters is that the security gets on TRACE, we actually do have contracts with vendors that allows us to take certain records or certain elements of records and incorporate those into the database and distribute that. That also explains where we can only today grant very limited usage rights to the data we distribute.*

*So, this would have to be a service that would be a service that would be entirely sourced from underwriters we know common link vendor data, and then we would have to build that obviously, the amounts of fields.*

*I think one thing to consider, depending on how many fields we end up with, there may still -- obviously timeliness of TRACE reporting can't be compromised. So, if there is a larger set of fields, it is potential we can create a structure where, similar to NIIDS actually, certain trade eligibility fields are set up on a very timely basis but then complemented later with more descriptive fields if that were to make sense."*<sup>5</sup>

In 2020, FINRA began a multi-year initiative dedicated to improving trade reporting and reference data management capabilities for its member firms.<sup>6</sup> While Mr. Persson's description of the work FINRA would have to undertake for the New Issue Corporate Bond service appears to be significant, without more detail, we cannot conclude that FINRA's estimates of \$1.3 million to build and \$700,000 annual recurring costs are well supported and likely reasonable.

As FINRA recognised, these costs may not be sufficient:

*"In the event FINRA could not implement an effective fee for the New Issue Reference Data Service on an ongoing basis, any costs incurred to that point in connection with establishing the service would be covered from FINRA's financial reserves without raising member dues or fees. As of the end of 2021, FINRA held a strategic reserve portfolio valued at over \$2 billion."*<sup>7</sup>

<sup>4</sup> See "Testimony of Ola Persson", FINRA's Senior Vice President of Transparency Services, 0088-2 to 0089-5, available at <https://www.sec.gov/spotlight/trace/introduction-transparency-services-initiatives-and-webpage>

<sup>5</sup> See "Testimony of Ola Persson" at 0088-5 to 0089-9.

<sup>6</sup> <https://www.finra.org/filing-reporting/trace/introduction-transparency-services-initiatives-and-webpage>

<sup>7</sup> <https://www.sec.gov/comments/sr-finra-2019-008/srfinra2019008-20155240-323579.pdf>

### 3 Publicly available information related to costs of data collection and revenues from selling data

FINRA's annual budgets and annual reports provide a high-level overview of their expenses and revenue.<sup>8</sup> The information on expenses is somewhat more detailed compared to revenues. FINRA has a department for 'Transparency Services' which "*operates facilities that disseminate real-time and historical market information for over-the-counter (OTC) trading in the equity and fixed income markets including the Trade Reporting and Compliance Engine (TRACE) and maintains the databases FINRA uses to oversee OTC securities*". In the budget for 2022, \$75.9 million were allocated to transparency services (6% of total budget). The budget estimates for previous years include similar amounts allocated to this category.<sup>9</sup> While transparency services appear to support seven databases, we would expect that a large share of those expenses are dedicated to the real-time reporting systems, TRACE, TRF and OTF.<sup>10</sup>

For revenues, FINRA's annual budget includes a category called 'User Fees' which consists of Registration Fees, Transparency Services Fees, Dispute Resolution Fees, Qualification Fees, Continuing Education Fees, Corporate Financing Fees, and Advertising Fees. In total, User Fees accounted for \$329.9 million in the budget for 2022. The Registration Fees are also presented separately in the budget (accounting for \$77.4 million), which means that Transparency Services Fees together with the few other fees categories listed above account for \$252.5 million. The information for previous years is of a similar magnitude.

We also searched for information on FINRA's costs from their filings to SEC. We only found rather general explanations underpinning their fees. For example, in FINRA's proposal on Trade reporting and compliance engine (TRACE) Fees for Securities (2013)<sup>11</sup>, they write that they believe "*the proposed fees are reasonable in light of FINRA's regulatory and operational costs, including personnel, technology and storage costs to collect and provide real-time and historic Rule 144A transaction data and the increase in such costs incurred by FINRA over time*" and that FINRA "*proposes fees at the rates that have been in effect for several years for similar data bases, and such fees are designed to defray a portion of such costs*".

We also found some cost information relating to TRACE's first year of operation (2003), when FINRA's predecessor NASD wrote the following: "*TRACE incurs ongoing operating costs associated with shared NASD infrastructure and resources as well as direct charges from outsourcing TRACE system support and development. Additionally, TRACE is supported by a dedicated team of NASD staff. For the first twelve months of operation (period ending June 30, 2003), these expenses have totaled approximately \$12.4 million including partial recovery of the original investment made in the development of TRACE.*"<sup>12</sup> Out of the \$12.4 million, \$9.8 million were operating expenses.<sup>13</sup>

<sup>8</sup> Annual budget for 2022 is available at <https://www.finra.org/sites/default/files/2022-05/FINRA-2022-Annual-Budget-Summary.pdf> and annual report for 2021 at <https://www.finra.org/sites/default/files/2022-06/2021-FINRA-Financial-Annual-Report.pdf>.

<sup>9</sup> Annual budget for 2021 include \$74.2 million for Transparency services (available at [https://www.finra.org/sites/default/files/2021-05/2021\\_annual\\_budget\\_summary.pdf](https://www.finra.org/sites/default/files/2021-05/2021_annual_budget_summary.pdf)).

<sup>10</sup> See FINRA "Market Transparency Reporting Tools" available at <https://www.finra.org/filing-reporting/market-transparency-reporting>.

<sup>11</sup> Filing available at <https://www.finra.org/sites/default/files/RuleFiling/p356078.pdf>

<sup>12</sup> Filing available at: <https://www.federalregister.gov/documents/2003/11/04/03-27661/self-regulatory-organizations-notice-of-filing-of-proposed-rule-change-and-amendment-no-1-by-the>

<sup>13</sup> Filing available at <https://www.sec.gov/rules/sro/nasd/34-49086.pdf>

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From Mr. Persson's inference that this project would be a new build similar to TRACE, without more detail, even with cloud development and technological advances since 2003, the \$1.3 million figure seems understated based on FINRA's and NASD's prior experience.

#### **4 Conclusions**

The available public information on FINRA's costs, including FINRA's recent submission to the SEC, is not detailed enough to estimate the magnitude of costs likely to be incurred in the implementation and maintenance of the proposed new issue bond reference data reporting system.

FINRA's proposed cost estimates seem understated compared to what data is publicly available and they could be evaluated only if additional, specific, detailed information were made available.

# **APPENDIX B**

## APPENDIX B

### **Bloomberg's Estimate of Costs for the FINRA Reference Data System**

Bloomberg has utilized the metrics articulated in the May 21, 2019 “Staff Guidance on SRO Rule Filings Related to Fees” (the “2019 Staff Guidance”) and the Commission’s application of law and guidance to its initial suspension of the Investors Exchange (IEX) filing of November 2021, leading to IEX’s more detailed (and successful) proposal in April 2022 (collectively the “IEX filings”, and together with the 2019 Staff Guidance, “the Comparative Materials”),<sup>1</sup> to attempt to isolate some of the workstreams, expertise and hours to be expended, which it assumes would be necessary to partially advance the FINRA Reference Data System. The below analysis is based on the Comparative Materials, except where alternate / additional, external, third-party sources have been expressly referenced. Bloomberg’s working assumptions have also been identified where relevant.

We have been able to estimate labor costs. We have been unable to determine other costs, such as infrastructure, hardware, cloud fees, etc., that depend on details of what FINRA plans, as well as on arrangements it might already have in place. Consequently, the analysis below reports cost figures only for labor. Because it leaves out non-labor costs, the totals below are certainly a significant underestimation for the overall cost of the project. In addition, we have of necessity left out certain types of labor cost as well; those other labor costs will also make the project more costly than the figures we present below.

For the labor tasks we estimate, the initial costs for the project will be approximately \$8.75 million. Ongoing yearly costs will be at least about \$2.5 million, at least at the outset — which, again, reflects only labor costs.

Many of the costs that we do not estimate here are likely quite significant. For example, consider cloud-provider fees. The extent of FINRA’s existing cloud-provider relationship would drive the initial cloud-related costs for the “(1) the development of a cloud-based user interface for intake of new filings, an application programming interface submission process, and submission validations.” Bloomberg assumes that there is a foundational relationship in place but if there is not, then the one-time cloud provisioning, configuration, and connectivity startup costs could be significant (and would also include labor costs beyond what we cover below). The cloud start-up costs are not just the initial cloud-provider fees but also would include analysis and selection of cloud-provider services for cybersecurity, the provisioning of computing clusters, set-up of the environments and, of course, testing.

In addition, the analysis below is based on an assumption that the data system would not be critical infrastructure. We make that assumption to simplify the analysis, but in reality, the

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<sup>1</sup> Release No. 34-93883, 87 Fed. Reg. 523 (Jan. 5, 2022) (suspending IEX’s November 2021 proposal); Release No. 34-94630, 87 Fed. Reg. 21,945 (Apr. 13, 2022) (IEX’s resubmission with additional information).

data system would surely need to meet the redundancy and business resilience standards that the Commission (as well as the marketplace) would expect for a utility service like what FINRA proposes. Cloud-provider charges would be substantially higher for backup/redundancy configurations.

There are three system workflows that need to be developed for a new issue bond reference data service and two workflows for internal/industry testing, system QA, deployment and the unanticipated unknowns from such a project (service). A framework should include estimates based on:

- (1) Receiving data. This workflow includes tasks (workstreams) for underwriters to submit new issue reference data – such as a new web-based form for manual single and bulk data entry and a new API interface for computer-to-computer submission.
- (2) Quality control. This includes workstreams for FINRA to ensure that the submitted data is accurate. This includes Rule-based Submission Validation—a rules-engine that not only looks at input format/scale errors but also compares values across the 41 fields of required data and validates that their values (and relationships to each other) are reasonable;<sup>2</sup> Data Modification includes underwriter data (web user-interface based and API-based) modification processes; and, Quality Control Feedback Loop—comparison of documents and other sources of data to confirm input accuracy, error handling for rules engine errors and notifying underwriters of data issues.

Due to the brevity of FINRA’s submission, it is unclear what support structure will be put in place, so the estimate for the quality control feedback loop does not include personnel (day-to-day) to answer underwriter time-critical questions, the costs of the planned support infrastructure (instant message, email, phone), if the support will proactively contact underwriters or any costs related to bond researchers that may compare documents or handle technology-generated exceptions.

- (3) Data dissemination. Making new issue reference data available to the public in a timely fashion. While FINRA TRACE currently has web-based capabilities for subscribers to pull certain TRACE data from FINRA TRACE databases, new systems will need to be developed for cloud deployment. As it is doubtful that a web-based data query “PULL” model would meet the requirements for “timely” envisioned by FIMSAC, Bloomberg includes in the estimate for the development of a real-time feed that would “PUSH” new issue data, as it becomes available, for immediate consumption. (If FINRA uses a “PULL” model, that would impact expected demand

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<sup>2</sup> As an example, to illustrate the importance of such checks, Bloomberg’s comment letter explains how, for a number of entries in TRACE, the interest rate for the bond is listed as zero. That value is not realistic; a quality control process for the reference data system would check that a bond has a non-zero rate.



for the service by shifting substantial costs to enterprise subscribers and subscribers leveraging redistributors to receive FINRA’s reference data.)

- (4) Internal testing, Industry-wide testing, fixes and Warranty. QA Defect test and fixing, UAT, Project Management, DevOps, Performance testing and industry-wide testing
- (5) Project Contingency. This is a project budget placeholder for unexpected design issues, overflows, and unknowns at the time the estimate was created. This is a new system and service for FINRA. In typical IT infrastructure builds, estimates include a contingency placeholder ranging from 15 to 30%; there are almost always events and demands that change a project and lead to some increase over the initial project budget. We have used a contingency of 25%, due to comments from FINRA’s SVP of Transparency Services at the FIMSAC meeting that operating such a service would be all new to FINRA.

WORKSTREAM	ROLE TYPE CLASSIFICATION (ENGINEERING, QUALITY ASSURANCE, PROJECT MANAGEMENT)	EFFORT IN PERSON DAYS	FULL-TIME EQUIVALENTS	CONSIDERATIONS
Create a new Web-based Manual (form) new issue entry	Engineers	340	1.4	Consider design, build, test for web development, data modelling, Integration with cyber and info security authentication & authorization framework
Create a New API interface	Engineers	420	1.8	
Rules-based Submission Validation	Engineers/Business Analyst	280	1.2	Implementation of business rules
Data Modification Dealer Error Correction	Business Analyst /Engineers	360	1.5	Error and Data recovery, Integration with cyber and info security authentication & authorization framework
Quality Control	Engineers/QA (Testing)/Business Analysts	320	1.4	Error handling for rules engine errors or notifying sources for data issues
Dissemination	Engineers/QA (Testing)	840	3.6	New Architecture supporting **Push** mechanism to be introduced along with Cloud setup
Industry Wide Testing (Setup of Beta and other Env.)	Business Analyst /Business Users /Engineer	300	1.3	Prod, Non-Prod environment set up, test scripts, initial go-live
Warranty	2 Engineers/1 QA/1 Business Analyst for two months	160	0.7	
QA Defect test and fixing, UAT, Project Management, DevOps, Performance testing.	QA/Project/Product Manager /Business Users	1,706	7.2	
<b>Total Efforts</b>		<b>4,726</b>	<b>20.0</b>	
Project Contingency	25%	1,181	5.0	Accounts for unknowns and overflows
<b>Grand Total</b>		<b>5,907</b>	<b>25.0</b>	
<b>Other costs</b>		?	?	(Hosted) Infrastructure estimates & startup-fees, Redundancy & resiliency, audit

Bloomberg estimates 25 full-time equivalents of effort. Initially, hours of effort were estimated using a more detailed breakdown (below). Hours of effort were converted to effort in person days by dividing by 8 hours of productive coding and meeting hours in the workday. Full-time equivalents were estimated by taking person days and dividing by 236 days/year (52 weeks/year \* 5 days/week -10 holidays and 14 days of vacation + sick time).

To estimate an approximate cost, Bloomberg consulted Glassdoor.com’s<sup>3</sup> reported average salary information for FINRA engineers, product managers and QA analysts and added

<sup>3</sup> See <https://www.glassdoor.com/Salary/FINRA-Salaries-E108071.htm>

estimates for benefits, taxes and facilities<sup>4</sup> to create an “FTE cost allocation.” The framework does not include the labor that FINRA may incur if this is a new or the first time that they have setup a cloud-based system with their cloud provider, or any related infrastructure or any other cloud-related fees (e.g. monthly cost of cloud-based databases, storage, connectivity and clusters), and as noted above leaves out important categories of labor such as personnel for user support. The labor costs detailed above would, on their own, cost approximately \$8.75 million. The infrastructure and the other cost estimates discussed would, of course, need to be added on.

Ongoing annual costs. FINRA estimates ongoing annual costs of approximately \$700,000. The Commission does not have enough information to determine if the \$700,000 includes, for example, new headcount for bond researchers, subscriber support, enhancements, upgrades, maintenance, etc. Typically, services of this complexity, especially when they are deployed with a cloud provider, have a high initial operating cost that slowly declines over time. Budgets for initial on-going costs are high and then decline slowly over subsequent years as the system matures. Year one is usually the highest. It is when most adjustments and revisions are needed. For cloud-deployments, three months after go-live, the cloud-provider and the customer conduct a “FINOPS” review to look at the billing incurred and evaluate whether there need to be design and process-flow changes to improve cloud-service resource utilization to deliver a better service at lower costs. Initially, placeholders for such charges are usually set at 30% of the “total efforts” (the total effort prior to adding a project contingency placeholder) in the initial plan, or 30% of 20 FTE or 7 FTE, around \$2.5 million.

We stress that the ongoing operating costs will also include a substantial amount of non-labor costs such as for software licenses and cloud computing fees; and the “total efforts” labor costs will surely be higher than our estimate above, because we have omitted certain labor tasks (as discussed above). Consequently, the operating costs will be significantly higher than \$2.5 million.

Indirect Costs: The court also expected the Commission to consider costs that “will be borne by market participants” to comply with the rule. An illustrative list of some of the costs that the Commission may consider, but FINRA provides no insight into, are:

- Infrastructure costs associated with connecting to the cloud provider with an API. This cost will also depend on how many connections an underwriter would be required to maintain.
- Information technology costs associated with automated submission, error corrections and feedback loop integration.
- Costs to assemble 41 fields of data for underwriters to transmit to FINRA prior to the start of trading.

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<sup>4</sup> See <https://www.botkeeper.com/blog/a-guide-to-the-estimate-of-employee-benefits>

- Underwriter costs related to quality assurance and policies and procedures updates and compliance oversight.
- Costs to member broker-dealers to locate, assemble and transmit 41 fields of data on foreign debt securities that are underwritten by non-US broker-dealers (non-FINRA members) but that are TRACE eligible (and thus also subject to reporting under the Proposal).<sup>5</sup>
- Costs of IT licenses necessitated by the rule.

Below, we provide more granular details of the tasks that contributed to the labor estimates above, in a template based on the 2019 Staff Guidance and disclosure standards as illustrated by the SEC’s consideration of the IEX filings.

**Receiving Data**

**Workstream: Receiving 41 fields of data from member underwriters.**

According to FINRA’s submission, these would all be \*new\* processes “(1) the development of a cloud-based user interface for intake of new filings, an application programming interface submission process, and submission validations”.

Task	Functions	Role
Cloud-provider fees	Infrastructure and service fees to the cloud provider	
Create a new cloud-based Web-based Manual (form) new issue entry	NEW: Authentication & authorization, cyber and information security framework: Create profile page that includes underwriter identifier (MPID), Designated Data Officer, Contact information (email, phone & phone challenge authentication)	Engineering
	NEW: Create New Web Page for underwriters to manually report to FINRA 41 fields of data.	
	Basic validation of the field/format of data submitted	Business Analysts & Engineering
Create a new API interface	NEW: Define and publish a FIX API for underwriters to report to FINRA 41 fields of data by machine.	Business Analysts & Engineering
	NEW: Create infrastructure with cyber and information security frameworks to receive underwriter data by FIX	Engineering
	NEW: Create software to receive FIX messages with the 41 fields of data with FIX messaging field/format error detection	Engineering

<sup>5</sup> <https://www.finra.org/sites/default/files/2022-12/Regulatory-Notice-22-28.pdf>

	NEW: Validation of unique FIX report - New Issue Database submission routines including basic error detections - unique identifier; ack message that report was received and successfully submitted to the database.	Engineering
Testing	Testing script development and testing	Business Analysts, Engineering & QA

**Quality Control**

Quality of data is paramount in this endeavor. Analysis shows that in 2019 and 2022, the error rate of data submitted to FINRA is unworkably high. According to FINRA’s submission this workstream would all be new development for FINRA and is a significant and difficult part of the “we have some work to do”<sup>6</sup> admission from a senior FINRA executive in Transparency Services at the October FIMSAC meeting.

FINRA cannot simply rely on “(4) enhancements to regulatory programs” or regulatory report cards to improve accuracy rates. Without real-time data accuracy quality control mechanisms and interventions, embedded FINRA errors will corrupt data downstream.

FINRA’s submission provides little insight into this critical workstream, especially whether new head count would be added. Bloomberg employs a team of more than a dozen bond researchers who contact underwriters to obtain, review and confirm bond reference data. This effort is partly automated and partly manual. Accuracy comes from two workstreams: a Rules-based Submission (Data) Validation technology and a Quality Control Feedback Loop that includes a combination of technology and manual quality assurance efforts of comparing documentation with the submitted data.

There are three workstreams to Quality Control: (1) Rule-based Submission Validation; (2) Data Modification and Error Correction; (3) Feedback Loop.

**Workstream: Rule-based Submission Validation.**

Task	Functions	Role
Rules-based submission validation: Business Rules Engine to validate integrity of submissions. This detects conflicts	NEW: Rule development and vetting	Business Analysts, Engineering & QA

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<sup>6</sup> See “Testimony of Ola Persson”, at 0088-02 to 09: “Speaking for FINRA, not the effort on behalf of the underwriters, but speaking for FINRA, we would have some work to do. The technology today does not lend itself very well to this. We would need to create the ability for underwriters to come in, give us partial information and have the ability to edit their own records, et cetera. Today, that is a -- as I said, it is a bit of a one-way street.”

among values submitted rather than the format of the values submitted in the “Receiving 41 fields of data” workstream. This workstream occurs prior to database submission and a “data accepted ack” is sent when data is accepted by database.	NEW: Rules Coding	Engineering
	NEW: Rules script development and testing	Business Analysts, Engineering & QA

**Workstream: Data Modification.**

Task	Functions	Role
Web-based Query & Modify for resubmission to validation workstream	NEW: Dealer Error Correction via web portal	Business Analysts & Engineering
NEW: Cancel/Modify via API for resubmission to validation workstream	NEW: Define and publish a FIX API for underwriters to report data (cancel) correction.	Business Analysts, Engineering & QA

**Workstream: Quality Control Feedback Loop.**

Task	Functions	Role
Web-based error monitor	Web-based monitor of submitted data requiring quality control attention (typically from rejected submissions from bulk mode insertion and as a manual compliment from API submission)	Business Analysts, Engineering & QA
Automated alerts	Automated alerts of rejected submissions	Business Analysts, Engineering & QA
Bond Researchers	Quality assurance from confirmation of accuracy of submitted data with bond reference data documents; Managing error detection resolution process by coordinating manual interaction with underwriters and monitoring timely corrections from automated rejections; Manage T+1 accuracy checks and issue notices of correction to the public	Quality Assurance
T+1 validation and correction	Source secondary information sources T+1 for quality assurance and Issue correction and update notices	Business Analysts & QA

## Data Dissemination

**Workstream: Making new issue reference data available to the public in a timely fashion.** FINRA TRACE has web-based capabilities for pulling TRACE data. Uncertain if these are new tasks because of the cloud-development. As explained before, it is not clear how a web-based PULL model satisfies the requirements for “timely” envisioned by FIMSAC or FINRA is contemplating a real-time feed which would PUSH new issue data as it becomes available to enterprise customers for immediate consumption.

Task	Functions	Role
Web-based	PULL Data: Web-based manual database query and CSV download options	Business Analysts & Engineering
	PULL Data: WEB API database query and machine-readable CSV/XML/TXT file downloads	Business Analysts & Engineering
	PULL Data: End of day batch file	Business Analysts & Engineering
Real-time feed	NEW: PUSH: Real-time FIX API feed	Business Analysts & Engineering

## Internal Testing

**Workstream: QA Defect test and fixing, UAT, Project Management, DevOps, Performance testing.**

Task	Functions	Role
System wide testing Beta	QA Defect test and fixing, UAT, Project Management, DevOps, Performance testing	QA, Project and Product Mgr, & Business Users
System wide testing Production	QA Defect test and fixing, UAT, Project Management, DevOps, Performance testing	QA, Project and Product Mgr, & Business Users
Project contingency	Budget for accounts for unknowns and overflows	Product Mgr & System Architect

## Industrywide Testing

**Workstream: Industry would need beta and production environments for testing.**

Task	Functions	Role
Environments	Set up Beta (non-production) environment for initial delivery and later for testing enhancements, delivery of new web-based formats, real-time fix API	Business Analysts & Engineering
	Create process to establish and test connectivity to beta and production systems	Business Analysts & Engineering

	Web Interface and API Connection Security testing plan	Business Analysts & Engineering
	Develop preferred test script(s)	Business Analysts & Engineering
Go-live	Initial Go Live - production test script	Business Analysts & Engineering