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November 12, 2020 Via Electronic Mail (rule-comments@sec.gov)

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

Re: NMS Plan Regarding Consolidated Equity Market Data[1] File No. 4-757 (Release #: 34-90096)

Dear Ms. Countryman:

On behalf of Data Boiler Technologies, I am pleased to provide the U.S. Securities and Exchange Commission (SEC) with our comments on this release concerning Consolidated Equity Market Data.

We applaud the SEC for the order directing the Exchanges and the Financial Industry Regulatory Authority (FINRA) to submit a New National Market System (NMS) Plan regarding consolidated Equity Market Data[2]. The aim[3] to "make sure the governance structure reflects the way the world looks today and has a greater diversity of views that eliminates some of the conflicts that have potentially been guiding plans up to the present moment" is admirable. However, we have significant **reservations and concerns with the "CT Plan" as provided by the Exchanges and FINRA**. Instead of polarized and continuous arguments between the self-regulatory organizations (SROs) and the industry, we would like to present a **viable third option that will positively address differences and grow the overall pie**.

Before we discuss new innovations that will spur economic opportunities to advance the market ecosystem, let's look at contexts of the issue, urgency of the matters, what this reform is about, and our concerns with the CT Plan as proposed.

A. Context of the issues

Per our comments submitted in May 2018[4], we have showcased some key market phenomena, including:

- Market data price increases serves no wealth creation or capital formation purpose for the overall economy. It is a rent-seeking behavior[5] of the exchanges, and an added cost to market participants. Information that would otherwise be available to all in synchronized time has turned into proprietary data subscriptions, which create inequity.
- In maximizing trade flows for their own venues, SROs are stepping over each other, similar to radio spectrum interference (the public suffers when rights are not clearly delineated).[6] SROs' rivalry and rent-seeking behaviors may inadvertently compromise the public's interests (from perspectives of both price and difficulties in navigating the markets). Since SROs are quasi-regulatory authorities, their competing interests will not be easily resolved through commercial deals or through mergers and acquisitions.
- Some of these costs become almost a necessity for firms wanting to remain competitive. They are added transaction costs or economic resource wastage. Sad to see valuable resources wasted in further market-convoluting initiatives and counter measures. Such a vicious cycle may be considered as rent-dissipation[7] resulting in lose-lose situations.

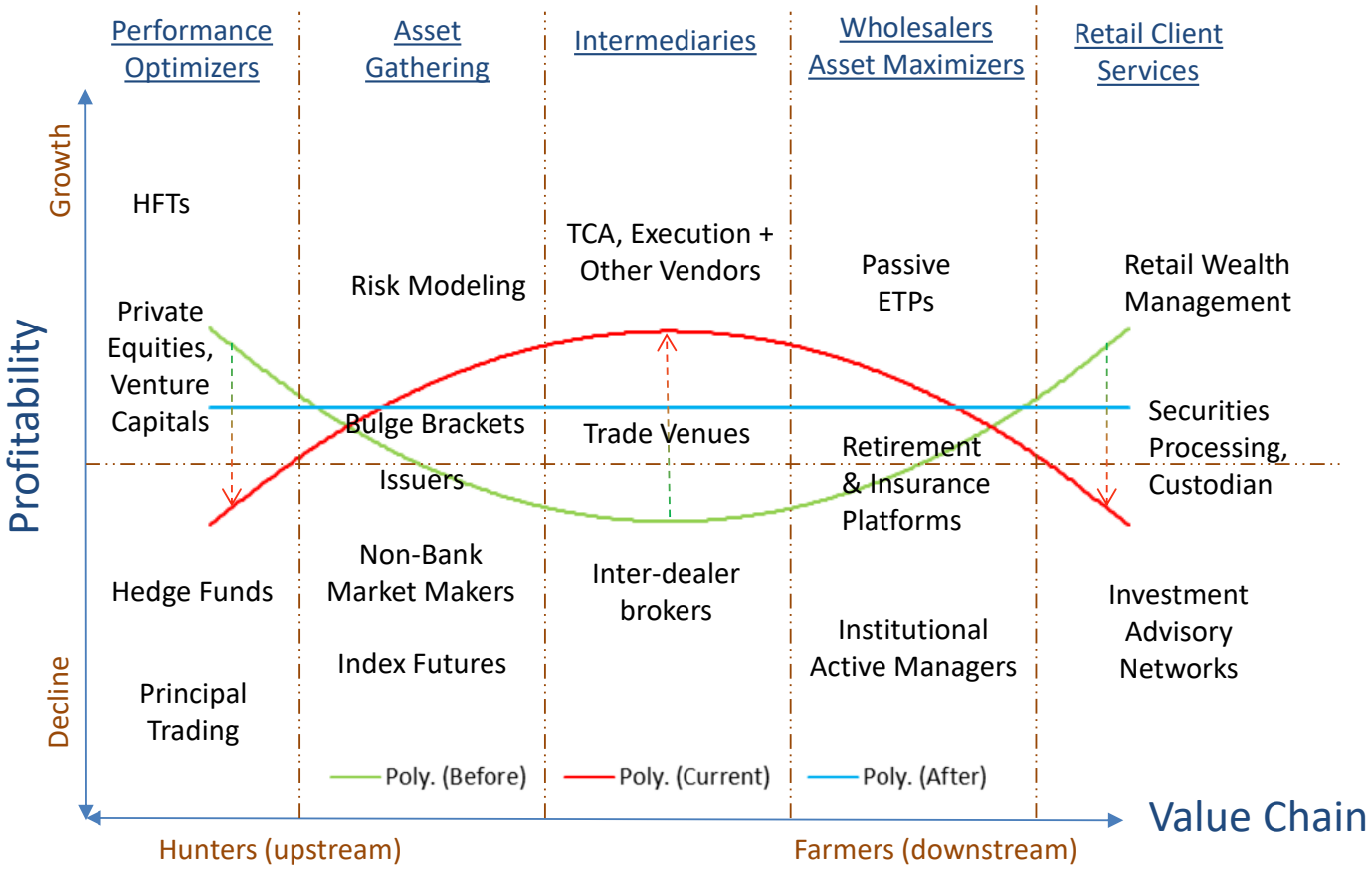
[1] https://www.sec.gov/rules/sro/nms/2020/34-90096.pdf
[2] https://www.sec.gov/rules/sro/nms/2020/34-87906.pdf
[3] https://www.tradersmagazine.com/traders-feature/equity-market-data-plan-aims-at-conflicts-of-interest/
[4] https://www.sec.gov/comments/s7-05-18//s70518-3631338-162376.pdf
[5] Problem of rent seeking behavior as pointed out by an empirical research – Sale of Price Information by Exchanges: Does it Promote Price Discovery – *"Exchanges optimally restrict access to price information by charging a high fee so that only a fraction of speculators buy their proprietary products."* Would that constitutes as unreasonably, unfair and/or discriminatory?
[6] https://iea.org.uk/wp-content/uploads/2016/07/THE%20MYTH%20OF%20SOCIAL%20COST.pdf
[7] https://econpapers.repec.org/article/eeeecolet/v_3a141_3ay_3a2016_3ai_3ac_3ap_3a8-10.htm

- The less successful aspect of NMS is the insufficient coverage of how High Frequency Trading (HFT) interacts with the allocative function of price discovery.[8] Rights are not appropriately delineated as the National Best Bid Offer (NBBO) favors price-time priority. Market-timing and financial engineering abuses are not effectively curbed. Agency problems do exist as research has shown "market-makers are willing to reduce or eliminate the execution advantage to exploit or abuse the information advantage".[9]

B. Urgency of the matter

The market data issue on hand is like the **Animal Farm**,[10] i.e. every constituent wants to negotiate to be "more equal". To be objective and holistic, any significant market reform ought to look at the **smile curve**[11] (i.e. a graphical depiction of an **industry's value chain**). It helps assess market evolution or would be used to check if a proposed reform action in one sector may have chain effects directly or inadvertently cascade to affect the profitability mix of other market participants.

Figure 1 below is our attempt to construct the industry's Smile Curve. It is substantiated by the analysis in Appendix I.



The green line in ***Figure 1*** represents the time before digitization disrupted the inter-dealer brokers' floor based trading model. The red line represents today's structure of a pure speed "drag race". A healthy industry should have

[8] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3097723
[9] http://sbufaculty.tcu.edu/mann/alonefeb99.pdf
[10] https://www.linkedin.com/pulse/animal-farm-market-data-negotiate-more-equal-kelvin-to/
[11] https://en.wikipedia.org/wiki/Smiling_curve

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the curve in a U-shape. The beginning (the rarely found strategies/ engineering skills/ intellectual properties) and the tail-end (multi-facets fulfillment/ services/ user experience) of a smile curve are supposed to command the highest values-added than the middle part (assembly/ matching/ intermediate). The emphasis is: respective constituents along the value chain should be able to earn profits in accordance to values they contributed. Unfortunately, our capital markets' **smile curve has turned into a frown**, an upside down U-Shape.

Please refer to this article[12] that explains the ups and downs in profits along the value chain. In short, NMS opened up competition; Exchanges as for-profit companies no longer enjoy their '**economy of scale**'. They relied on '**economy of scope**' to discover new revenue streams. No doubt that selling data and connectivity are profitable for the Exchanges as long the market structure is over emphasized on "speed as key trading success".[13] This "drag race" is causing a 'swell up' in the middle part of the smile curve. One must rely on many liquidity sourcing, execution services, transaction cost analyzer and other tools to navigate in the fragmented markets. Indeed all become **barriers of entry**.

Over time, many fled the market[14], some undergo consolidation, and more seek ties with trading venues and other players in the market causing a convolution of rebates and **potential conflicts of interest**. If this market structure problem is not addressed as a **top priority now**, it will exacerbate the further "frowning" of smile curve. In addition, foreign markets may overtake our US capital market's leadership position; our market and economy would shrink.

See E and F in later parts of this letter for our suggestion to "flatten" the frowned smile curve and return to a more healthy industry's value chain, i.e. the blue line.

C. What this reform is about

We envision a sound and collaborative market data governance reform. More emphasis needs to focus on the economic dynamics and the injection of essential technology innovations to spur new opportunities. Leading to healthy growth of the overall pie, and enhanced market integrity. ***Table 1*** below describes the "should" and "should not" about this reform.

It is about	It is NOT about
divergence between private and social costs	forcefully taking something away from the Exchanges
ownership rights, usage rights, exclusivity (IP), term limits, transferrable/ alienable rights, conflicts of interest, etc.	adding bureaucratic processes
discourage inflicting damage on others (ecosystem degradation), and rewarding provision of public goods	whether HFTs are good or bad, pros/ cons of passive versus active management, favoring new/ old venues
evaluating one state of resource allocation with another, ensure core data evolves alongside broader ecosystem	continuous arguments, litigation fights, or other wastes of economic resources
grow the overall pie, avoid further "frowning" of the smile curve, + innovation to spur new economic opportunities	destructive behaviors against rivalries, who occupies more voting seats or dictate the agendas/ info access
striking covenants with constituents across tiers	private party among elites
enforcing covenants without constant policing by the SEC, Balance/ Pareto Condition, equality "Have" vs "Have Not"	distrust among constituents, calling the SEC to baby sit every dispute

[12] https://www.linkedin.com/pulse/smile-curve-changes-securities-value-chain-evolves-kelvin-to/
[13] https://www.sec.gov/news/speech/2014-spch060514mjw
[14] http://public.econ.duke.edu/~boller/Econ.471-571.F18/Hedge_Funds_Retreat_WSJ_100818.pdf

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D. Concerns with CT Plan as proposed

While we recognize the Commission has the best intentions to enhance governance of the Securities Information Processors (SIPs), the Exchanges and FINRA fail to provide a workable proposal to achieve that goal. We further argue that if the CT Plan is approved "as-is" it would result in adverse consequences, such as dysfunctional SIP management, giving a permanent advantage to elite players, and behaviors potentially contrary to the public's best interest. Note: our definition of public's best interest goes beyond subscribers and users of SIPs.

Table 2 below highlighted our **key concerns with CT Plan**.

Areas of Concerns	**Shortfall/ Weakness/ Possible Exploitation + Suggestions**
§5.4(b)(iv) stated that "Each Member shall (a) transmit all Transaction Reports in Eligible Securities to the Processors as soon as practicable, but not later than 10 seconds, after the time of execution,…"	Thousand trades can occur in 50± millisecond. 10 seconds tolerance is unacceptable. One would only do the minimum If specify an 'up time' standard (implying chance to frequently exploit). Would proprietary feeds experience the same delays? This proves the need of time-lock to securely synchronize the availability of proprietary feeds and SIP(s).
Plan Structure as an LLC Agreement, Organization and Membership of LLC	Why an LLC instead of a non-profit if the SIP is defined as public utility? If the SIP is 'Free Enterprise', 2/3 and 1/3 voting rights may result in a divide along partisan line and only passing trivia matters. The division would lead the SIP to run astray because of the bureaucracy. A true overhaul to the market ecosystem must access the divergence between private and social costs and discover the appropriate balance/ Pareto Condition.
Responsibilities, Composition and Selection of the Operating Committee (OC)	The OC with diversified representation should be like 'Legislative Branch' of government to shape the boundaries for which 'Executive Branch' or management to carry out the plan. The SROs' current proposal is the opposite. Suggest we learn from empirical economic samples[6] – "Theory of share tenancy" and "Fable of the bees" to resolve arguments and promote fair, reasonable, and non-discriminatory (FRAND) principles.
Processor Functions + Responsibilities	Article V, Section 5.1 is insufficient, the following should be added at a minimum: (1) continuity/ disaster recovery; (2) expand functionalities; (3) innovate, promote FRAND, and enable average investors to participate in the market with minimal to no "friction"; (4) strike a balance and discourage inflicting damage on others; (5) analytical support for CAT. To be consistent with §11A(c)(1)(B), time-lock should be mandated to uphold FRAND principles. In addition, a 2.5 time connectivity disparity ratio should be maintained by the SROs while giving SIP(s) the fastest connection (core data evolves alongside broader market ecosystem).
Administrator Functions + Responsibilities	SROs may not care to discuss any unaudited matters with non-SROs, thereby pushing the matter down the road until actual audits are performed, at which time the information may no longer be relevant. Alternatively, unaudited information may be claimed as confidential information, preventing appropriate access. New Administrator should not just be any major accounting/ law firm, but CT Plan should give preference to firm that can assist the OC to review the divergence between private and social costs contribute to getting the industry's buy-in.

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Areas of Concerns (continue)	Shortfall/ Weakness/ Possible Exploitation + Suggestions
Member Observers (MOs)	MOs should be limited as to not stack the deck with several MOs from a single SRO. It is unclear whether the "observer" role would be like the Media. If yes, MOs should not be Covered Person (i.e. no authority to access confidential information, but as role like the Media, they would gather intelligence and link the puzzle pieces together in crafting breaking news to put spotlight on dysfunctional government). It is good to keep thinking about the appropriate checks and balances. That being said, negative tension or arguments are often the results of resource constraints. Therefore, it is better to solve the economic incentives challenge and realign the market to grow the overall pie.
Subcommittees	Subcommittee chair should not be "selected" by particular person (neither the chair from SRO voting reps nor MO), but through a "voting process" by team members of the subcommittee. CT Plan should permit Non-SRO Voting Reps to serve as chair, co-chair, or vice-chair of any subcommittees. Further, we are concerned that any discussed matters in subcommittee meetings becoming work product/ intellectual properties of the CT Plan LLC company.
Exculpation, Dispute, Dissolution, etc.	Both SROs and Non-SRO representatives wanted exculpation and indemnification clauses to limit their liabilities. Yet, the public suffers from potential failure of the CT Plan and has no one to hold accountable. Since Non-SROs Reps are individuals, their ability to shoulder liability is a concern. Possible dissolution or "handoff" to let the CT Plan runs astray would potentially favor profitability of proprietary feeds, while SROs may bare no adverse consequences. Right to receive income generated by use of good must accompany with risks and corresponding liabilities. SROs should be held more accountable or else their entitlement to income should be cut.
Policies, Disclosures, and others	The policies as currently proposed seem to require constant policing and audit. Disclosures are not sufficiently transparent. Stipulations agreed by non-SROs Reps at the table may only represent top tier players' views but lack endorsement by tier 2 or 3 firms in respective sectors. Existing encumbrances' interest seems to be placed above public interest when the proposal omits to consider those previously fled the market and/or potential new entrants. Given the dominant players may have disincentive to uphold the non-discriminatory principle and exacerbate the inequality between the "have' and "have not", policy makers must review barriers of entry and reduce frictions to market participation.

Please see later section for our detailed responds to the Commission's specific questions.

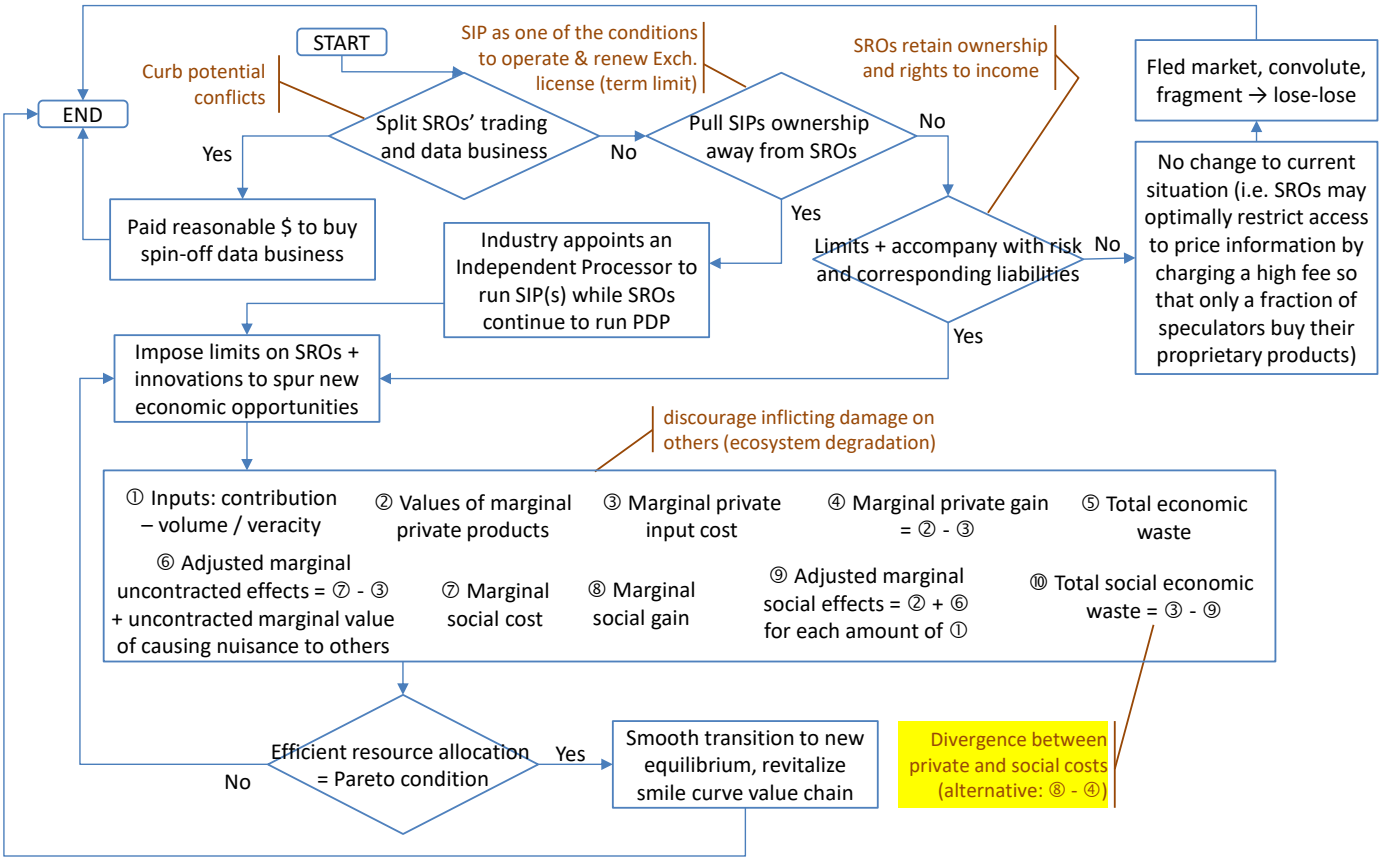
E. Divergence between private and social costs

Private property rights and 'Free Enterprise' are what we as Americans are proud of and distinguish our US capitalism from centrally planned economies. Ownership rights do not mean usage of private property without restrictions. E.g. One can say this is my private property and I can burn it down if I want; however, if the burning interferes/ affects the neighbors that would be prohibited.

Should the right be perpetual or limited term life? Is it transferable/ alienable? There is the question about rent dissipation over common property. If Exchanges have rights to income, then they should have no exculpation clause to escape related liabilities and must carry the burden of not using such property rights outside of permissible limits. The SEC does have the right to impose appropriate limits in our opinion.

Again, as we emphasized in part C, it is not about forcefully taken something away from the Exchanges. Even if the industry is negotiating with the Exchanges under a worst alternative to negotiated agreement (WATNA) – i.e. the possibility of the SEC mandating a split[15] of Exchanges' trading and data business to curb potential conflicts, we trust the market mechanisms would determine a settlement price for rights that SROs may willingly give up.

Figure 2 below showcased paths toward assessing the divergence between private and social costs:



Aside from WATNA, the 2nd diamond shape the industry may push for is pulling SIPs ownership away from the Exchanges. Possible supporting arguments would be – the SIP is an obligation that SROs must fulfill to operate as stock exchanges in the US. By such definition, the SIP would no longer be Exchange's private property but the usage right of

[15] https://www.linkedin.com/pulse/split-told-how-govern-kelvin-to/

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market data by the Exchange is "subjected to conditions". Also, under this second scenario, Exchanges would no longer entitle to revenue from SIP while bearing burden of SIP as part of the cost (up to certain agreed upon amount) to operate an Exchange in the US. The SEC may also set term life limit on Exchange's medallion and possibly use SIP's performance as part of an evaluation to renew Exchange's license. When that happens, the industry would be free to appoint their desired SIP processor to be in competition with Exchanges' proprietary data products (PDP).

Appropriate service level agreements need to be drafted (e.g. synchronized availability of secured SIP and PDP, give SIP the fastest connection and maintain a maximum disparity ratio < 2.5 times). If Exchanges want to retain their right to SIP income (***Figure 2*** the 3rd diamond shape), then they must subject themselves to accompany risk and corresponding liabilities in running such business without exculpation. They would be requested to comply with SIP usage terms, such as the two mentioned before plus possibly the following(s): (1) non-exclusivity to the use of SIPs and/or (2) the right to transfer only applies to direct access subscribers (i.e. subscribers would be allowed to freely share market data with other affiliates within their same group or up to certain number of copies like copyrights over song usage within same family). This is indeed the Competing Decentralized Consolidation Model (DCM)[16], which we argued the approach as impractical.[17] Competing consolidator is indeed an intermediary between suppliers and users adding a layer of cost to the overall system causing further "swelling" on the middle part of the "frowned" smile curve (see the red line in ***Figure 1***).

The CT Plan as currently proposed does not impose usage terms, such as the two essential requirements (time-lock and connectivity disparity ratio) mentioned before. Thus, it should be rejected. If this 3rd scenario is unable to impose appropriate limits on SROs' usage right and if denial of accompany risks and corresponding liabilities in running data business, then it is meaningless whether the Non-SRO representatives gain seats at the OC. This is because of for-profit SROs may "optimally restrict access to price information by charging a high fee so that only a fraction of speculators buy their proprietary products".[5] End up the ecosystem remains status quo[18] or worst the destructive lose-lose behaviors would shrink the market and economy.

An example of possible lose-lose behaviors may be like similar to how free MP3 downloads in the music industry has disrupted the Record Label companies. Similarly, Exchanges claim their right over market data arises from transformation of data and the value-added function they provide, plus certain IP patent rights. Market participants may claim transformation of data into "trade signals" and provide other value-added function to claim the right to "freely" stream these "trade signals". With all due respect, this kind of litigation fight, similar to the music industry's litigation fights could be avoidable if the constituents are willing to come together to consider new possibilities to "grow the overall pie" and learn from the music industry (see part F next for an elaborated discussion of the opportunity).

For a win-win solution, one must understand the divergence between private and social costs (i.e. ***Figure 2*** the large ① - ⑩ box). According to Dr. Steven N.S. Cheung's empirical economic study – The Myth of Social Cost[6],

"Every individual action generates a spectrum of effects, each of which may impose effects upon others… method of evaluating that action…is to balance the cost of the action incurred by the performer against the sum of the values of its generated effects, including those contracted and those not. Whether the effects command a positive value or a negative value, the Pareto condition is satisfied whenever the cost and the return balance at the margin."

[16] https://www.sec.gov/comments/s7-03-20/s70320-7235196-217113.pdf
[17] https://www.linkedin.com/pulse/competing-decentralized-consolidation-model-impractical-kelvin-to/
[18] http://www.people.fas.harvard.edu/~robinlee/papers/ExchangeComp.pdf

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The smile curve as shown in ***Figure 1*** illustrates the "spectrum of effects", which is substantiated by the analysis in Appendix I. For Pareto condition, it is referred as "a state where it is no longer possible to re-allocate the use of resources so that one individual will gain without loss to another."

Suppose an Exchange can increase its output by increasing the input of resources ① in ***Figure 2*** (i.e. the industry's contribution of order flow 'volume' and narrowing the spread – 'veracity'). ② = the incremental or marginal value of the Exchange's output (trades matching). The law of diminishing returns dictates that the value falls as input increases. ③ = cost of the action incurred by the performer (i.e. the Exchange) of employing additional (marginal) units of input.

The sum of values of its generated effects = ⑨ Adjusted marginal social effects. ⑨ = ② + ⑥ for each amount of input (①), whereas ⑥ = Adjusted marginal uncontracted effects. Negative signs in ⑥ indicate that the adverse effects of Exchange's alleged 'rent seeking' behaviors[5] may be damaging/ causing harms to market participants (e.g. increase cost to subscribers of proprietary feeds and competitive disadvantage for SIP users) and others.

"Others" as mentioned in previous paragraph refer to as uncontracted marginal value of the adverse effects turning into nuisance affect the general public that do not have direct stake in the US public market equity trading (e.g. foreign/ private markets, OTC, option, futures, and derivatives trades, as well as academia). Indeed, we voiced concern about DCM[16] that "fees for non-equity PDP will go up rather than go down because demand is inelastic".

Divergence between private and social cost (total social economic waste) ⑩ = ⑨ Adjusted marginal social effects - ③ Marginal private input cost. Alternatively, a quicker way to calculate the divergence number is the difference between ⑧ marginal social gain and ④ marginal private gain. The two calculation methods can be used as a cross-check to make sure that Exchange would not be overly claiming their contributions to social gains and be fair to all stakeholders and the general public. **The objective of this exercise is to discourage inflicting damage on others or ecosystem degradation**. We recommend the SEC, the SROs, and the industry to engage with us for a full-fledged study to discover the optimal balance/ Pareto condition.

F. Innovations that spur new economic opportunities

Ever since the HFTs rise in power in the electronified equity market which over emphasizes speed, "drag race", the overall performance optimizers sector becomes less dependent on differentiation factors (information advantage) to earn their alpha. HFTs use their economy of scale (to build large infrastructure, microwave towers) and economy scope (relationships with others in the value chain, e.g. the consortium of MEMX's sponsors) to make small profit margin out of large volume of trades. This phenomenon **does not provide enough reward for originality of trade strategy**, which attributes to many hedge funds (HFs) and proprietary trading firms fleeing the market.[14]

Ever since NMS opened the competition of trading venues, Exchanges turned their focus on using their economy of scope and information advantage to discovering new revenue streams (e.g. selling data/ connectivity) in compensation for market share loss to new entrances (e.g. dark pools, internalizers, and new exchanges). Indeed, **middlemen's profits will thrive when buy- and sell-side are more reliance on intermediaries** and execution/ liquidity sourcing vendors to navigate in convoluted and fragmented markets. We do not want to undermine the past contributions of these **alternative trading systems (ATS) and 'tool' sellers** that bridged many gaps in NMS. Yet, their existence should be treated more like a "borrow capability", the longer the industry continues to rely on their addictive products, the harder it is towards healing/ recovery to a healthier stage. Hence, they **are roadblocks to this market structure reform**.

We envisage NMS 2.0 to be lit and transparent, uphold FRAND principle and promote market integrity. To achieve objectives as set out in part C, let's return to the smile curve in ***Figure 1*** and the analysis shown in Appendix I. Reference to Table ii e) and f) are in essence a redistribution of wealth administer by the Exchanges that using a mixture of **access fees, payment for order flow, etc. to repaid the industry while extracting 'rents' on market data and connectivity**. As shown in the 'Current Score' column, Asset Gathering firms (particularly Bulge Brackets with 32 mil super tier rebate) and big Retail Platforms seem to be doing okay with a net zero score. Obviously, the race towards zero commission[19] would push Retail into the negative zone. Non-ETP Wholesale Asset Maximizers, and Performance Optimizers (particularly HFs and prop trading) suffer the most pain under this impending market structure.

If without the '**redistribution effect**', intermediaries would still have advantages at 6.0 point (Table ii 'Versus' column), while a more even score for other constituents (-1.0, -2.0 towards to the two tail ends; NOTE: the cumulative 'scores' for all five Sectors = zero). The current way that different constituents are "contributing" (i.e. a) order flow [volume] + b) price discovery narrowing the spread [veracity]) versus the values they "extract" (i.e. c) speed [velocity] and d) Breadth – depth of book, auction info, odd lots [variety]) plus the "redistribution effects" mentioned earlier, is not a fair exchange. The appropriate realignment (Table v) should be: replacing the ecosystem's 'Speed*' (or 'Current*' information advantage with the average of a:b (i.e. the respective data values contribution) then adjusted for new economic opportunities spur by technology innovations.

In talking about technology innovations, we advocate for learning from the music industry. The Music Modernization Act[20] is a big step towards bringing music laws to the modern age. It ensures artists are paid more and have an easier time collecting money they are owed. Obviously, the music industry has gone through years of litigation fights with companies like Napster before arriving at today's equilibrium (both Artists and Record Label Companies make more money as the Music industry migrated to streaming platforms. Users have been happy with streaming subscriptions while buying less Vinyl and CDs that save money and storage space). We are not the only one advocate for learning from the music industry. Indeed, an EVP at CBOE also voice the idea out during SIFMA's equity conference this year.

Discovering alpha or hidden trade patterns and gauging the right market timing are hard. Sadly, the related profits are short lived because latency arbitrage takes a significant piece away. Think about all the benefits of playing trade order sequences as music to your ears.[21] Below is what we envisage, the idea is similar to Quantopian's strategies of **enabling the crowd**:

1. An open platform or new trade terminal (see Appendix II) where "trade signals" are streamed and shared. There will be a **community library** for some basic trade patterns that everyone can use to monitor market activities.
2. Users can also use these basic patterns and other provided composing tools to derive their own trade strategies. It is **like a music editor** that even teenagers would be able to tweak audio spectrum to mix or create jingles.
3. They can then put their assembled strategies to a provided **simulation tool for back-testing**. One can choose to share newly identified patterns (in full or in part) with the crowd and be rewarded for their contribution.

[19] https://www.wsj.com/articles/why-free-trading-on-robinhood-isnt-really-free-1541772001
[20] https://www.congress.gov/115/bills/hr5447/BILLS-115hr5447rds.pdf
[21] https://www.databoiler.com/index_htm_files/Databoiler%20MS11%20Propel%20Reform%20Promote%20Integrity.pdf; https://www.databoiler.com/index_htm_files/Databoiler%20MS12%20Profit%20from%20MP3.pdf

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4. The more complete pattern they share the more likely to attract **mass subscriptions for higher royalty revenue**. Or they can choose to share only a small part or delay the sharing until their perceived alpha is optimized.
5. Interested parties may **listen to these samples before subscribing**. Given everyone's portfolio may be a little different, but some minor alternations could possibly unleash tremendous values.
6. This library of both free and subscription-based patterns would grow over time. It will **shorten development time** and get the industry excited in race to **reduce unknown unknowns** (98% → 99.9% incremental improvement is better than 85% → 90% because it is 95% error reductions vs just 33%).
7. Think of it as **equipping the crowd of average investors**, so they have a **reasonable chance to compete** with the professionals. Hence, make the stuck-at-home trading phenomenon since the pandemic sustainable.[22]
8. Think of it as **way to replace loss revenue since the race towards zero commission**.[23]
9. Think of it as avoidance of regulatory burden from overly prescriptive rules/ standards[24] that may take forever to achieve. Let us **boil down essential improvements and keep the rest simple and transparent**.
10. Think of the boundless possibilities to **reduce unnecessary complexity/ barriers** within the liquidity-removal fee avoidance wheel,[25] shake up the current straight line "drag race" with a little uphill/ downhill/ curvy, so the market will reach new equilibrium for "speed heterogeneity"[26] (through the use of time-lock synchronization and altering format for higher data compression ratio) that improve liquidity, grow the pie and everyone gets a bigger piece.

There is **money on the table**. Crowd driven technologies would spur new economic and business opportunities, or at least as FCA's research[27] has cited, "eliminating latency arbitrage would **reduce the cost of trading by 17%** and that the total sums at stake are on the order of $5 billion annually in global equity markets." We believe enthusiasts would pitch in to derive value. Exchanges and other early adopters could become the next Spotify, Pandora, Apple Music, etc.

We expect these innovations would be most beneficial to Retail Client Management firms with a 1.5 point gain to '^ Info Advantage' in Table v, follow by Performance Optimizers get 1 point, and 0.5 point for Asset Gathering firms. On the other hand, "tools selling vendors", including those building microwave towers, might suffer (1.5 point worse off) if they do not transform to support this reform initiative. The initiative is a **desirable outcome for the overall industry** because market participants would trade more easily at lit venues without these "borrow capabilities"/ burdens. Wholesale Asset Maximizers would enjoy increased assets under management the most through realignment (1.7 point in Table v). We foresee savings for all market participants in trade transaction costs when ecosystem is no longer a "drag race".

In turn, we can to shift the Table i "Information Advantage" from the current's emphasis of 'pure speed' to a more well-balanced mix that marked with ^. NOTE: we are holding sector's economy of scope and economy of scale at "constant" here for simplicity shake to compare "Current" ecosystem versus the future stage "After" implementation of our suggested positive changes. The net result would yield a flattened smile curve (i.e. the blue line in ***Figure 1***) that

[22] https://www.bloombergquint.com/markets/robinhood-craze-born-in-america-is-now-moving-stocks-everywhere
[23] https://www.ft.com/content/4a439398-88ab-442a-9927-e743a3ff609b
[24] www.efama.org/Publications/20%2006%20Joint%20associations%20Global%20Memo%20on%20Market%20Data%20Costs.pdf
[25] https://twitter.com/JustinRBLT/status/1295406406942822401/photo/1
[26] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2787542
[27] https://www.fca.org.uk/publication/occasional-papers/occasional-paper-50.pdf

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inched **upward in profitability for everyone in the value chain, except the tools sellers**. This is much healthier than the impending upside-down smile curve.

Mandate the use of time-lock encryption and enforce a maximum connectivity ratio to give everyone a secure and synchronized start line, which prevents 'tapping the wire' issue. Some market participants may still want to do co-location for advantage in entering trade orders (analogy of Thomas Peterffy's robotic arms/ keyboard). **Our goal is NOT about completely denouncing 'speed'** as one of the positive attributes to a resilience modern market ecosystem. We realign the 4Vs[28] for purpose of a healthier ecosystem (e.g. **discourage conflicts/ exploitation and allowing 'gas and brake paddles' to function properly**).

The overall pie will grow based on an increase in trade volume, easier to trade and discovering liquidity at lit venues, better price and more depth for everyone, lower transaction cost (due to less reliance on unnecessary tools), and the market would be safer as the number of unknown unknowns will be reduced. Ultimately, crowd economy will prevail (once again through MP3 sharing) by returning power to the **People,** who seek higher **Purpose**, at a common **Platform**, encouraging **Participation**, and driving **Productivity** growth!

G. Other Remarks

We are deeply concerned about the NYSE's wireless fee schedule proposal.[29] It seems like a **betrayal of the public's interest in favor of a 'predetermined' competition among elites**.[30] While acknowledging that the Exchange has made certain changes to the original proposal, such as withdrawing Partial Amendment No. 2 and replacing it in its entirety with Partial Amendment No. 3, there are still significant gaps.

Co-location ≠ Latency equalization ≠ Market data available Securely in Synchronized Time

Selective listening to only the elite firms and the low latency data vendors is a huge disrespect and disregard of public voices. It is naïve to blindly believe in competition using microwave[31] , laser[32] , and quantum[33] technologies. The resulting effect only exacerbates the gap between the "haves" and "haves not". Besides, quantum computing may require a different 'brake paddle' for secure market data encryption.[34] As long as NMS remains a "drag race", the rich will access connectivity that is not reasonably affordable to the average investors.

We disagree with the SEC when it said that "the Commission believes the Exchanges have demonstrated that they are subject to significant competitive forces …" when empirical research[5] and available technology[35] suggest otherwise! Once this principle is weakened to anything less than a secure and synchronized start line covering both proprietary feeds and the SIP, then all hell will break loose. Exchanges may no longer be required to "demonstrate that the terms of their proposal are equitable, fair, and not reasonably discriminatory" based on fulfilling the preceding condition of "subject to competitive forces" when they are not. The fight to break up Exchanges' alleged monopoly power over market data must continue.

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[28] https://www.ibmbigdatahub.com/infographic/four-vs-big-data
[29] https://www.sec.gov/rules/sro/nyse/2020/34-90209.pdf
[30] https://www.DataBoiler.com/index_htm_files/DataBoiler%20SEC%20NYSE%20Wireless.pdf
[31] https://www.six-group.com/exchanges/participants/participation/connectivity/microwave_network_en.html
[32] https://www.quora.com/Why-is-laser-communication-faster-than-microwave-or-radio-communication
[33] https://windowsontheory.files.wordpress.com/2017/06/cnsa-suite-and-quantum-computing-faq.pdf ; https://altaonline.com/quantum-computing-timothy-ferris/
[34] www.zdnet.com/article/quantum-computing-may-make-current-encryption-obsolete-a-quantum-internet-could-be-the-solution/
[35] https://www.linkedin.com/pulse/market-data-available-securely-synchronized-time-kelvin-to/

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Be skeptical of those who advocated for "Service Indirection"[36] (they suggest that "the services could wrap different levels of functionality, such as existing SIP and depth, including future functionality such as distributed SIP, snapshots and conflation").[37] While we echo the desire for faster evolution and less client impact we are uncertain if the path as prescribed achieves the needed cure. We do understand "indirection" or "dereferencing" as way to multi-task in computing. That being said, real-time market data should still reference to an atomic clock (e.g. NIST) in order to make market data available securely in synchronized time.[35] Regardless of wireless connection or ports for different prop feeds, or SIPs, they should all have time-lock encryption to make sure no premature decryption of data. Forsaking a synchronized start-line is indeed unreasonable and against public interests.

Besides, "wrap" may merely mean adding a header or trailer to SROs' data feeds to state which Exchange this feed is originally sourced from, before passing downstream to a subscriber or SIP user. That is one of the easiest and cheapest ways for an aggregator to pass a message from one hand to another. However, end-users would incur substantial costs before they can actually use this data.

We care about end-users' experience and wellness of our NMS value-chain. Telecom industry leaning middlemen do not necessarily have the best interest for our capital market. They are intermediaries between suppliers and users, adding a layer of cost to the overall system. Be mindful of their self-serving interest.

H. Conclusions

Ownership right does not mean usage of private property without restrictions. The objective of this market data reform (or any policy reform) should be to **discourage inflicting damage on others** or ecosystem degradation. We recommend that the SEC, the SROs, and the industry to engage with us for a full-fledged study of **divergence between private and social costs**[6] (see Part E and ***Figure 2***), and discover the optimal balance/ Pareto condition.

We want to be clear that no one should be forcefully taking something away from the Exchanges. Our goal (i.e. what this reform is about - Part C ***Table 1***) is NOT about completely denouncing 'speed' as one of the positive attributes to a resilience modern market ecosystem. We suggest **realignment of 4Vs** and other subsides, plus injection of tech innovations as means to spur new economic opportunities. It would **revive the industry's smile curve value chain** (see Parts B and F, particularly ***Figure 1*** and the analysis shown in Appendix I).

We hate to say it, but the fact is the **CT Plan LLC if approved 'as-is' is nothing but bureaucracy that is doomed to fail** (see Part D and G, particularly ***Table 2***). Knowing thousands of trades can occur in 50± milliseconds, the 10 seconds tolerance as proposed in §5.4(b)(iv) by the SROs is absolutely NOT ACCEPTABLE. One would do the minimum (near the 10 seconds tolerance) rather than pursuing goal of beating 50± milliseconds target. We also fear this 10 seconds tolerance has potential to be frequently exploited. Would proprietary feeds experience the same delays? This proves the need of time-lock[35] to securely synchronize the availability of proprietary feeds and SIP(s).

Also, we think Article V, Section 5.1 is insufficient. We propose that the following should be added at a minimum: (1) continuity/ disaster recovery; (2) expand functionalities; (3) innovate, promote FRAND, and enable average investors to participate in market with minimal to no "friction"; (4) strike balance and discourage inflicting damage on others; (5) analytical support for the Consolidated Audit Trail project. We envision things would be put in place without much subcommittees and 'member observers' involvement once the optimal balance is achieved.

[36] https://tabbforum.com/opinions/retooling-the-nms-sip-market-data-universe/
[37] https://www.sec.gov/comments/s7-03-20/s70320-7489141-221756.pdf

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Why file the new company as an LLC instead of non-profit? Shouldn't the SIP be defined as public utility? If the SIP is a 'Free Enterprise', the 2/3 and 1/3 voting rights may result in a divide along partisan lines and will only approve trivia matters. A "war to end all wars"[38] has historically proven to fail and creates many adverse consequences.[39] NMS governance reform should NOT be about who is bigger than whom, or negative contentious actions. Let us drop continuous arguments, litigation fights, or other wastes of economic resources, and refocus on growing the overall pie, flatten the already "frowned" smile curve.

There are a lot of good lessons learnt from the music industry.[20] What the industry needs right now is a renewal of FRAND and to make equity market interesting again with true innovations! It would attract new money into the ecosystem. For that, we have shown the high-level mock-up model towards a positive reform and transition to a new equilibrium. We hope the above comments and the detailed responds to the Commission's specific questions below will be helpful to the SEC and benefiting to the broader industry. Feel free to contact us with any questions. Thank you and we look forward to engage in any opportunities where our expertise might be required.

Sincerely,

Kelvin To

MSc Banking, MMGT, BSc
Founder and President
Data Boiler Technologies, LLC

CC: The Honorable Jay Clayton, Chairman
The Honorable Hester M. Peirce, Commissioner
The Honorable Elad L. Roisman, Commissioner
The Honorable Allison Herren Lee, Commissioner
The Honorable Caroline A. Crenshaw, Commissioner
Mr. Brett Redfearn, Director, Division of Trading and Markets
Ms. Andrea Orr, Counsel to the Director of Trading and Markets

This letter is also available at:
https://www.DataBoiler.com/index_htm_files/DataBoiler%20SEC%20Market%20Data%20CTPlan.pdf

[38] https://en.wikipedia.org/wiki/The_war_to_end_war
[39] https://www.huffpost.com/entry/economic-consequences-of-_b_1294430

Appendix I – Smile Curve Supporting Analysis

• 5 Sectors in value chain - A, B, C, D, E • Each Sector has 3 Sub-Sectors (e.g. A1, A2, A3...) • Different categories of constituents rely on different information advantage, economy of scale and economy of scale to earn its profits • # before decimal point shows force ranking of Sector • # after decimal point shows force ranking among specific Sub-Sector • Please do NOT compare across Sub-Sectors • Ranking in different circumstances often suffice than measuring the actual cost in exactitude [6] (emphasis on hierarchy of data than the structure of data) • Profitability @ Table iii is an average score (the lower #, the higher the profits) • Smile curve is plotted using the polynomial of the inverse #s of profitability scores @ Table iv • Table ii: a) Flow Vol. ~ 4Vs' Volume • b) Price Discovery ~ 4Vs' Veracity • c) Speed ~ 4Vs' Velocity • d) Breath (depth-of-book, auction, odd-lots) ~ 4Vs' Variety • e) Subsidies (e.g. Payment for order flow) • f) Market Data (subscription) • a) → f) are 'force ranking' • a+b-c-d+e-f is a 'score' • the cumulative 'scores' for 5 Sectors = zero • 'Versus' shows the difference if there is no redistribution effect • NOTE: Current* @ Table i = c) Speed* @ Table ii, which signifies the current market is a "drag race" over emphasized on speed as key trading success • ^ After @ Table i = ^ Info Advantage @ Table v

Table i

	Constituents	Info Advantage			Economy of Scope		Economy of Scale	
		Before	Current*	^ After	Before	Current	After	Before	Current	After
A	Performance Optimizers	1.2	4.2	1.7	1.2	2.2	2.2	5.2	5.2	5.2
B	Asset Gathering	2.2	3.2	2.7	3.2	4.2	4.2	4.3	2.2	2.2
C	Intermediaries	5.2	1.2	4.7	5.2	1.2	1.2	3.2	3.2	3.2
D	Wholesalers Asset Maximizers	3.2	2.2	1.7	4.2	3.2	3.2	2.2	4.2	4.2
E	Retail Client Services	4.2	5.2	2.7	2.2	5.2	5.2	1.2	1.2	1.2
A1	HFs	1.1	4.2	1.7	1.1	2.2	2.2	5.1	5.2	5.2
A2	Principal Trading	1.2	4.3	1.8	1.2	2.3	2.3	5.2	5.3	5.3
A3	HFTs		4.1	1.7		2.1	2.1		5.1	5.1
B1	Issuers	2.3	3.3	2.8	3.3	4.3	4.3	4.4	2.2	2.2
B2	Bulge Brackets	2.1	3.1	2.6	3.1	4.1	4.1	4.1	2.1	2.1
B3	Index/ Risk Modeling, Tier 2, Non-bank MM	2.2	3.2	2.8	3.2	4.2	4.2	4.3	2.3	2.3
C1	Venues (Exchanges, ATS, Internalizers)	5.2	1.2	4.2	5.2	1.2	1.2	3.1	3.1	3.1
C3	Inter-dealer brokers	5.1	1.3	4.2	5.1	1.3	1.3	3.2	3.2	3.2
C2	TCA, Liquidity Sourcing/ Execution Vendors		1.1	5.7		1.1	1.1		3.3	3.3
D1	Retirement & Insurance Platforms	3.1	2.3	1.6	4.2	3.2	3.2	2.1	4.2	4.2
D2	Institutional Active Managers	3.2	2.1	1.8	4.1	3.3	3.3	2.2	4.3	4.3
D3	Exchange Traded Products		2.2	1.8		3.1	3.1		4.1	4.1
E1	Securities Processing, Custodian	4.3	5.3	3.8	2.3	5.3	5.3	1.1	1.1	1.1
E2	Retail Wealth Management	4.1	5.1	2.1	2.1	5.1	5.1	1.2	1.2	1.2
E3	Investment Advisory Networks	4.2	5.2	2.2	2.2	5.2	5.2	1.3	1.3	1.3

Table ii

	Constituents	Data Values Contribution		Data Values Extraction		Redistribution		Current Score	Versus
		a) Flow Vol.	b) Price Disc.	c) Speed*	d) Breadth	e) Subsidies	f) Market Data	a+b-c-d+e-f	a+b-c-d
A	Performance Optimizers	1.2	4.2	4.2	3.2	2.2	1.2	-3.0	-2.0
B	Asset Gathering	4.2	2.2	3.2	4.2	3.2	4.2	0.0	-1.0
C	Intermediaries	5.2	3.2	1.2	1.2	5.2	5.2	6.0	6.0
D	Wholesale Asset Maximizers	2.2	1.2	2.2	2.2	4.2	2.2	-3.0	-1.0
E	Retail Client Services	3.2	5.2	5.2	5.2	1.2	3.2	0.0	-2.0
A1	HFs	1.2	4.1	4.2	3.2	2.2	1.2	-3.1	-2.1
A2	Principal Trading	1.3	4.3	4.3	3.3	2.3	1.3	-3.0	-2.0
A3	HFTs	1.1	4.2	4.1	3.1	2.1	1.1	-2.9	-1.9
B1	Issuers	4.3	2.2	3.3	4.2	3.3	4.3	0.0	-1.0
B2	Bulge Brackets	4.1	2.1	3.1	4.1	3.1	4.1	0.0	-1.0
B3	Index/ Risk Modeling, Tier 2, Non-bank MM	4.2	2.3	3.2	4.3	3.2	4.2	0.0	-1.0
C1	Venues (Exchanges, ATS, Internalizers)	5.3	3.1	1.2	1.1	5.3	5.3	6.1	6.1
C3	Inter-dealer brokers	5.2	3.2	1.3	1.3	5.2	5.2	5.8	5.8
C2	TCA, Liquidity Sourcing/ Execution Vendors	5.1	3.3	1.1	1.2	5.1	5.1	6.1	6.1
D1	Retirement & Insurance Platforms	2.1	1.1	2.3	2.2	4.1	2.1	-3.3	-1.3
D2	Institutional Active Managers	2.3	1.2	2.1	2.3	4.3	2.3	-2.9	-0.9
D3	Exchange Traded Products	2.2	1.3	2.2	2.1	4.2	2.2	-2.8	-0.8
E1	Securities Processing, Custodian	3.3	5.3	5.3	5.3	1.3	3.3	0.0	-2.0
E2	Retail Wealth Management	3.1	5.1	5.1	5.1	1.1	3.1	0.0	-2.0
E3	Investment Advisory Networks	3.2	5.2	5.2	5.2	1.2	3.2	0.0	-2.0

Table iii - Sector's Profitability

	Before	Current	After
	2.9	3.9	3.0
	3.2	3.2	3.0
	3.2	1.9	3.0
	3.9	3.2	3.0
	2.9	3.9	3.0
	2.8	3.9	3.0
	2.9	4.0	3.1
		3.8	3.0
	3.3	3.3	3.1
	3.1	3.1	2.9
	3.2	3.2	3.1
	3.2	1.8	2.8
	3.2	1.9	2.9
		1.8	3.4
	2.9	3.9	3.4
	3.9	3.2	3.0
	3.9	3.2	3.1
		3.1	3.0
	2.9	3.9	3.4
	3.2	3.8	2.8
	2.9	3.9	2.9

Table iv - Smile Curve

Before	Current	After
-2.5	-3.9	-3.0
-3.2	-3.2	-3.0
-4.5	-1.9	-3.0
-3.2	-3.2	-3.0
-2.5	-3.9	-3.0

Table v

Realign average(a:b)	Econ Opp spur by New Tech	^ Info Advantage
2.7	-1.0	1.7
3.2	-0.5	2.7
4.2	0.5	4.7
1.7	0.0	1.7
4.2	-1.5	2.7
2.7	-1.0	1.7
2.8	-1.0	1.8
2.7	-1.0	1.7
3.3	-0.5	2.8
3.1	-0.5	2.6
3.3	-0.5	2.8
4.2	0.0	4.2
4.2	0.0	4.2
4.2	1.5	5.7
1.6	0.0	1.6
1.8	0.0	1.8
1.8	0.0	1.8
4.3	-0.5	3.8
4.1	-2.0	2.1
4.2	-2.0	2.2

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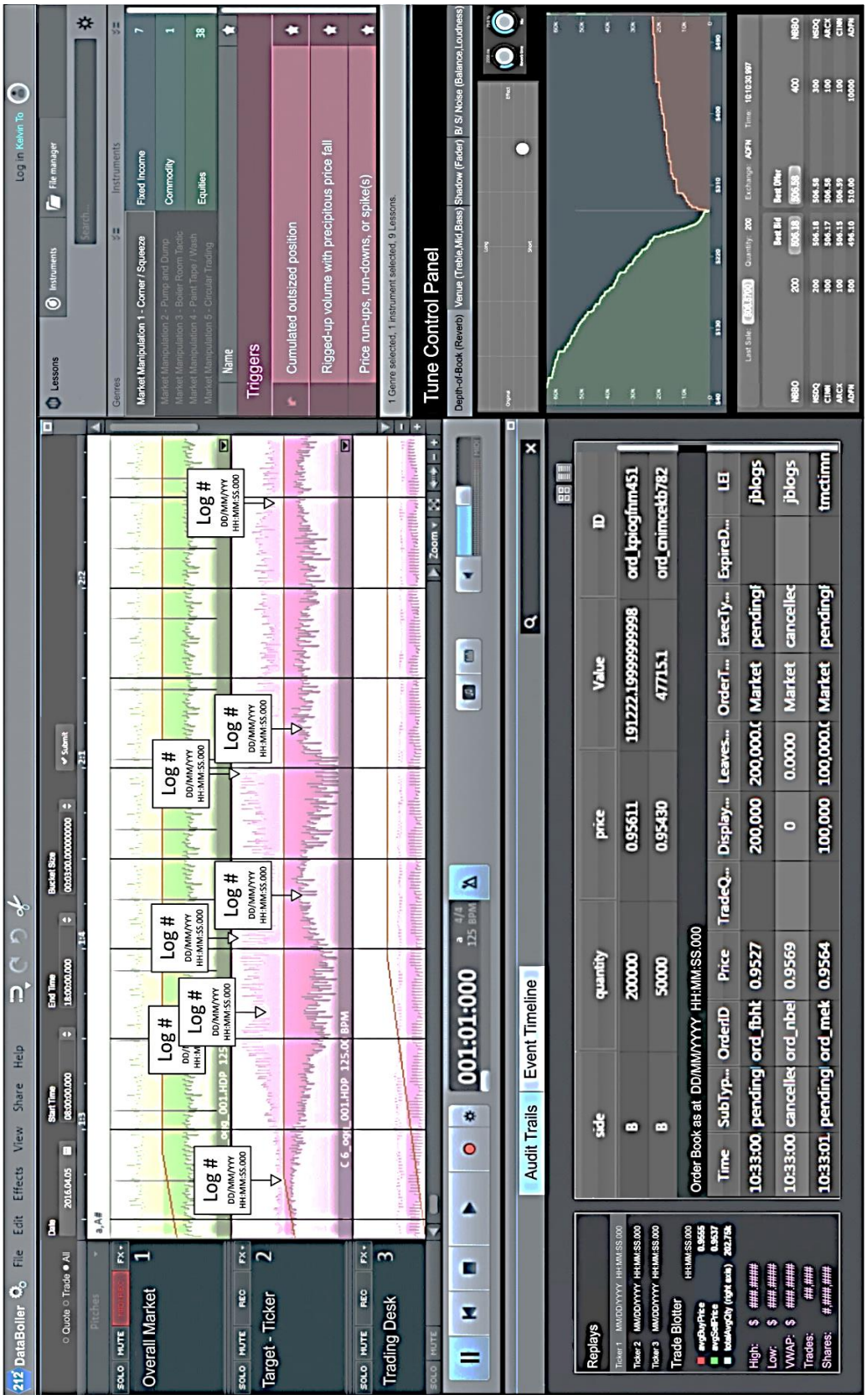
Appendix II – Open Platform / New Trade Terminal



Suite of patented solutions (18 approved claims + more pending in the pipeline domestically and internationally)

Since a thousand trades can occur in between the 50 +/- milliseconds tolerance time allowed by CAT, the inexactitude in trade sequencing would cause analytic results based on vector measurements/ visualized heat-maps to be erroneous. To overcome this inherent problem of data imprecision, our suite of patented inventions applies a "music plagiarism detection" method to achieve higher tolerance to the unsynchronized clock issue, and is capable of recognizing patterns more quickly (up to 50 milliseconds top speed, as compared to taking hours or days or even months for trade review). Aside from the accelerated speed to decipher what's going on in the market, it has fewer false-positives/ false-negatives than the traditional techniques. It makes implementation of preventive controls in real- time possible; and there are other benefits such as the ease of trade reconstruction, order book replay simulation, backstop assurance, case management capabilities, crowd computing methods, and more. We are the ONLY solution to address IOSCO - CR12/2012 challenges to effective market surveillance.

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Answers to Specific Questions

Effective and Operative Dates

Question 1

Paragraph (b) of the Recitals of the proposed CT Plan provides that the CT Plan will not become effective ("Effective Date") until the later of two things occurs: (1) the proposed Agreement has been approved by the Commission, and (2) the Members have formed the CT Plan as an LLC pursuant to the Delaware Act by filing a certificate of formation (the "Certificate") with the Delaware Secretary of State. Do commenters believe that the timing provisions set forth in the Recitals could result in an undue delay of the effectiveness of the CT Plan? Do commenters believe that the CT Plan should require that the Certificate be filed within a certain period of time following Commission action, if any, on the CT Plan? Would 10 days be an appropriate period of time for filing the Certificate? If not, what time period do commenters believe would be appropriate?

We would like to see the implementation of positive reform as quick as possible. However, CT Plan as an LLC is problematic (see Part D). Therefore, we recommend the Commission to reject the SROs' proposed CT Plan. NMS 2.0 should be a full-fledged exercise like the Music Modernization Act[20] governing digital streaming and related copyrights and royalties issues. We recommend the SEC, the SROs, and the industry to engage with us for an in-depth study of the **divergence between private and social costs**[6] (see Part E and ***Figure 2***), and discover the optimal balance/ Pareto condition.

Question 2

Paragraph (c) of the Recitals of the proposed CT Plan provides that, following the Effective Date, the CT Plan will not become operative as an NMS Plan that governs the dissemination of real-time consolidated equity market data until the first day of the month that is at least 90 days after the last of five specified actions has occurred (the "Operative Date"). Do commenters agree that the completion of all five specified actions is necessary prior to the Operative Date? Should the CT Plan set deadlines for some or all of the specified actions? Should the CT Plan require that the Operating Committee provide periodic updates as to the status of implementation of the specified actions? If so, should these updates be made public? Should the CT Plan include deadlines requiring that the Operating Committee be constituted within a set time if the Commission approves the CT Plan? Should the CT Plan explicitly specify that constituting the Operating Committee must be the first action undertaken by the CT Plan after the Effective Date? Should the Operating Committee be required within set times to establish fees, enter into contracts with an Administrator and Processor(s), and approve or file with the Commission, as applicable, all "policies and procedures that are necessary or appropriate for the operation of the Company"? What policies and procedures do commenters believe are necessary or appropriate for the operation of the CT Plan? Should the CT Plan specify which policies and procedures are necessary or appropriate? Is the proposed 90-day period appropriate and reasonable, or should it be longer or shorter?

Nothing should hold back the Operating Committee in formulating and strategizing NMS 2.0 and recommending actions. Such industry discussions should take place first. Upon OC discovering appropriate balance/ Pareto condition, then there will be clearer vision, goals and directions where different constituents would be willing to cooperate to work towards these common goals. Thereafter, they would build appropriate interdependency and boundaries that shapes the right CT Plan's organization structure. In addition, we think a non-profit organization structure is better than LLC in preserving an independent status when dealing with the establishment of fees, manners in entering into contracts with an Administrator and Processor(s), and other applicable policies and procedures to delineate rights and ownership of data along the

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industry's value chain and how different constituents should be compensated without bias. The function of an Operating Committee is similar to the SoundExchange's role that established by Congress to distribute royalties on sound recordings for the music industry.

Deferring the Operative Date after the five specific actions are done may push the implementation date to improve market data infrastructure indefinitely. We acknowledge the need to build up consensus on some workable solutions and have diversified representation before a committee can effectively govern the public dissemination of real-time consolidated equity market data for eligible securities. We recommend setting milestone dates while remaining flexible depending on progress, to come up with something as beneficial to the industry as the Music Modernization Act[20] has been to the music industry.

We are in favor that the Operating Committee providing periodic updates and that these updates be made public. A CT Plan without constituting the Operating Committee would have no diversified representation, hence impairing its creditability to objectively establish fees and other actions.

Before the operating committee attempts to come up with policies and procedures that are necessary and appropriate for the operation of the CT Plan, we think the industry should consider the smile curve along the value chain. Evaluate the purpose for which data is used and conduct in-depth studies for ways to curb any potential conflicts within the existing NMS. By then, the operating committee would be in better position to craft related policies and procedures for: (1) what licenses does CT Plan administer; (2) what fees does or does not CT Plan administer; (3) how proceeds would be distributed to the right party; (4) what should be the key performance indicators to measure CT Plan's efficiency and effectiveness; (5) what reports and information are assessable by whom; (6) benefit entitlements and dispute resolution approach, etc.

We would like to see everything done within 90-day period, but in some instances 180 days may be more practical because of the complexities involved. The said 180 days period does not account for subscribers that will potentially need to install new connections, program and test these connections. Parallel processing might be something to consider, as well as plan for the exceptional situation, such as current plan processors cease to exist on effective date.

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Plan Structure as an LLC Agreement

Question 3

The Commission requests comment generally on the distinctions drawn in the proposed CT Plan between actions that are governed by the Operating Committee, which includes Non-SRO Voting Representatives as required by the Order, and other specified actions that are governed solely by the SROs as the "Members" of the LLC. Does the proposed CT Plan appropriately draw these distinctions in a way that supports the purpose of the CT Plan, consistent with the Order? Do commenters believe that these distinctions will result in a significant and inappropriate dilution of Non-SRO Voting Representatives' influence on CT Plan matters that are relevant to the operation of the CT Plan as an NMS plan for the collection, processing, and dissemination of equity market data? What revisions to the plan provisions, if any, do commenters believe would be appropriate to ensure that the distinctions drawn in the CT Plan between matters to be decided by the Operating Committee and matters to be decided solely by the SROs do not inappropriately dilute the Non-SRO Voting Representatives' participation and influence on the Operating Committee?

We believe the SROs proposed CT Plan does NOT appropriately draw distinctions in a way that supports the purpose of the CT Plan, consistent with the Order. It would significantly and inappropriately dilute Non-SRO Voting Representatives' influence on CT Plan matters that are relevant to the operation of the CT Plan as an NMS plan for the collection, processing, and dissemination of equity market data (see Parts C and D).

The whole CT Plan LLC's structure defies America's "Free Enterprise" concept. The SEC and the industry want to make it serve the public good. Whereas the private owners, meaning the SROs, are trying to retain as much control as they can.

Before drawing appropriate distinctions between matters to be decided by the Operating Committee and matters to be decided solely by the SROs, we again recommend the Commission to reject the SROs' proposed CT Plan. NMS 2.0 should be a full-fledged exercise like the Music Modernization Act[20] governing digital streaming and related copyrights and royalties issues. We recommend the SEC, the SROs, and the industry to engage with us for an in-depth study of the **divergence between private and social costs**[6] (see Part E and ***Figure 2***), and discover the optimal balance/ Pareto condition. It is better to **realign 4Vs** and other subsides, plus injection of tech innovations as means to spurs new economic opportunities. It would **revive the industry's smile curve value chain** and grow the overall pie (see Parts B and F, particularly ***Figure 1*** and the analysis shown in Appendix I).

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Definitions

Question 4

Article I, Section 1.1(p) of the proposed CT Plan defines the term "CT Feeds" as the CT Quote Data Feed(s) and the CT Trade Data Feed(s). Do commenters believe that this definition makes sufficiently clear that three tapes—Tape A, Tape B, and Tape C—would remain under the CT Plan as proposed?

We have no objection that the "existing" three tapes would remain under the CT Plan's definition of "CT Feeds". Yet, when definition of core data and interpretation of Rule 603 may be updated going forward, there is no assurance because it only makes reference to BBO and NBBO for eligible securities. Additionally, it is up for debate if anything related to initial sales and trading in the private markets should be included in the CT Feeds. That could mean missed opportunities for average investors if the public will only get a subset of trillions of dollars in securities traded each year. Nevertheless, the CT Plan in essence is performing a public utility function. Its service(s) NOT only "provides to vendors and subscribers" but all stakeholders using market data along the industry's value chain, including non-trading and non-processing users, such as academia.

Question 5

Article I, Section 1.1(n) of the proposed CT Plan defines the term "Covered Persons" as representatives of the Members, the Non-SRO Voting Representatives, SRO Applicants, the Administrator, and the Processors; affiliates, employees, and Agents of the Operating Committee, a Member, the Administrator, and the Processors; any third parties invited to attend meetings of the Operating Committee or subcommittees; and the employers of Non-SRO Voting Representatives. Covered Persons do not include staff of the Commission. The Commission requests comment on the proposed definition. Should other types of representatives be specified in the proposed definition? For example, should the proposed definition specifically include Member Observers, as defined in Article I, Section 1.1(oo) of the proposed CT Plan?

What constitutes as "Restricted, Highly Confidential, or Confidential information except as consistent with this Policy and directed by the Operating Committee" would likely arose much debate in the industry. Member Observers can participate in Executive Sessions. The odd thing is, per §4.7(a) Member Observers do have power to select subcommittee chairs with inputs from operating committee, this almost equating to the power of operating committee chair from SRO Voting representative. Those being said, Member Observers may positively bridge across silo groups within CT Plan organization rather than negatively hinder the openness in communication. It is hard to determine if Member Observers should or should not be Covered Persons to assess confidential information when so many non-clarities are still up in the air. Again, we recommend the SROs and the industry to seek objective understanding on the divergence between private and social costs[6] first before rushing through the CT Plan's organization structure.

Question 6

Article I, Section 1.1(bb) of the proposed CT Plan defines "Fees" as fees charged to vendors and subscribers for Transaction Reports and Quotation Information in Eligible Securities, as defined in the CT Plan. The Commission requests comment on this definition. Does it accurately reflect all of the types of information currently made available from the existing NMS plans for equity market data and other types of fees that the CT Plan may charge to subscribers?

Fees should accurately reflect all of the types of information available – current and projected. The CT Plan in essence is performing a public utility function. Its service(s) NOT only "provides to vendors and subscribers" but all stakeholders using market data along the industry's value chain and academia. We envisage that the definition of "Fees" should be

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similar to the comprehensiveness in defining "royalties for copyright works" in the music industry. Therefore, we tend to think the answer is no for this question.

Question 7

Article I, Section 1.1(oo) of the proposed CT Plan defines the term "Member Observer" to mean any individual, other than a Voting Representative, that a Member, in its sole discretion, determines is necessary in connection with such Member's compliance with its obligations under Rule 608(c) of Regulation NMS to attend Operating Committee and subcommittee meetings. What are commenters' views on whether an SRO would reasonably find it necessary to select a Member Observer to comply with its obligations under Rule 608(c) of Regulation NMS? Under what circumstances, if any, would the representation of an SRO on the Operating Committee by its selected SRO Voting Representative be an insufficient means for the SRO to fulfill its obligations under Rule 608 of Regulation NMS? Should persons who hold certain positions within an SRO be prohibited from serving as Member Observers? For example, should a person who has direct responsibility for the management, marketing, sale, or development of proprietary equity data products offered separately be permitted to serve as a Member Observer? If Member Observers are necessary, should only persons who perform certain roles within an SRO (e.g., legal or compliance personnel) be able to serve as Member Observers? Should the CT Plan limit the number of Member Observers that each SRO would be permitted to name or the frequency with which the person serving as a Member Observer can be changed? If so, how?

Please see our respond to Question 5. Member Observers should be limited as to not stack the deck with several Member Observers from a single SRO. Staking the deck, however, can be achieved by the Exchange holding companies owning several medallions for example. It is good to keep thinking about the appropriate checks and balances to ensure NMS 2.0 governance plan would create the necessary positive tensions among diversified constituents for the benefit of advancing industry's development and the investors and public interests. That being said, negative tension or arguments are often the results of resource constraints. Therefore, it is better to solve the economic incentives challenge and realign the market, so that there will be growth in the overall pie and everyone getting a bigger piece if they contribute positively to the smile curve value chain.

Question 8

Article I, Section 1.1(kkk) of the proposed CT Plan defines "Public Information" to include, among other things, any information that is not either Restricted Information or Highly Confidential Information or that has not been designated as Confidential Information, and the duly approved minutes of the Operating Committee. The Commission requests comment on the proposed definition of Public Information. Should other types of information be included in the proposed definition? For example, should the proposed definition include minutes of the meetings of any subcommittees of the Operating Committee?

Minutes of the meetings of any subcommittees of the Operating Committee should also be public information.

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Organization and Membership of LLC

Question 9

Do commenters believe that the organizational, governance, and managerial structure outlined in Articles II, III, and IV of the proposed CT Plan are in the public interest?

No. CT Plan as proposed is problematic (see our respond to Question 1, Question 3 and Part D).

Question 10

Do commenters believe that the organizational, governance, and managerial structure set forth in the proposed CT Plan—including the limitation of membership in the LLC to SROs and the prescribed role and responsibilities of the Operating Committee—is consistent with the purposes of the CT Plan with respect to the dissemination of equity market data and the statutory mandate of ensuring the "prompt, accurate, reliable and fair collection, processing, distribution, and publication of information with respect to quotations for and transactions in such securities and the fairness and usefulness of the form and content of such information"? If not, what changes to the organizational, governance, and managerial terms of the proposed CT Plan do commenters believe should be made to be consistent with the purposes of the CT Plan?

We do not believe the limitation of membership is consistent with the purposes of the CT Plan. We have no dispute that there should be some reasonable and fair cost for new trading venue(s) to participate in the plan, the proposal has not specified the joining cost or how it would be set or would it include clause(s) to restrict activities of a new trading venue. We are concerned if this becomes a barrier of entrance to the market. Again, CT Plan as proposed is problematic (see our respond to Question 1, Question 3, and Part D).

Question 11

Article III, Section 3.7 of the proposed CT Plan describes the obligations and liabilities of the SROs as Members of the LLC, including among other things, a provision that SROs shall have no liability for the debt, liabilities, commitments, or any other obligations of the CT Plan or for any losses of the CT Plan. Given the role and public purpose of the CT Plan as part of the national market system, do commenters believe that the provisions set forth in Section 3.7 are consistent with the SROs' obligations to, and purposes of, the CT Plan?

Article III, Section 3.7 is interesting in a way that it is like CT Plan LLC can only have upside profit, but SROs will not be responsible for any debt, liabilities, commitment, or any other obligations. As proposed, the SROs have significant influence on how the company operates through control of the Operating Committee. Yet, as proposed there is no consequence for that control. A for profit LLC typically takes risk in exchange for potential revenue and profit. Because of CT Plan's role and public purpose, it should be a non-profit rather than LLC (see ***Table 2*** in Part D).

Question 12

Article III, Section 3.7(e) of the proposed CT Plan states, "[t]o the fullest extent permitted by law, no Member shall, in its capacity as a Member, owe any duty (fiduciary or otherwise) to the Company or to any other Member other than the duties expressly set forth in this Agreement." The Commission requests comment on the limitations proposed in this provision and the potential impact to the CT Plan's responsibilities for the collection, processing, and dissemination of equity market data.

"No member shall owe any duty to the company or to any other Member other than duties expressly set forth in this Agreement" is like saying that "it is better to have everything set forth in the agreement now, or else forever hold your

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peace and be silent". Yet, we all know the agreement 'as-is' is far from sufficient to ensure CT Plan serves its public purpose fairly, reasonably, and non-discriminatory. Any forward thinking strategies or ideas to advance the development of SIP may become outside scope for meeting agenda because of this clause. Therefore, this Article III, Section 3.7(e) clause should be abolished.

Question 13

Do commenters believe that the proposed CT Plan includes all of the necessary provisions for an LLC agreement to function appropriately as an NMS plan? If not, please describe the additional provisions that should be included in the CT Plan.

Absolutely NOT, please also see our respond to Question 12 and comments in the earlier parts.

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Responsibilities of the Operating Committee

Question 14

Article IV, Section 4.1(a) of the proposed CT Plan states that the responsibilities of the Operating Committee include "interpreting the Agreement and its provisions." Do commenters believe it is appropriate for the Operating Committee to develop its own interpretation of the meaning of the CT Plan and its provisions? Should all interpretations of the CT Plan be required to be in writing? Should all interpretations of the CT Plan be required to be made publicly available for comment before being adopted or taking effect? Should all interpretations of the CT Plan be submitted in writing to the Commission or to Commission staff before being adopted or taking effect? Should the CT Plan include policies and procedures to distinguish operational interpretations of the CT Plan from amendments required to be submitted to the Commission under Rule 608 of Regulation NMS?

The role of Operating Committee as prescribed in the SROs proposed CT Plan is tainted. We envision the Operating Committee with diversified representations should take role similar to the 'Legislative Branch' of the government. They would shape the boundaries for which the 'Executive Branch' or management to carry out the Plan's and the SIP's public purpose. Then the SEC and FINRA would serve as the 'Judicial Branch' to assure compliance.

People in 'Executive Branch' versus 'Legislative Branch' require different skill sets. Putting the diversified group to run daily operation management functions may cause the company to run astray. Then, having members dominating the Legislative branch and assigning an 'observer' to scrutinize everything the Operating Committee may try to do, indeed tie the hands of Executive branch. We think the "Operating Committee" would be better off seat at the 'Legislative Branch' to "strategically" balance different stakeholders' interests, than directly involves in the daily nuances of SIP.

Question 15

Article IV, Section 4.1(b) of the proposed CT Plan proposes to allow the Operating Committee to delegate "administrative functions" to a subcommittee or to one or more of the Members (i.e., SROs) or to one or more Non-SRO Voting Representatives or to another person, such as the Administrator. Thus, the Operating Committee would be empowered to delegate an administrative function only to SROs, or only to Non-SRO Voting Representatives. Should the CT Plan specify the "administrative functions" that would be covered by this provision? Do commenters believe the CT Plan should permit the Operating Committee to delegate "administrative functions" to a subcommittee consisting only of SROs? Do commenters have concerns that, under this proposed provision, an SRO-only subcommittee could discuss the details of an administrative matter without input from Non-SRO Voting Representatives? Do commenters believe the CT Plan should permit the Operating Committee to delegate "administrative functions" to a subcommittee consisting only of Non-SRO Voting Representatives? Section 4.1(b) also provides that a subcommittee cannot take any actions that require approval of the Operating Committee. Does the limitation that a subcommittee cannot take actions that require Operating Committee approval mitigate concerns about the delegation of "administrative functions"? What, if any, actions could a subcommittee take without approval of the Operating Committee pursuant to Section 4.3?

We believe that the CT Plan should specify the "administrative functions" that would be covered by this provision. Without clarity to such would make it hard to determine whether the CT Plan should or should not permit the Operating Committee to delegate "administrative functions" to a subcommittee consisting only of SROs. We believe the purpose of adding Non-SROs to the Operating Committee was to include their voice. Under this proposed provision, an SRO-only subcommittee could discuss the details of an administrative matter without input from Non-SRO Voting Representatives. Vice versa, permitting the Operating Committee to delegate "administrative functions" to a subcommittee consisting only

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of Non-SRO Voting Representatives would also be problematic. If a subcommittee can decide on administrate function then both groups should be represented. By delegating "administrative functions" we took it as implied that the subcommittee would be able to act on behalf of the Operating Committee.

Perhaps the Operating Committee must review and approve actions taken by the subcommittees. Certainly, items of particular interest might be new policies and procedures. Perhaps actions that a subcommittee could take without approval of the Operating Committee pursuant to §4.3 might be more common items or items that have precedent. After all, we are against any unnecessary bureaucracy. Mercy to the old SIP management team, they got to do all the works while top "bosses" from both SROs and Non-SRO Reps continue to have polarized arguments. Please also see our respond to Question 14.

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Composition and Selection of Operating Committee

Question 16

Article IV, Section 4.2(b) of the proposed CT Plan discusses Non-SRO Voting Representatives, including term limits, the selection process for the initial Non-SRO Voting Representatives, and the nomination and election process for Non-SRO Voting Representative replacements. Do commenters believe that the proposed process—including public notice requesting nominations, listing nominated individuals, and soliciting and discussing any public comments received—is fair and transparent? Do commenters believe that the CT Plan should be required to use any means beyond publication on its website to seek interested, qualified candidates to be nominated and for public comment to be solicited? If so, which means? Do commenters believe that a Non-SRO Voting Representative should be permitted, in addition to nominating himself or herself, to nominate other persons to serve as a Non-SRO Voting Representative? If so, should that be explicitly stated in the CT Plan?

We are not against the (A) – (F) categories of non-SRO voting representative. We just think there is a lack of emphasize that representatives are supposed to bring in new innovations to reform SIP. Seats at the table ought to be earned by whoever can contribute to positive innovations of market data infrastructure. Self-nominating can be one of the options and be explicitly stated in the CT Plan. Yet, the key question is whether the person would bring in new and useful innovations, as well as if the person would be serving in 'Legislative branch' vs 'Executive branch' capacity.

We agree that terms should be staggered. This would better ensure new representation for the Non-SROs is not completely disruptive and replaced every two or four years. Often the first year is a learning process. We would rather the initial terms ending dates be staggered rather than the start after effective date. It is also proposed that the Non-SRO Representatives are selected after the Effective Date which potentially allows SROs to craft the policies and procedures (governance) without Non-SRO guidance, and we disagree.

Additionally there should be consideration to increase Non-SRO representation if SROs on the committee increases or perhaps adjusted if the "weight" of the user community increase/decreases in certain categories.

Last but not least, suggest we learn from empirical economic samples[6] – "Theory of share tenancy" and "Fable of the bees" to resolve arguments and promote fair, reasonable, and non-discriminatory (FRAND) principles.

Question 17

With respect to Article IV, Section 4.2(b), do commenters believe that the CT Plan should prescribe specified periods of time for the nomination of, initial selection of, and selection of replacement Non-SRO Voting Representatives? Does the absence of such requirements provide needed flexibility to the selection process? Alternatively, could the absence of specified deadlines result in unnecessary delays in the initial formation of the Operating Committee or hinder non-SRO representation? If so, what amount of time do commenters believe would be appropriate for achieving each phase of the selection process? For example, would 30 days be an appropriate time frame for each of the specified periods—nomination, initial selection, and selection of replacements for Non-SRO Voting Representatives?

The end-to-end process for nomination and selection should not take over 90 days (with a 30-day extension option in case of an unprecedented event, e.g. COVID-19 pandemic. Other than that, the timeframe should not be over prescriptive.

Question 18

Article IV, Section 4.2(b) provides that Non-SRO Voting Representatives shall serve for two-year terms for a maximum of two terms total, whether consecutive or nonconsecutive. Is the proposed maximum of two terms an appropriate limit on

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the number of terms a Non-SRO Voting Representative may serve on the Operating Committee? Should the limit on the number of terms be increased or decreased? Should it be eliminated? Do commenters believe that similar term limits should apply to SRO Voting Representatives? What are commenters' views on whether a lifetime limitation on service that applies only to Non-SRO Voting Representatives would support the meaningful and informed participation of Non-SRO Voting Representatives on the Operating Committee? Do commenters believe there is a sufficiently large pool of qualified and informed persons able to serve as Non-SRO Voting Representatives to sustain a diversity of views on the Operating Committee over time if the proposed term limits were adopted?

Again, the key question is whether the person would bring in innovations. If the person can earn his/her seat by bringing in new and useful innovations and/or resolve the "divergence between private and social costs" challenge,[6] then he/she should be granted a seat regardless of the number of terms or years they have served. If they cannot bring in positive contributions, 2 years or single term would be wasting of an important seat.

Additionally, each SRO Group and each Non-Affiliated SRO may designate an alternate individual or individuals who shall be authorized to vote on behalf of such SRO Group or such Non-Affiliated SRO, respectively, in the absence of the designated SRO Voting Representative. We suggest that perhaps the Non-SRO Rep should be required to present an alternate in the event they cannot attend a meeting or may no longer perform their duties. In later case the alternate would temporarily serve until the next election.

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Action of Operating Committee

Question 19

Article IV, Section 4.3(c) of the proposed CT Plan delineates several circumstances, in addition to those described in the Order—which are the selection of Non-SRO Voting Representatives and the decision to enter Executive Session—in which an augmented majority vote of the Operating Committee would not be required. The Commission requests comment on each of the proposed CT Plan provisions that would permit action by a majority vote of the SROs. Specifically, do commenters believe that the CT Plan should include additional details on the proposed provisions with respect to: (i) the operation of the CT Plan as an LLC, (ii) modifications to LLC-related provisions of the proposed CT Plan, and (iii) the selection (including appointment and removal) of Officers of the CT Plan, other than the Chair? Would permitting action by the SROs alone with respect to these elements of CT Plan operation be consistent with providing a meaningful role to non-SROs in the governance of the collection, processing, and dissemination of equity market data? Should an augmented majority vote of the Operating Committee be required for any or all aspects of the operation of the CT Plan as an LLC? If so, which ones?

Our specific responds are as follow:

(i) As mentioned earlier, the "LLC" organization structure is flawed;
(ii) So, whether it is the operation of the CT Plan or the modification to LLC-related provisions, the 'plan as LLC' per se is problematic;
(iii) Regardless of selecting an officer or a Chair, NMS governance reform should NOT be about who is bigger than whom, or negative contentious actions.

Permitting SROs to act alone would impair credibility of CT Plan as a public utility. We welcome an augmented majority vote requiring at least 2/3 of the votes of SRO and non-SRO participants, including a majority of the SRO participants' votes, must be cast in favor of a proposal for it to pass. Yet, numbers are always a problem as SRO counts increase as exchanges are added or merged, whereas Non-SRO counts stay at six (see our respond to Question 18).

If SIP is 'Free Enterprise', 2/3 and 1/3 voting rights may result in divide along partisan line and only passing trivia matters. "War to end all wars"[38] has historically proven to fail and many adverse consequences.[39] Let's drop continuous arguments, litigation fights, or other wastes of economic resources, and objectively reviewing the divergence between private and social costs (Part E ***Figure 2***), plus refocus on growing the overall pie, flatten the already "frowned" smile curve (see Parts B and F).

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Meeting of the Operating Committee

Question 20

Article IV, Section 4.4(g) of the proposed CT Plan would permit Member Observers to attend Executive Sessions of the Operating Committee. Do commenters believe that permitting Member Observers to attend Executive Sessions is necessary? If so, under what circumstances do commenters believe Member Observers should attend? Should the CT Plan limit the ability of some or all Member Observers to attend Executive Session, Operating Committee, or subcommittee meetings? If so, under what circumstances should such attendance be limited and to what subset, if any, of Member Observers should such limitations apply?

To preserve appropriate independency of voting members, non-voting observers should refrain from participating in Executive Sessions, unless the voting members specifically summon the observer to come testify for a certain matter during the Executive Session.

Question 21

Article IV, Section 4.4(g) of the proposed CT Plan provides that items for discussion within an Executive Session should be limited to those "for which it is appropriate to exclude Non-SRO Voting Representatives," identified as: (i) any topic that requires discussion of Highly Confidential Information; (ii) vendor or subscriber audit findings; and (iii) litigation matters. The proposed CT Plan further provides that the above items are "not dispositive of all matters that may by their nature require discussion in an Executive Session." The Commission requests comment on the specified items proposed in the CT Plan as appropriate topics for Executive Session. Do commenters agree, for example, that any topic that requires discussion of Highly Confidential Information should not be considered by the full Operating Committee? Do commenters believe that there are sufficient mechanisms in place under the CT Plan to ensure that the use of Executive Session is appropriate? If not, what mechanisms should be added? Should the list of permissible topics for Executive Session be delineated more specifically in the CT Plan? What, if any, additional permissible topics should be included? What, if any, topics should be specifically excluded? Would the proposed provision that the topics identified in the CT Plan are "not dispositive of all matters that may by their nature require discussion in an Executive Session" allow the SROs excessive discretion to limit or prevent the participation of Non-SRO Voting Representatives in certain CT Plan matters? Should the CT Plan specify a limited set of categories of items that could be discussed in Executive Session? If so, what categories should be included, and what level of detail regarding these categories would be appropriate?

We understand the sensitive nature of (ii) vendor or subscriber audit findings; and (iii) litigation matters. That being said, what constitutes as "Restricted, Highly Confidential, or Confidential information except as consistent with this Policy and directed by the Operating Committee" would likely create much debate in the industry. Therefore, we advocate for a non-profit rather than a LLC organization structure, hence it would better guard against inappropriate use of resources other than its restricted purposes. Also, our proposed non-profit status would help booster the organization's transparency. See this article[40] for suggestions about Executive Session in nonprofit board meetings.

[40] https://jurassicparliament.com/executive-session-in-roberts-rules

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Certain Transactions

Question 22

Article IV, Section 4.5 of the proposed CT Plan provides that the CT Plan is not prohibited from employing or dealing with persons in which an SRO or any of its affiliates has a connection or a direct or indirect interest. What relevant CT Plan employment relationships or business dealings do commenters believe might be covered by this provision? Are there specific types of employment relationships or business dealings that should be prohibited? Are there specific types of employment relationships or business dealings that should be permitted? If the CT Plan permits such employment relationships or business dealings, should it also require the relevant SROs to maintain information barriers between themselves and the affiliates or persons that have employment relationships or business dealings with the CT Plan? If so, what type of information barrier would be appropriate? In commenters' views, could Section 4.5 permit conflicts of interest that should be disclosed under the conflicts of interest policy? If so, what modifications to that policy, if any, should be made? Do commenters think that any additional disclosure, recusal, or voting procedures should be required before the CT Plan employs or deals with persons in which an SRO or any of its affiliates has a direct or indirect interest or a connection?

If this is overly restrictive to prohibit CT Plan from employing or dealing with persons in which an SRO or any of its affiliates has a connection or a direct or indirect interest, then it would limit the number of high caliber professions in the talent pool. In the end, it boils down to the person withdrawing himself/ herself or be excused from situation(s) where there may be an imply conflict of interest. Therefore, setting and enforcing a clearly defined 'conflict of interest' policy is a higher priority than being too prohibitive here.

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Company Opportunities

Question 23

Article IV, Section 4.6 of the proposed CT Plan permits the SROs to engage in business activities outside of the business activities of the CT Plan, including through investments or business relationships with other persons engaged in market data services or through strategic relationships with businesses that are or may be competitive with the CT Plan. What specific types of business activities would be covered by this provision? Would any of these business activities create a conflict of interest with an SRO's obligations with respect to the CT Plan under the federal securities laws, rules, and regulations? Are any potential conflicts of interest sufficiently mitigated by the conflicts of interest policy? If not, how should the CT Plan address such conflicts of interest?

Please see our respond to Question 22.

Question 24

Section 4.6(b) provides that none of the SROs shall be obligated to recommend or take any action that prefers the interest of the CT Plan or any other Member over its own interests, and it also provides that none of the SROs will be obligated to inform or present to the CT Plan any opportunity, relationship, or investment. This provision defines investments or other business relationships with persons engaged in the business of the CT Plan other than through the CT Plan as "Other Business." What specific types of opportunities, relationships, or investments would be covered by this provision? Would any of these opportunities, relationships, or investments create a conflict of interest with an SRO's obligations with respect to the CT Plan under the federal securities laws, rules, and regulations? Exhibit B of the proposed CT Plan provides a list of questions and instructions tailored to elicit responses that disclose potential conflicts of interest. In response to these questions, would the SROs be required to disclose certain opportunities, relationships, or investments? Would these disclosures sufficiently mitigate any conflicts of interest? If not, how should the CT Plan address such conflicts of interest? Should the CT Plan require that an SRO's representatives (SRO Voting Representative or Member Observer, as applicable) be recused from discussion of, or voting on, matters relating to opportunities, relationships, or investments when the SRO's interests may be in conflict with the goals of the CT Plan?

It would be hard to list out an exhaustive list at this time, but at a high level, CT Plan should discourage inflicting damage on others or ecosystem degradation. We favor principle-based rules and encourage both the SROs and non-SROs to put aside individual preferences. Potential conflict situations should be dealt with on a case-by-case basis and prioritize the best interest in preserving the FRAND principles of our capital market.

The market data issue on hand is like the **Animal Farm**,[10] i.e. every constituent wants to negotiate to be "more equal". In order to be objective and holistic, any significant market reform ought to look at the **smile curve**[11] (i.e. a graphical depiction of an **industry's value chain**). It helps assess market evolution, or be used to check if a proposed reform action in one sector may have chain effects directly or inadvertently cascade to affect the profitability mix of other market participants. According to Dr. Steven N.S. Cheung's empirical economic study – The Myth of Social Cost[6],

"Every individual action generates a spectrum of effects, each of which may impose effects upon others… method of evaluating that action…is to balance the cost of the action incurred by the performer against the sum of the values of its generated effects, including those contracted and those not. Whether the effects command a positive value or a negative value, the Pareto condition is satisfied whenever the cost and the return balance at the margin."

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It is critical to discover appropriate balance/ Pareto condition (see Part E) in order to get clearer vision, goals and directions where different constituents would be willing to cooperate to work towards these common goals. Thereafter, they would build appropriate interdependency and boundaries that shapes the right CT Plan's organization structure.

Question 25

Do commenters believe that Section 4.6(b) could be interpreted in a manner that could result in the SROs acting inconsistently with their obligations under the federal securities laws, rules, and regulations? Could this language result in an SRO voting against needed improvements to the provision of consolidated equity market data? Do commenters have other concerns with the proposed provision? If so, how could such concerns be mitigated?

Mitigating the risk in Section 4.6(b) to curb the possibility of SROs acting inconsistently with their obligations and the possibility of them voting against needed improvement to the provision of consolidated equity market data would, to a degree, be as cumbersome as the indirect ownership of covered funds under the Volcker Rule. Also, what is a facility of an Exchange, or how broad the definitions of "exchange" and "facility" as set forth in Sections 3(a)(1) and (2) of the Exchange Act? How difficult it is to distinguish those services in an arms-length relationship with the exchange from similar services provided by unaffiliated providers? There could be "ambiguity affords the Commission a great deal of power to draw the boundaries as it pleases" per a statement by Commissioner Hester Peirce.[41] Again, let's review the divergence between private and social costs,[6] and set appropriate balance/ Pareto condition (see Part E). In our opinion, the simplest and most effective way to curb potential abusive behavior is by requiring SROs to spin-off[15] their data business. The other method is mandating the use of time-lock encryption to make market data available securely in synchronized time.[35]

[41] https://www.sec.gov/news/public-statement/peirce-statement-wireless-fee-schedule

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Subcommittees

Question 26

Article IV, Section 4.7(a) of the proposed CT Plan provides that subcommittee chairs will be selected by the Chair from SRO Voting Representatives or Member Observers with input from the Operating Committee. What are commenters' views on whether Non-SRO Voting Representatives should be unable to serve as a subcommittee chair? What are commenters' views on whether Member Observers should be permitted to serve as a subcommittee chair? Do commenters believe that the CT Plan should permit Non-SRO Voting Representatives to serve as chair, co-chair, or vice-chair of any subcommittees of the Operating Committee? Should subcommittees of the Operating Committee be required to have the same relative balance of membership between SRO Voting Representatives and Non-SRO Voting Representatives as the Operating Committee itself? Should Member Observers be permitted to participate in subcommittee deliberations?

Subcommittee chair should not be "selected" by particular person, but through a "voting process" by team members of the subcommittee. Therefore, neither the Chair from SRO Voting Representatives nor Member Observers with input from the Operating Committee should have such authority to "select". Besides, Member Observers should rescue themselves from serving as subcommittee chair in order to perverse the independent running of subcommittee free from influences by SROs or its designated Member Observers. Last but not least, CT Plan should permit Non-SRO Voting Representatives to serve as chair, co-chair, or vice-chair of any subcommittees of the Operating Committee.

Question 27

Section 4.7(c) provides that SRO Voting Representatives, Member Observers, and other persons as deemed appropriate by the SRO Voting Representatives may meet in a subcommittee to discuss an item subject to attorney-client privilege of the CT Plan or that is attorney work product of the CT Plan. What are commenters' views on the scope of the "other persons" who may be deemed appropriate by the SRO Voting Representatives to discuss an item subject to attorney-client privilege of the CT Plan or that is attorney work product of the CT Plan? Should there be any limitations? If so, what limitations would be appropriate?

We expect that "other person" may likely be an attorney or consultant hired by the SROs. The emphasis is not about "attorney-client privilege", but the concern over any discussed matters becoming work product of the CT Plan LLC company. To some extent, this hinder subcommittee members from discussing any innovative solutions that may be proprietary and confidential to be discussed even under non-disclosure agreement during subcommittee meeting because of worry that it may inadvertently become intellectual properties of the CT Plan LLC company. Additionally, the exclusion of Non-SRO Voting Representatives is troubling.

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Officers

Question 28

Article IV, Section 4.8 of the proposed CT Plan provides that in addition to the Chair and the Secretary of the CT Plan, the SROs, as Members of the CT Plan, may designate other Officers of the CT Plan, with such authority as the SROs may, from time to time, delegate to them. Section 4.8 further provides that the SROs may remove any CT Plan Officer by majority vote. What are commenters' views on these provisions? Do commenters think it is appropriate that decisions relating to Officers and duties may be made solely by the SROs? Do commenters believe that the positions and duties of any Officers should be specified in the CT Plan? Should there be limitations on eligibility to serve as an Officer of the CT Plan? For example, should SRO Voting Representatives or Member Observers be eligible to serve as Officers of the CT Plan? Should Non-SRO Voting Representatives be restricted from serving as Officers of the CT Plan? Do commenters believe the CT Plan should specify considerations for removal of an Officer?

Any responsible board would have the right to remove officer(s), like removing roadblocks that hold back performance. Ownership right does not mean usage of private property without restrictions. The objective of this market data reform (or any policy reform) should be about **discourage inflicting damage on others** or ecosystem degradation. We recommend the SEC, the SROs, and the industry to engage with us for a full-fledged study of **divergence between private and social costs**[6] (see Part E and ***Figure 2***), and discover the optimal balance/ Pareto condition. At this moment, it is premature to discuss who has what authorities to decide on appointment or removal of officers.

Question 29

Section 4.8(a) of the proposed CT Plan provides that each Officer shall hold office until such Officer's successor shall be duly designated or until such Officer's death, resignation, or removal. Do commenters believe that term limits should apply to any specific or to all Officers of the CT Plan? What are commenters' views on the impact to the CT Plan if such term limits were adopted?

Term limitation at the board level helps cycle in new ideas into the diversified board representation and foster appropriate give and take to negotiate for economic interests. However, the proposed plan lacks clarity whether officers are also board members. Applying term limitations at officer level may indeed result in a 'nothing gets changed or developed' scenario for the CT plan. A new officer may get into the race to counter the previous officer's actions for political shows or use bandages rather than truthfully cure the real problem in market. It effectively forcing any momentum to advance SIPs back to preserving the old SROs controlled model. Therefore, be careful of what you wish for.

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Disclosure of Potential Conflicts of Interest; Recusal

Question 30

Article IV, Section 4.10 of the proposed CT Plan sets forth provisions for recusals and for the disclosure of conflicts of interest and provides that the Members, the Processors, the Administrator, the Non-SRO Voting Representatives, and each service provider or subcontractor engaged in CT Plan business that has access to Restricted or Highly Confidential Information shall be subject to Section 4.10 and Exhibit B to the CT Plan. Exhibit B to the CT Plan provides a list of questions and instructions tailored to elicit responses that disclose potential conflicts of interest. Do commenters believe that Member Observers should be expressly subject to Section 4.10 and Exhibit B? If so, do commenters believe that the same disclosure requirements and recusal provisions that apply to Members and other identified persons would sufficiently mitigate any conflicts of interest faced by Member Observers? If not, what additional disclosures or recusal provisions do commenters believe would be appropriate? Do commenters believe that Officers of the CT Plan should be expressly subject to Section 4.10 and Exhibit B? If so, do commenters believe that the same disclosure requirements and recusal provisions that apply to Members and other identified persons would sufficiently mitigate any conflicts of interest faced by Officers? If not, what additional disclosures or recusal provisions do commenters believe would be appropriate?

Policy on conflicts of interest should apply to everyone at all levels across the CT Plan without exception. Mitigate conflicts of interest by self-disclosure would NOT be effective. Instead, appropriate assessments if anyone may be exploiting their economy of scope and/or information advantage to obtain unfair gain. Frankly, most conflicts if not all should be dealt with prior to the formation of CT Plan, or else we expect continuous arguments, ending up with the general public suffering from a disconcerted public utility and industry value chain.

Question 31

Article IV, Section 4.6 of the proposed CT Plan addresses the ability of SROs to engage in certain business activities outside of the business activities of the CT Plan. Do commenters believe that the disclosure requirements under Section 4.10 and Exhibit B elicit sufficient relevant information to mitigate conflicts of interest that may result from such business activities? If not, how should the SROs update the conflicts of interest policy of the CT Plan to address this?

No. Please see our respond to Question 30. Updating a well-articulated 'conflicts of interest policy' may merely benefit the large law/ consulting firms. It is better to curb any potential conflicts by realigning economic incentives and/or spin-off certain business, plus putting in place an appropriate checks-and-balance structure.

Question 32

Article IV, Section 4.10(d) of the proposed CT Plan provides that, if the Commission's approval of the conflicts of interest policies filed by the CQ Plan, the CTA Plan, or UTP Plan is stayed or overturned (for example, by a court), the requirements of Section 4.10 and Exhibit B of the CT Plan shall not apply. What are commenters' views on whether such a provision is necessary or appropriate for the CT Plan? Do commenters believe that the CT Plan should, at a minimum, contain provisions for addressing conflicts of interest that are not subject to elimination, or provisions specifying that the CT Plan must be amended to include a new policy with respect to conflicts of interest before the existing policy can be removed?

This is interesting – who may request a stay order, why would a Governmental Authority overturn the Commission's approval order of the conflicts of interest policies? What is the SROs' intent to set forth such a clause? It will require further elaboration and explanation before an appropriate response can be provided.

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Confidentiality Policy

Question 33

Article IV, Section 4.11(a) of the proposed CT Plan states that the SROs and the Non-SRO Voting Representatives are subject to the Confidentiality Policy set forth in Exhibit C to the CT Plan. Do commenters believe that Section 4.10(a) should be modified to expressly apply to Member Observers? Do commenters believe that the definition of Member Observer should be more narrowly tailored to limit the individuals within an SRO that have access to Highly Confidential or Confidential Information? Should Member Observers be prohibited from receiving Restricted or Highly Confidential Information, or be excluded from being present when such information is discussed? Should Member Observers be required to demonstrate a legitimate or particularized need for specific Restricted or Highly Confidential Information before being granted access? Are there other confidentiality provisions that should expressly apply to Member Observers?

What constitutes as "Restricted, Highly Confidential, or Confidential information except as consistent with this Policy and directed by the Operating Committee" would likely arose much debate in the industry. Member Observers are allowed to participate in Executive Sessions. The odd is, per §4.7(a) Member Observers do have power to select subcommittee chairs with inputs from operating committee, this almost equating to the power of operating committee chair from SRO Voting representative. Those being said, Member Observers may positively bridge across silo groups within CT Plan organization rather than negatively hinder the openness in communication. It is hard to determine if Member Observers should or should not be Covered Person to assess confidential information when so many non-clarities are still up in the air. Again, we recommend the SROs and the industry to seek objective understanding on the divergence between private and social costs[6] first before rushing through the CT Plan's organization structure.

Reference to our respond to Question 7, Member Observers should be limited as to not stack the deck with several Member Observers from a single SRO. This, however, can be achieved by Exchange holding companies owning several medallions for example. It is good to keep thinking about the appropriate checks and balances to ensure NMS 2.0 governance plan would create the necessary positive tensions among diversified constituents for the benefit of advancing industry's development and the investors and public interests. That being said, negative tension or arguments are often the results of resources constraints. Therefore, it is better to solve the economic incentives challenge and realign the market, so that there will be growth in the overall pie and everyone getting a bigger piece if they contribute positively to the smile curve value chain.

Last but not least, it is unclear whether the "observer" role would be like the Media (i.e. the 4th power serving from the outside in reporting issues of the three branches of government). If yes, Media has no authority to access to confidential information, but they would gather intelligence and link the puzzle pieces together in crafting breaking news to put spotlight on dysfunctional government.

Question 34

Article IV, Section 4.11(b) of the proposed CT Plan provides that, if the Commission's approval of the confidentiality policies filed by the CQ Plan, the CTA Plan, or UTP Plan is stayed or overturned (for example, by a court), the requirements of Section 4.11 and Exhibit C of the CT Plan shall not apply. What are commenters' views on whether such a provision is necessary or appropriate for the CT Plan? Do commenters believe that the CT Plan should, at a minimum, contain provisions for identifying and protecting confidential information that are not subject to elimination, or provisions specifying that the CT Plan must be amended to include a new policy with respect to confidential information before the existing policy can be removed?

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This is interesting – who may request a stay order, why would a Governmental Authority overturn the Commission's approval order of the confidentiality policies? What is the SROs' intent to set forth such a clause? It will require further elaboration and explanation before an appropriate response can be provided.

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Processor Functions and Responsibilities

Question 35

Article V, Section 5.1 of the proposed CT Plan specifies the general functions of the Processors, as more fully set forth in an agreement to be entered between the CT Plan and the Processors (the "Processor Services Agreements"). Do commenters believe this approach is appropriate? Do commenters believe that further details on the terms and responsibilities of the Processors should be specified in the body of the CT Plan? If so, what additional types of terms and responsibilities of the Processors should be specified in the CT Plan? For example, should the CT Plan specify the factors to be considered for termination of the Processors?

No, Article V, Section 5.1 is insufficient. Above and beyond what is already described, the functions and responsibilities of the Processor should include, but not limited to: (1) business continuity/ disaster recovery for SIP(s); (2) Expand SIP functionalities; (3) innovate, promote fairness and enabling average investors to participate in market with minimal to no "friction(s)"; (4) serve as conduit to strike balance/ achieve Pareto condition that discourage inflicting damage on others or ecosystem degradation amid divergence between private and social costs[6] (see Part E and ***Figure 2***); and (5) provide analytical support for the Consolidated Audit Trail (CAT) project.

Question 36

Article V, Section 5.1 of the proposed CT Plan requires, among other things, that the CT Plan require the Processors to collect from the SROs, and consolidate and disseminate to vendors and subscribers, Transaction Reports and Quotation Information in Eligible Securities in a manner designed to assure the prompt, accurate, and reliable collection, processing, and dissemination of information with respect to all Eligible Securities in a fair and nondiscriminatory manner. Do commenters believe that the terms of the CT Plan should also require the Processors to ensure the "fairness and usefulness of the form and content of such information," consistent with Section 11A(c)(1)(B) of the Act?

Absolutely yes, and mandating the use time-lock encryption to make market data available securely in synchronized time[35] is the way to ensure fairness and usefulness of SIP information and be consistent with Section 11A(c)(1)(B) of the Act.

Question 37

Article V, Section 5.2 of the proposed CT Plan provides that the Processors' performance shall be subject to review at any time as determined by a vote of Operating Committee, provided that a review shall be conducted at least once every two calendar years but not more frequently than once each calendar year unless there is a material default that has not been cured within the specified applicable cure period. What are commenters' views on the proposed frequency of reviews of the Processors? The proposed CT Plan does not specify the criteria under which the Processors will be evaluated. Do commenters believe that further detail should be specified in the CT Plan regarding the Operating Committee's review of the performance of the Processors under the Processor Services Agreements? For example, should the CT Plan specify certain performance metrics to be used in reviewing the performance of the Processors, and if so, are there particular metrics that should be used? Do commenters believe that the CT Plan should specify a maximum cure period for material defaults by Processors under the Processor Services Agreements? If so, what period would be appropriate? Should the Commission also be notified and supplied with a copy of any reports regarding any recommendations the Operating Committee may approve as a result of the review of the Processors?

Per our suggestions in our May 2020 comment letter[16] to the Commission, if time-lock encryption is implemented and if a 2.5 times connectivity disparity ratio is maintained by the SROs while giving SIP(s) the fastest connection, then core data would evolve alongside with the broader market ecosystem without the need to wait until an annual assessment. We

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think assessment is important while it should not be done out of formality. For that, we feel the review mechanism as proposed under CT Plan would cause continuous arguments rather than concrete improvements of SIP performance. In our opinion, speed or technology in itself is not a concern, but abusive usage is. Therefore, the assessment ought to review potential implications/ threats as a result of upcoming techs (quantum[34], 800G[42] or 1.6Tbit[43] connectivity) and be used to plan ahead for the future.

Question 38

Article V, Section 5.3 of the proposed CT Plan provides that the Operating Committee shall establish procedures for selecting Processors and that these procedures shall at a minimum set forth (a) the entity that will draft the request for proposal, assist the Operating Committee in evaluating bids, and otherwise provide assistance to the Operating Committee; (b) the minimum technical and operational requirements to be fulfilled by the Processor; (c) the criteria to be considered in selecting the Processor; and (d) the entities (other than Voting Representatives) that are eligible to comment on the selection of the Processor (collectively, the "Processor Selection Procedures"). Do commenters believe that the Processor Selection Procedures should set forth any terms in addition to those set forth in Article V, Section 5.3(b)? For example, should the Processor Selection Procedures specify a maximum time period to select a new Processor? Additionally, do commenters believe that the Processor Selection Procedures should require that a subcommittee of disinterested members of the Operating Committee—those not affiliated with a person seeking to act as the Processor—vote and select a new Processor? Should a subcommittee of disinterested members be required to evaluate the proposals and make a recommendation to the Operating Committee? Should the CT Plan specifically provide that Non-SRO Voting Representatives should be eligible to comment on the selection of a new Processor? Should the CT Plan specifically provide that any other persons should be eligible to comment on the selection of a new Processor? If so, which persons and why?

Our understanding is that the maximum time period to select a new Processor is "no later than upon the termination or withdrawal of a Processor or the expiration of a Processor Services Agreement with a Processor" per Section 5.3(a). Asides, involving a subcommittee of disinterested members of the Operating Committee to be part of the selection process would add more hands in the pool asking for resources. In return, what values do they provide? At most, they can only be party to "consult", but not having authority to vote. Last but not least, the public should be allowed to comment because we would expect that the CT Plan is run as a public utility.

Question 39

Should the CT Plan specify in detail the minimum performance standards applicable to the Processor? For example, should the CT Plan set minimum standards for the timely dissemination of information, bandwidth, or other metrics? If so, what minimum standards would be appropriate?

With regards to setting minimum performance standard, the SROs proposed CT Plan's Section 5.4 (b)(iv) stated that "Each Member shall (a) transmit all Transaction Reports in Eligible Securities to the Processors as soon as practicable, but not later than 10 seconds, after the time of execution, (b) establish and maintain collection and reporting procedures and facilities reasonably designed to comply with this requirement, and (c) designate as "late" any last sale price not collected and reported in accordance with the above-referenced procedures or as to which the Member has knowledge that the

[42] https://www.ciena.com/insights/articles/800G-is-here-pushing-the-boundaries-of-what-your-network-can-do.html
[43] https://ethernetalliance.org/wp-content/uploads/2020/03/EthernetRoadmap-2020-Side1-FINAL.pdf

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time interval after the time of execution is significantly greater than the time period referred to above. The Members shall seek to reduce the time period for reporting last sale prices to the Processors as conditions warrant."

We are disappointed that the SROs propose an **OUTRAGEOUS 10 Seconds tolerance**?! Are they also disseminating these reports on their own proprietary feeds with the same delays? SROs should be required to do better as it now year 2020 not 30+ years ago. The Consolidated Audit Trail project requires broker-dealers to comply with a 50± milliseconds standard. Here, the Exchanges are allowing themselves a full 10 seconds before market data available at SIP(s). Then, their elite customers are also equipped with much faster (100G vs 10G) connectivity. How is that fair?!

Again, this proves the need to mandate the use of time-lock encryption to make sure that both proprietary feeds and the SIP(s) are available securely in synchronized time.[35] There are multiple ways to build time-lock encryption for different protection requirements. The following points should be noted and become part of the minimum performance standard of the Processors:

- The architecture needs precise calibration of time with an independent atomic clock, such as the NIST
- Incorporate time-lock with threshold-cryptosystem is like asking asynchronous distributed network to behave like synchronous network.
- Consistency of server's notion of time depends on joint attestation by clients that are subjected to certain tolerance level.
- Data may be vulnerable to alteration if the timestamp is attached before encryption.
- Threshold secret sharing the identity based encryption (IBE) master key among the group avoids a single point of failure, but time granularity of consensus architecture may not fit the use case to solve the market data / market access problem.
- Assume no corrupt nodes as a result of deliberately setting clocks arbitrarily forward or back, network conditions can affect the precision of when the time vault beacon releases the key to allow decryption of the message.
- TLC is on logical time, not real time per se. Witness consigning need to pick an arbitrary before and after tolerance window, which is hard to calibrate. Attempts to correct monotonicity violations may introduce other nuances.
- Asynchronous distributed network may be less expensive, but are slower.

SROs should pledge to provide SIP(s) the fastest connection and be mandated to maintain a maximum connectivity disparity ratio not more than 2.5 times.[16]

Nevertheless, the SROs proposed CT Plan's Section 5.5 (c) regarding "Members promptly notifying the Processors of a level of trading activity or other unusual market conditions prevent it from collecting and transmitting Transaction Reports or Quotation Information to the Processor, or where a trading halt or suspension in an Eligible Security is in effect in its Market" deems insufficient as a performance standard. Promptly ≠ Immediacy; our emphasis is proprietary feeds and SIP(s) ought to be in synch before, during, and after such event(s). Similar to the Exchanges' halt and resume process, corresponding time granularity standards should be set.

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Administrator Functions and Responsibilities

Question 40

Article VI, Section 6.1 of the proposed CT Plan specifies the general functions of the Administrator, as more fully set forth in an agreement to be entered between the CT Plan and the Administrator (the "Administrator Services Agreement"). Do commenters believe this approach is appropriate? Do commenters believe that further details on the terms and responsibilities of the Administrator should be specified in the body of the CT Plan? If so, what additional types of terms and responsibilities of the Administrator should be specified in the CT Plan?

The SROs proposed CT Plan is like retro-fitting responsibilities to these "Processor" and "Administration" functions, while await the Operating Committee and Members to figure out the organization's purpose someday. In our opinion, functional responsibilities should set around the organization purpose as stacking blocks to achieve such objective, not the other way round. NMS 2.0 should be a full-fledged exercise like the Music Modernization Act[20] governing digital streaming and related copyrights and royalties issues. We recommend the SEC, the SROs, and the industry to engage with us for an in-depth study of the **divergence between private and social costs**[6] (see Part E and ***Figure 2***), and discover the optimal balance/ Pareto condition. It is better to **realign 4Vs** and other subsides, plus injection of tech innovations as means to spurs new economic opportunities. It would **revive the industry's smile curve value chain** and grow the overall pie (see Parts B and F, particularly ***Figure 1*** and the analysis shown in Appendix I).

Question 41

Article VI, Section 6.1 of the proposed CT Plan specifies that the Administrator should perform administrative functions on behalf of the CT Plan, including the preparation of the CT Plan's audited financial reports. Do commenters believe that the Administrator's duties with respect to the preparation of financial reports should also include unaudited reports?

SROs may not care to discuss any unaudited matters with non-SROs, thereby pushing the matter down the road until actual audits are performed, at which time the information may no longer be relevant. Alternatively, unaudited information may be claimed as confidential information, preventing appropriate access. Frankly, arguments heat up when one did not get their fair share of CT Plan's revenue/ profits, so why not resolving the **divergence between private and social costs**[6] issue in the first place?

Question 42

Article VI, Section 6.2 of the proposed CT Plan provides for the evaluation of the Administrator, specifying that the Administrator shall be subject to review at any time as determined by the Operating Committee, provided that the Administrator shall be subject to review at least every two years and not more frequently than once each calendar year, and that the Operating Committee shall appoint a subcommittee or other persons to conduct the review. What are commenters' views on the appropriate scope of "other persons" who may participate in conducting the review? What are commenters' views on the proposed frequency of reviews of the Administrator? The proposed CT Plan does not specify the criteria under which the Administrator will be evaluated. Do commenters believe that such criteria should be specified in the CT Plan regarding the CT Plan's review of the performance of the Administrator under the Administrator Services Agreement? If so, what types of performance metrics used in the review should be specified in the CT Plan? Should the Administrator evaluation process be conducted by an independent third party? Should the CT Plan specify the terms for the termination and removal of the Administrator? If so, what terms or criteria should be specified? Do commenters believe that the CT Plan should specify a maximum cure period for material defaults by the Administrator under the Administrator Services Agreement? If so, what period would be appropriate?

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We think the suggested two years term is about right if there is no performance issue. It becomes problematic if the Administrator is performing poorly and inflicting damage on others or ecosystem degradation. The SROs proposed CT Plan did not specifically mention what discretion the Administration has to mobilize budget. Also, there is no mentioning of evaluation 'criteria' and no protocol in case of 'transition' to a new Administrator. We are not asking for overly prescriptive rules, but more clarity in these areas would improve the soundness of CT plan.

Question 43

Article VI, Section 6.3 of the proposed CT Plan describes the process for selecting a new Administrator. Do commenters believe that the Administrator Selection Procedures should set forth any additional terms other than those set forth in Article VI, Section 6.3? For example, should the Administrator Selection Procedures specify a maximum time period to select a new Administrator?

We agree with specifying a maximum time period to select a new Administrator. We envisage that the Administrator would work in close partnership with the Processor, hence the Processor may have a say in the Administrator selection process. Further, the new Administrator should not just be any major accounting, law, or consulting firm, but the CT Plan should give preference to firm that can assist the Operating Committee to review the **divergence between private and social costs**[6] (see Part E and ***Figure 2***), and will contribute to getting the industry's buy-in for a new equilibrium/ balance in reviving the industry's **smile curve** (see Parts B and F – ***Figure 1*** and the analysis shown in Appendix I).

Question 44

Article VI, Section 6.3 of the proposed CT Plan provides that the Operating Committee may solicit and consider, as part of the process of establishing Administrator Selection Procedures, the timely comment of any entity affected by the operation of the CT Plan. Article VI, Section 6.3(d) provides that the Administrator Selection Procedures should specify certain entities (other than Voting Representatives) that should be eligible to comment on the selection of a new Administrator. Do commenters believe that this requirement is appropriate? Do commenters believe that the entities selected by the Operating Committee should be specified in the CT Plan rather than the Administrator Selection Procedures? If so, what types of entities should be eligible or ineligible to comment on the selection of a new Administrator? Do commenters believe there may be circumstances in which these two provisions might come into conflict—i.e., that the Administrator Selection Procedures might fail to include, as an entity eligible to comment, an entity that is affected by the operation of the CT Plan? Do commenters believe that the provisions of the CT Plan should be revised to prevent such an occurrence?

All public should be allowed to comment because CT Plan is expected to run as a public utility. At this moment, it is premature to discuss whether the entities selected by the Operating Committee be specified or not in the CT Plan rather than the Administrator Selection Procedures.

Question 45

Should the CT Plan specify in detail the minimum performance standards applicable to the Administrator? If so, what minimum standards would be appropriate?

See our respond to Question 42 and Question 43.

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Regulatory and Operational Halts

Question 46

Article VII, Section 7.1 of the proposed CT Plan describes the SROs' responsibilities relating to regulatory and operational trading halts, including when a Primary Listing Exchange may declare a trading halt, the process for initiating a trading halt, and the process for reopening following a halt. What are commenters' views on these provisions? Are the proposed provisions describing the circumstances in which a Primary Listing Market may declare or terminate a market-wide halt in trading in its listed stocks consistent with the maintenance of fair, orderly, and efficient markets? If not, how should these provisions be modified?

See last paragraph of our respond to Question 39. 'Good faith effort' is too loose a requirement.

Capital Contributions; Capital Accounts; Allocations

Question 47

Articles VIII and IX of the proposed CT Plan govern the use of capital accounts under the CT Plan, including contributions to and distributions from such accounts, and allocations to the SROs. What are commenters' views regarding these provisions? Would these provisions serve to prohibit unreasonable discrimination with regard to the allocation of capital contributions, distributions, and profits and losses among the SROs? If not, how should these provisions be modified?

Capital contribution and distribution is a big topic. The few paragraphs in Articles VIII and IX do not do appropriate justice. NMS 2.0 should be a full-fledged exercise like the Music Modernization Act[20] governing digital streaming and related copyrights and royalties issues (see comments and our counter suggestions in the Parts E, F, and G).

Dissolution and Termination of the CT Plan LLC

Question 48

Article XI of the proposed CT Plan provides the terms for the dissolution and termination of the LLC as determined by the SROs. Do commenters believe that the dissolution and termination of the LLC should require consideration by or the consent of the Non-SRO Voting Representatives?

Yes, dissolution and termination of the LLC should require consideration by and the consent of the broader industry, which goes beyond the Non-SRO Voting Representatives. As mentioned before, stipulations agreed to by non-SROs Representatives at the table may only represent top tier players' views but lack endorsement by tier 2 or 3 firms in respective sectors. Also, existing encumbrances' interest seems to be placed above public interest when the proposal omits to consider those previously fled the market, potential new entrants, and academia. We are concerned about threat to dissolve CT Plan unless the public or the broader industry keeps pumping money into it. If CT Plan LLC may ever be out of business, it would a huge loss for the general public.

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Exculpation and Indemnification

Question 49

Article XII of the proposed CT Plan includes provisions governing the exculpation and indemnification of certain parties involved in the operation of the CT Plan. Do commenters believe that these provisions cover the appropriate parties? If not, how should these provisions be modified? For example, should the proposed exculpation and indemnification provisions also cover Non-SRO Voting Representatives?

How interesting is that, both SROs and Non-SRO representatives wanted exculpation and indemnification clauses to limit their liabilities. Yet, the public suffers from potential failure of the CT Plan has no one to hold accountable. As currently proposed, SROs have considerable more voting rights and insight into the company's dynamics than the Non-SRO Representatives via Executive session and confidential information. Possible dissolution or "handoff" to let the CT Plan runs astray would potentially favor profitability of proprietary feeds, while SROs may bare no adverse consequences. Right to receive income generated by use of good must accompany with risks and corresponding liabilities. SROs should have significantly more liabilities and be held more accountable than Non-SRO, or else their entitlement to income should be cut. Additionally, since Non-SROs Reps are individuals, their ability to shoulder liability is a concern.

Question 50

Article XII, Section 12.1(b) of the proposed CT Plan sets forth the rights and responsibilities of an Exculpated Party. Do commenters believe that these rights and responsibilities are consistent with the obligations of SROs with respect to the operation of an NMS plan? If not, how should these provisions be modified?

No. See our respond to Question 49.

Governing Law

Question 51

Article XIII, Section 13.4 of the proposed CT Plan sets forth the governing law of the CT Plan and states that the rights and obligations of the SROs, the Processors and the Administrator, vendors, subscribers, and other persons contracting with the CT Plan in respect of the matters covered by the CT Plan should at all times also be subject to any applicable provisions of the Act and any rules and regulations promulgated thereunder. Do commenters believe that any of the other provisions of the proposed CT Plan are potentially inconsistent with Section 13.4? If so, how should the proposed CT Plan be modified?

Despite SROs being registered with the SEC are quasi-regulatory authorities, they however do not enjoy quasi-governmental immunity.[44] The clause that said, "For the avoidance of doubt, nothing in this Agreement waives any protection or limitation of liability afforded any of the Members or any of their Affiliates by common law, including the doctrines of self-regulatory organization immunity and federal preemption" may be inconsistent with exculpation and indemnification clauses in Article XII. See our respond to Question 49.

[44] https://content.next.westlaw.com/Document/I8aba78e5e4dd11e79bf099c0ee06c731/View/FullText.html

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Amendments

Question 52

Article XIII, Section 13.5 of the proposed CT Plan governs amendments to the CT Plan. Section 13.5(b) provides that Articles IX (Allocations), X (Records and Accounting; Reports), XI (Dissolution and Termination), and XII (Exculpation and Indemnification) may be modified upon approval by a majority of Members; provided, however, that Operating Committee approval will be required for modifications to the allocation of all items of income, gain, loss, and deduction. Do commenters believe that amendments to Articles IX through XII of the CT Plan should be subject to the approval only of SROs? Do commenters believe that NonSRO Voting Representatives should also have voting rights with respect to the approval of amendments to Articles IX through XII of the CT Plan?

No, modification pertaining to these Articles should not be subject to the approval only of SROs. Again, CT Plan as a public utility ought to be free from bias toward SROs or Non-SRO representatives.

Question 53

Article XIII, Section 13.5(d) of the proposed CT Plan describes the types of amendments that would be defined as a Ministerial Amendment to the CT Plan and, therefore, could be submitted to the Commission by the Chair of the Operating Committee upon 48 hours' advanced notice to the Operating Committee. Do commenters believe that the definition of Ministerial Amendments is appropriate? Are there specific types of amendments that should be included in or excluded from the definition of Ministerial Amendments?

Anything could be, or could not be, "Ministerial". We advocate for appropriate checks and balances.

Distributions – Exhibit D

Question 54

Paragraph (j) of Exhibit D to the proposed CT Plan provides the definition of the term Net Distributable Operating Income. Do commenters believe that this definition provides sufficient and appropriate detail for the CT Plan to calculate the Net Distributable Operating Income? Do commenters believe that further details would be appropriate or necessary for the CT Plan to determine the Net Distributable Operating Income?

No, absolutely not. Again, NMS 2.0 should be a full-fledged exercise like the Music Modernization Act[20] governing digital streaming and related copyrights and royalties issues (see comments and our counter suggestions in the Parts E, F, and G).

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Analysis of Impact on Competition

Question 55

In their analysis of the impact of the proposed CT Plan on competition, the SROs state that the proposed CT Plan complies with the Order and that the CT Plan "incorporates the existing substantive provisions of the CTA Plan, CQ Plan, and UTP Plan, which have been approved by the Commission, together with the governance provisions required by the Commission's Order." What effect, if any, do commenters believe the specific terms of the proposed CT Plan as submitted by the SROs would have on competition?

We find the proposed Plan incomplete. Additionally we ask, What competition?! The CT Plan is NOT competitive with Exchanges' proprietary data products given the 10 seconds tolerance (see our respond to Question 39).

Question 56

Paragraph (c) of the Recitals of the proposed CT Plan specify a number of steps to be undertaken before the CT Plan becomes operational as the NMS plan responsible for the dissemination of equity market data, but do not include specified time periods in which these actions must be commenced or completed. What effect, if any, do commenters believe the lack of such time periods or deadlines would have on competition?

It is understandable if the SROs want to push this back at late as possible because it would potentially affect their revenue stream from SIPs with a direct hit to their bottom line. That being said, this cannot be pushed indefinitely. Therefore, give it some maximum (e.g. 12 to 18 months), or else the Commission should consider mandating trading venues to spin-off their data business to curb potential exploitation of their economy of scope.

Question 57

Article IV, Section 4.2(b) of the proposed CT Plan provides that Non-SRO Voting Representatives shall serve for two-year terms for a maximum of two terms total, whether consecutive or non-consecutive, but places no similar limitations on the terms of SRO Voting Representatives. What effect, if any, do commenters believe this limitation on Non-SRO Voting Representatives would have on competition?

See our respond to Question 55.

Question 58

Article I, Section 1.1(oo) of the proposed CT Plan would allow SROs to select Member Observers, and Article IV, Section 4.4(g) of the proposed CT Plan would permit Member Observers to attend general and Executive Session meetings of the CT Plan. What effect, if any, do commenters believe the ability of the SROs to select Member Observers, who would have access to Confidential Information and Highly Confidential Information, would have on competition?

See our respond to Question 5 and Question 7.

Question 59

Article IV, Section 4.6(b) of the proposed CT Plan provides that none of the SROs shall be obligated to recommend or take any action that prefers the interest of the CT Plan or any other Member over its own interests. Do commenters believe that this provision would facilitate competition in the provision of equity market data? Do commenters believe that this provision would hinder competition in the provision of equity market data?

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No, we do not believe that this provision would facilitate competition in the provision of equity market data. Mitigate conflicts of interest by self-disclosure would NOT be effective. Appropriate assessments should be performed to review if anyone may be exploiting their economy of scope and/or information advantage to obtain unfair gain.

Frankly, most conflicts if not all should be deal with prior to the formation of CT Plan. We recommend the SEC, the SROs, and the industry to engage with us for an in-depth study of the **divergence between private and social costs**[6] (see Part E and ***Figure 2***), and discover the optimal balance/ Pareto condition. It is better to **realign 4Vs** and other subsides, plus injection of tech innovations as means to spurs new economic opportunities. It would **revive the industry's smile curve value chain** and grow the overall pie (see Parts B and F, particularly ***Figure 1*** and the analysis shown in Appendix I).

Question 60

Article XII, Section 12.1(b) of the proposed CT Plan provides that whenever a Member or an SRO Voting Representative (defined as an "Exculpated Party") is permitted or required to take any action or to make a decision in its "sole discretion" or "discretion" or that it deems "necessary," or "necessary or appropriate" or under a grant of similar authority or latitude, the Exculpated Party may, insofar as Applicable Law permits, make such decision in its sole discretion (regardless of whether there is a reference to "sole discretion" or "discretion"). The Exculpated Party (i) shall be entitled to consider such interests and factors as it desires (including its own interests), (ii) shall have no duty or obligation (fiduciary or otherwise) to give any consideration to any interest of or factors affecting the Company or the Members, and (iii) shall not be subject to any other or different standards imposed by this Agreement, or any other agreement contemplated hereby, under any Applicable Law or in equity. What effect, if any, do commenters believe these provisions would have on competition?

See our respond to Question 49 and Question 55.

Question 61

Do commenters believe that there is data that is relevant to an analysis of the effect on competition of the proposed CT Plan as submitted by the SROs? Commenters are encouraged to provide any such data they possess or to which they have access.

The SROs have given the industry a drafted "article of incorporation" for the CT Plan LLC with layers of bureaucracy. It should NOT be approved. Given the role and purpose of the CT Plan, why should it be organized as a For-Profit LLC, and not a Non-Profit Entity (NPE)?! More importantly, NMS 2.0 should be a full-fledged exercise like the Music Modernization Act[20] governing digital streaming and related copyrights and royalties issues (see comments and our counter suggestions in the Parts E, F, and G).

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Dispute Resolution

Question 62

The Transmittal Letter states that the proposed CT Plan does not include provisions regarding resolution of disputes between or among the Members. Do commenters believe that the CT Plan should include dispute resolution provisions? If so, should those provisions be general dispute resolution provisions, or should they be limited to specific types of disputes?

We believe that the CT Plan should include dispute resolution provisions. These provisions may be general dispute resolution provisions initially and become more specific as experience requires. That being said, any covenants agreed by the SROs and the industry should be carefully crafted, so that it would not require constant policing by the SEC every time there is a dispute. Again, we advocate for Balance/ Pareto Condition, and equality between the "Have" vs "Have Not". Suggest we learn from empirical economic samples[6] – "theory of share tenancy" and "Fable of the bees" to resolve arguments and promote fair, reasonable, and non-discriminatory (FRAND) principles.