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British Columbia Securities Commission  
Manitoba Securities Commission  
Autorité des marchés financiers  
New Brunswick Securities Commission  
Superintendent of Securities, Newfoundland and Labrador  
Registrar of Securities, Department of Justice, Northwest Territories  
Nova Scotia Securities Commission  
Registrar of Securities, Legal Registries Division, Department of Justice, Nunavut  
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**Re: Request for Comment: Real Time Market Data Fees**

TMX Group (TMX) is pleased to respond to CSA Staff Consultation Paper 21-401 (the “CSA Paper”) and commends the CSA on the quality of its examination of issues faced by participants, marketplaces, and regulators.

**Context and Background**

Since 2008, TMX has simplified its data fee structure and significantly reduced its fees for top of book data (TOB) up to 30% which has leveled the playing field for its professional subscriber base and delivered important savings for the vast majority of its data customers – representing over 30,000 subscribers. TMX will also illustrate in this response that its data provides a material and imperative benchmark for all market participants and marketplaces.

In parallel, TMX invests millions each year in technology and processes to operate the TMX Information Processor (TMX IP) in order to assist industry participants of all sizes to meet their best price execution requirements. The TMX IP provides a single point of access for data from all trading venues operating in Canada in a common format, providing a number of consolidation choices depending on the needs of market participants. TMX has also made these data sets available on its global network with access to 25 points of presence in 11 countries. While TMX incurs a substantial loss on these activities, it offers these services at no charge to marketplaces or data subscribers.

**Given these two facts, why are we seeing data fees rise for some participants?**

Fundamentally, the issue lies in the number of trading venues and lack of a more standardized approach for marketplaces to set data fees. Under the current regime, professional traders (handling orders on the trading desk) are obliged to purchase (or license and receive through the TMX IP) real-time data from each and every alternative trading system regardless of liquidity, breadth of symbols being traded, quality of pre-trade data or other value determining factors. This responsibility ostensibly exists in order to ensure that best price execution requirements are met.

However, the ultimate goal – best price execution – is not met through mandated access to data but rather through trade execution, as noted above. Additionally, while TMX supports and advocates transparency and price discovery, it does not favour forced subscriber access to data sets if there is no independent and meaningful inherent economic value or demand for this data.

Further, TMX believes that market innovations have resulted in the industry establishing solutions and data access choices for the varied needs of market participants, enabling them to meet their best execution obligations without prescribing a single data utility solution or defining a core data set. These solutions supersede the need for professional subscribers to directly access all marketplaces' data. For example, the TSX Smart Order Router provides a fully integrated solution that connects participants to all visible Canadian marketplaces trading TSX and TSX Venture Exchange listed securities. Its centralized nature provides routing consistency across all trading desks and allows participants to leverage their existing order entry connections to access all marketplaces directly, minimizing technology, connectivity and data costs. Many other marketplaces, vendors and firms also offer this capability, along with order management systems, Jitney trading and other innovations to meet best price obligations in the most efficient way possible. The key points – market forces are addressing the issue, and there is choice. Both of which foster competition rather than confine it.

Based on TMX's analysis, along with other industry studies, data from all marketplaces, including depth of book, is only required at the point of execution. At trading firms this would be the capital markets traders. Therefore, the impact of multi-marketplace data subscription fees is primarily impacting this user segment. For TMX, this group represents less than 10% of the total number of professional subscriptions to TMX group market data. The remaining 90+%, Investment Advisors and other professional data users, do not have the ability to direct order flow to a marketplace or directly execute an order and rely on the innovations discussed above.

TMX believes that the requirements for best execution and trade through avoidance have been addressed in Canada without the requirement for every investor to consume all marketplaces' data. An investor's order will receive the best price through the multitude of industry best execution technologies, processes, and capabilities.

In developing a plan for the future, we must also recognize the macro environment in which Canadian capital markets operate. The significant advances of technology and connectivity over the past two decades have fundamentally changed the nature of public capital markets. Investment flows move rapidly across borders and millions of trades are executed in fractions of a second; the very nature of our industry has shifted.

Within this rapidly shifting global and industry dynamic, it is absolutely imperative that Canada's capital markets be able to compete and win on the global stage. Canada's relatively modest size compared to the mega economies of the United States and Asia requires our country's capital markets to achieve differentiation through innovation and efficiency. It is critical that we attract our maximum potential foreign investment capital, increase activity on our markets and enhance the collective value of Canadian capital markets for the benefit of Canadian investors and issuers.

Achieving this goal requires important yet relevant investment in technology, capabilities, innovation and product research. We must therefore not reduce, in any way, the inherent incentive to drive innovation and efficiency by relying on over-regulation of fee setting (versus

ensuring there is fundamental economic drivers) or a centralized tape-sharing model (which does little to incent marketplace differentiation or investment in competitive innovation), each of which would lead to material negative long-term consequences. We must reduce market participant costs and also remove the requirement for perpetrating unnecessary access to data sets that provide no supplemental value. Finally, we most certainly need to apply balanced and reasonable regulation to avoid the creation of artificial liquidity flows and fragmentation that plague the U.S.

### **Top-Line Comments on the CSA Paper**

TMX Group shares the CSA's desire to address the increased costs being incurred by market participants (which primarily impact the capital markets trader segment) and also supports competitive forces in Canada. While the CSA has done considerable quantitative work and analysis, we believe that in order to properly and effectively address cost increases brought on by the multiple marketplace environment, it is imperative to include other elements in the analysis. We have outlined a number of these elements later in this document.

We are concerned that the CSA Paper recommends some options that we believe will lead to increased costs, administrative burdens and displacement of competitive market dynamics. In the extreme option, a centralized utility and fee sharing model, aimed at managing costs only for data subscribers (while imposing costs elsewhere), will consume Canada's limited resources inwardly and add to the competitive cost and supply frictions rather than driving efficiencies throughout the entire system. The inevitable costs (and opportunity costs), regulatory framework required to manage such an undertaking, and potential for abuse are some of the material consequences. TMX is aware that such an option would be attractive to other Canadian marketplaces given the result would be full subscriber penetration of their respective data (to a substantially larger subscription audience beyond the capital markets traders i.e. the additional 90% of professional subscribers) and participation in fee sharing. In the U.S. this resulted in artificial flows of liquidity due to disparate revenue sharing arrangements between marketplaces and selected dealers. Canada requires a simple solution that is appropriate for its size and utilization of its scarce capital markets resources.

As noted above, achievement of maximum efficiency, combined with investments in technology and innovation are critical to establish and maintain differentiation for Canada with larger international markets vying for the same investor activity. Eliminating or reducing the incentive to achieve this goal is counterproductive for all participants and trading venues and we believe can ultimately have negative consequences for Canadian investors and issuers.

TMX would strongly urge that the CSA's comprehensive analysis be expanded to include:

- the impacts of tape-sharing on natural vs. artificial movements of market share, market fragmentation, and evaluation of the net benefits on best execution and capital formation;
- the fully burdened costs of the U.S. CTA system, costs to connect to both regulated and direct feeds, costs to marketplaces to join a tape regime and the barrier to entry this would cause in Canada;
- the regulatory differences between Canada and U.S. and the needs and accessibility of level 1 (TOB) and level 2 (DOB) data, and;
- the economies of scale that the U.S. system has over Canada in terms of mandating a single solution required by all market participants.

*See Appendix 1: Review of Consolidated Models and Landscape*

### **The CSA Paper's three core findings**

In support of the CSA's first finding, that TSX and TSXV market data fees do not appear to be unreasonable in relation to their share of trading activity, we concur and would like to reiterate, as stated earlier in this document, that irrespective of the comparative trading activity level, fees charged by TMX Group are competitive when benchmarked against international markets, most notably the United States.

With regard to the second point that smaller markets are charging disproportionately higher data fees, TMX believes that Canadian marketplaces are in some cases charging fees that are excessively high in relation to their trading market share (and more so when considering broader criteria). TMX believes that every marketplace should provide distinct value to its trading clients, including relevant price discovery and the quality of how the data is derived, and only such value be reflected in proportionate market data fees.

In reference to the third point, related to the Canada-US comparison, there are inherent economies of scale which permits the U.S. to profit from a much larger data subscriber audience and therefore, spread costs further and achieve better margins. The U.S. has over 8 times the subscription level to generate revenues and cover overheads. However, there are enormous costs to operating the U.S. SIPs and many firms also consume data directly from each marketplace. We also note that in the U.S., only venues with "exchange" designation are permitted to participate directly in the SIPs and receive subscription fees. Also ATSS/ECNs do not charge subscription fees.

*See Appendix 2 – Cost of Market Data – Canada vs. U.S.*

### **The Cost of Real-Time Market Data**

#### **Market Data Fees**

As previously noted, over the past 5 years, TMX has simplified its fee structure for all its subscribers. TMX has taken a balanced approach in its pricing methodologies, basing the value of data against the type of use and the economic value derived from the data. As a result, since 2008, TMX has been able to lower the cost of acquiring TSX top of book market data (TOB).

**Table 1 – TSX TOB Market Data Fees**

<b>Year</b>	<b>TSX TOB</b>
2008	\$43.00
2009	\$42.00
2010	\$38.00
2011	\$32.00
2012	\$30.00
2013	\$30.00

As a result, the cost of accessing this market data has dropped by up to 30% since January 2008.

TMX believes that each marketplace should provide distinct value to its trading clients, including relevant price discovery and the quality of how the data is derived, and only such value be reflected in proportionate market data fees. The value should be based on the economic utility, market need and whether there is meaningful contribution to efficient and effective secondary markets. Value should not be applied by, or derived from, leveraging regulation or artificial liquidity flows (ex. tape sharing and/or moving order flow to participate in data revenue sharing).

TMX believes that some Canadian marketplaces are charging fees that are high in relation to the value they offer and trading market share (and more so when considering broader criteria). TMX would assert that an analysis as discussed later would demonstrate an even greater disparity between TMX market data fees and associated fees charged by some of the other Canadian marketplaces. It is relevant to note, in almost every case outside of Canada, ATS/ECN/MTFs do not charge subscribers for market data.

The CSA Paper outlines eight possible options through which to address the issue of real-time market data fees. TMX Group respectfully believes that these options will not provide an effective long-term solution. Our views on the CSA's proposed options are below:

**Option 1: Cap fees for “core data”**

There is no standard or common definition of “core data”. The value of the data and the various criteria that establish a fulsome and quality set of data are inherently different for each marketplace. Each user segment and type of use requires different levels of depth, scope, timeliness, and quantity. Marketplaces should establish fair value for their data based on the quantitative and qualitative criteria discussed later in this response. Imposing caps implies a lack of a proper framework to establish fees which is still the fundamental issue.

**Option 2: Cap data fees charged by a marketplace until it meets a *de minimis* threshold**

A *de minimis* threshold should be met before ANY fees are set or charged. The *de minimis* threshold should use a broad set of criteria, as discussed later and not just market share. The extent to which the broader criteria are met and the quantitative degree to which each criterion is measurable and material should be factored into the *de minimis* threshold. This would avoid significant future fee increases brought on by further proliferation of new marketplaces with minimal activity and value.

**Option 3: Cap all data fees for all marketplaces starting at a *de minimis* threshold and gradually increasing the threshold and the applicable caps**

TMX does not agree with creating a single industry price with a sliding and variable scale based on market share. Utilizing only market share is too narrow a criterion and again, the value of market data is inherently different for each marketplace as described above and later in this response. TMX takes the position that Canada needs to ensure there continues to be true capital formation and market models and efficiencies. Marketplaces that add value in facilitating this should be commercially recognized. Establishing an overly utilitarian model which focuses on moving the same fee pie around is overly burdensome, costly, and subject to abuse. As well, this would impede the ability of all businesses to plan operating budgets and manage costs, not only for data costs but also technology and system planning.

**Option 4: Cap fees for data sold through the IP**

TMX does not charge subscribers differently for its data accessed through the TMX IP and in fact allows for a single price should users chose to go direct AND to the TMX IP. We believe all other Canadian marketplaces have the same policy (note that this is not the case in the U.S.). The proposal to charge a different fee if users access the data via the TMX IP suggests that the manner of delivery, not the content, dictates marketplace fees. This would penalize market data vendors who go direct to exchanges and consolidate data using proprietary means. While the TMX IP may benefit commercially, this approach would likely decrease data accesses through vendors due to cost differences, reducing distribution channels and their investment in providing capabilities to display or integrate this data. Vendors may also be forced to procure data through the TMX IP due to cost differentials thereby imposing additional connections and system latencies. Also, defining core data is very difficult given the vast needs and uses of market data. Differentiating or prescribing a package of data with a different fee, provided through a single channel is too narrow a solution which will have negative consequences.

**Option 5: Regulate consolidated market data fees charged by the IP**

TMX does not believe the Canadian market can afford or absorb the cost and resource expenditure of imposing a centralized consolidated tape share regime. As stated later in the response, there are too many issues inherent in these plans including the cost to properly operate, arbitrary market share and trading abuses, and gaming the tape. This option also limits industry innovation. As well, the U.S. model only allows Exchanges to participate and not ATs. In this case Canadian ATs would need to hit a high water mark in terms of market share and other criteria to qualify. Also, the U.S. SIPs require a \$2MM-3MM initial marketplace fee and the costs to operate are estimated to be in excess of \$60MM/year. Regardless of the degree of a centralized data consolidation model between options 5-7 including tape sharing, this will not address how to properly value a marketplace's true worth of data and will only serve to redirect costs and resources and deter the incentive to offer differentiated and value added marketplace innovations.

**Option 6 – Cap consolidated data fees sold by marketplaces to all data vendors, not just to the IP**

Refer to TMX response in Option 1 & 2.

**Option 7: Mandate a data utility to operate on a cost-recovery basis**

Refer to TMX response in Option 5.

**Option 8: Publish amendments to market data fees and fee models for comments**

TMX continuously seeks feedback on its business models and pricing from a variety of industry stakeholders. The CSA already provides effective and pragmatic guidance, and as such, we believe that a public filing process for fee schedule amendments would not be productive. Based on feedback from US exchanges, often too many tangential issues and commentary surface from a select few market participants who choose to respond and often do not represent the majority representation of the broader market and its varied user types. TMX believes that such a public process in Canada would cause delays which, in a multi-market environment could impose constraints on the ability of a marketplace to be competitive. TMX recommends that marketplaces first work with their clients to set fees, then demonstrate to the regulators the rationale for setting fees based on criteria discussed below in this submission. It would however, be useful for the CSA to provide relevant updates in their quarterly bulletins.

**TMX Group's Recommendations**

TMX recommendations are driven by the following key principles, which are the driving force behind an effective, transparent and efficient marketplace for real-time equities market data:

- broad 'availability' of market data (versus all marketplaces having a right to universal penetration of their data 'to the other 90% of professional subscriber base' due to mandated access)
- fees for marketplace data should be based on the true economic value using a set of criteria that encourages fair market value (as outlined below)
- any changes to marketplace subscriber data fees should utilize fair market value criteria
- marketplaces should not be subsidized due to the regulation of data fees
- market innovation should drive systems, processes, and technologies to ensure clients receive best execution and 'fit for purpose' access to marketplace data
- simple and cost effective industry solutions, given Canada's size and economies of scale, are the most appropriate
- marketplace models should provide trading value to the industry and demand will warrant relevant data fees

Fundamentally, we believe that a root cause of the data cost increases for certain professional subscribers rests with the implication that the trader market segment are generally required to purchase data from each marketplace in order to fulfill best price execution requirements and that there is not an appropriate industry standard to price marketplace data. Given the technology and other processes available to ensure all trading activity respects the best price obligation, and the need for only a small proportion of professional traders for data of this scope and depth (roughly 10%), we believe the issue is largely faced by this captive audience. To reiterate, there is broad access and availability to Canadian marketplace data. It is the value of each marketplaces data, the real demand, and its respective price that is at issue. TMX would advocate that as long as there is available and representative price transparency/discovery and best execution is being addressed, there should not be a mandated requirement to buy or display all marketplaces' data on every professional subscriber desktop. TMX would suggest the CSA help to articulate the guiding principles in this regard.

We believe that a marketplace should NOT be allowed to charge for data until such time as it has met a *de minimis* test that includes a broad set of criteria to evaluate the value of its data in consultation with market participants and regulators. This fee setting process would force new potential marketplace entrants to deliver a sound business plan that adds real value to market participants and contains a plan for being profitable without reflecting a reliance on a portion of tape share revenue or the setting of arbitrary data fees.

Determining the value of market data is a multi-faceted endeavor. TMX believes that the value of its data is the result of numerous inputs and has set a benchmark standard to measure against. Factors that contribute to intrinsic value go well beyond trade volume market share. To ascertain a deeper measure of fair market value for Canadian market data, TMX suggests including a broad scope of additional market data characteristics beyond market share to assess setting ATS marketplace fees. These criteria should form the basis of a Fair Value Fee Model (FVFM):

- Pre-trade metrics such as quote duration, frequency and total bid/ask quote volume at and near the best bid and offer (BBO)
- Pre-trade value weighted spread factors
- Scope of security coverage (i.e. the number of securities) that regularly trade on a marketplace as a portion of the total universe of listed securities
- Metrics that apply a higher proportionate value to less liquid stocks where market data scarcity and supply is an important value component (as price transparency and liquidity of these securities are important for liquidity on a secondary market and ultimately capital formation)
- Natural versus artificial price discovery information (i.e. removing marketplace pegging in calculating quantitative metrics)
- Utilizing only accessible market share (orders/trades that have the ability to participate in the lit market and contribute to price transparency and discovery)
- The contribution of market quality factors that a marketplace provides such as:
  - The underlying regime to ensure orderly markets (i.e. TSX Market Makers receive incentives to ensure orderly openings, liquidity, and intraday spread targets)
  - Market on Open facility (i.e. TSX facilitates orderly openings and large participation, including 'must be filled' orders/triple witching algorithms, through its Market on Open facility)
  - Market on Close (MOC) facility (i.e. TSX facilitates orderly closing prices through its MOC facility)
  - Supplemental and valuable reference information (i.e. TMX includes value-add information with its market data, such as dividends, earnings, and outstanding shares)

This FVFM criteria should form the basis of how marketplaces work with market participants, review with regulators, and subsequently set data fees.

TMX suggests the following items be considered more thoroughly and weighed by the industry with a view to ensuring market participants continue to have options and alternative sources to access Canadian market data that are cost effective and efficient. These recommendations include:

- Retain the pass-through fee model as a cost effective, efficient and appropriate model for the Canadian marketplace allowing for choice and technology innovations to ensure best execution.
- Ensure the industry has the means to ensure marketplace data is broadly “available” and is included in best execution technologies.
- Do not subsidize individual marketplaces by guaranteeing universal end user access and revenue sharing where true competitive demand does not warrant supply.
- Continue to operate the Canadian SIP in its current model as a means to provide for a central point of access, common format, choice of feeds, and ability to offer centralized administration on behalf of marketplaces. This latter service, if more broadly used, would eliminate administrative burdens for subscribers and could serve to ensure a break-even model for the TMX IP without modifying the existing commercial model for products and services. This could also include assessing opportunities for intermediaries to also offer streamlined administrative processes to make it easier for clients to receive access to market data through centralized administration and billing, with the potential for cost savings through the reduction or elimination of mark-ups charged by vendors for market data. Marketplaces could pay for these services. TMX has a subscription agreement structure that allows for the licensing of 3<sup>rd</sup> party data which could be leveraged.
- Establish a period of time where current ATS marketplaces can right-size their data subscription fees, working with the industry and regulators to benchmark against a variety of factors beyond market share, examining a broader scope of additional quantitative and qualitative market data value characteristics as discussed earlier.
- Defer fees charged by a new marketplace until it meets a de minimis threshold based on a variety of pre/post trade metrics, scope of coverage, and market quality measures. New marketplaces would be able to set fees once that de minimis threshold has been exceeded for a period of time.
- If any material regulatory changes are contemplated, TMX believes this should be considered with a holistic view of the rules and principles under NI 21-101/23-101.

There is no doubt that the introduction of the multiple marketplace environment has generated increased costs to the industry. It is imperative to allow competitive capital markets to exist and flourish, driven by market forces, investment in innovation and with the ultimate goal of enhancing our collective competitiveness on the global stage. However, we must not put in place “fixes” that only meet short term goals, but rather advocate a broad framework that governs long term growth in an environment of market fragmentation and ensures that all parties receive fair value for fees and other business investments.

We are committed to working with the CSA and all securities regulators, participants and other marketplaces to put in place the appropriate measures to pave a competitive, successful and growth oriented path forward. Canada’s capital markets are major contributors to Canada’s economic success and must be placed on the best possible competitive footing.



Response to CSA Staff Consultation Paper 21-401

We look forward to discussing these matters further with the CSA and all stakeholders. Thank you for the opportunity to provide our comments on this important matter.

Sincerely,

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## **Appendix 1: Review of Consolidated Models and Landscape**

### **1. Data Pass-Through Model and Canada**

TMX invests in and operates (at a loss) the TMX IP as a public interest, thereby sponsors data dissemination for all Canadian marketplaces. The charges are nominal and there are no fees to subscribers or marketplaces for the service. While the TMX IP has incurred operating and cumulative losses since inception, TMX view is that without such a solution, global barriers to accessing Canadian and TMX data sets would still exist. However, demand for the service has grown substantially and feedback is that it does a lot to facilitate simple and fair access to marketplace data. Through this facility and TMX resources and capabilities, there is simple, broad and fair access to data. The TMX IP offers clients the opportunity to consolidate infrastructure requirements, administration, and related costs. TMX IP products and services are designed to provide the full data sets required for clients to meet regulatory best execution and trade through obligations while also lowering their overall data and transaction costs. TMX IP products and services are easily accessible from TMX data centres, market data vendors, telecommunications carriers, and the 26 points of presences (POPs) in 11 countries offered by the TMX Atrium global network. Other benefits include the efficiencies and cost savings of receiving consolidated data through TMX's broadly used normalized format and a single source for all market data thus reducing connectivity fees. Market participants can also choose from a la carte marketplace data feeds in the same format so there is choice depending on the needs of the various consumers.

TMX continues to support the current CSA Information Processor model which provides for a mix of regulatory guidance and industry driven solutions. TMX believes the existing practice has encouraged innovation such as the TMX IP and other data consolidators such as Thomson Reuters, Bloomberg, IDC and S&P CapitalIQ, to provide market participants with access to Canadian market data in a manner that is cost effective and efficient. TMX's discussions with the heads of the U.S. consolidated tapes have indicated the TMX IP model strikes a good balance between cost of data acquisition for participants and burden on marketplaces to provide data. This balance would be further enhanced through a model where ATS marketplace data fees would be subject to the value criteria as discussed earlier.

Prior to making any regulatory proposals that would be published for comment with regard to alternative market data pricing models, TMX would strongly urge that a comprehensive analysis be done on:

- the impacts of tape-sharing on natural versus artificial market share movements, market fragmentation, and evaluation of the net benefits on best execution and capital formation;
- the fully burdened costs of the U.S. CTA system, costs to connect to both regulated and direct feeds, costs to marketplaces to join a tape regime and the barrier to entry this would cause in Canada;
- the regulatory differences between Canada and U.S. and the needs and accessibility of level 1 (TOB) and level 2 (DOB) data, and;
- the economies of scale that the U.S. system has over Canada in terms of mandating a single solution required by all market participants

### **2. U.S. SIPs**

If using the U.S. tape regimes as a template, it is TMX's view that creating a costly highly regulated revenue share model to centralize and consolidate data would add little value to the market and have considerable administrative overhead. The U.S. SIPs were originally mandated to deal with the high cost and inaccessibility of market data on a broad basis. The rules and model date back to the 1970's where it was much more expensive to connect to regional exchanges.

Given the relative size of the Canadian market, such a tape share model would require a substantial upfront investment and ongoing operational and administration costs that would need to be subsidized by the marketplaces and market participants. In the U.S. only exchanges

participate and all new entrants are required to pay an initial fee between \$2MM-\$3MM depending on the SIP. This level of entry will create an economic burden for existing Canadian marketplaces and a barrier to entry for new marketplaces. In a 2008 SEC Filing<sup>1</sup>, the Network A Administrator informed the Participants that accounting for operating costs is administratively burdensome, especially the allocation of organization overhead costs to the Network A Administrator function. As a result, the Network A Participants determined that paying the Network A Administrator a fixed fee in exchange for its Network A administrative services in the amount of \$6 million per year would be more efficient. This statement demonstrates the magnitude of the complexity and cost to operate a tape-share structure.

Total revenue from the U.S. plans are estimated to be approximately \$400MM per year (total annual operating costs are not publicly available however, previous references on the SEC website indicated between \$50MM-\$100MM/year). Tape sharing is only available to recognized exchanges who are SROs.

The general market feedback TMX has received on the U.S. model:

- Many end users require access to both SIP market data feeds and proprietary data feeds, in effect doubling their costs for data;
- SIP feeds are slower than exchange proprietary feeds because the source feeds have to be transported to the SIP data centers, normalized using technology which has been in place for some time and subsequently delivered to the client;
- Exchanges have to deliver their market data to the SIPs in a predetermined format requiring additional, single purpose data formats and additional costs;
- SIPs are very costly to operate from a technology and administrative perspective;
- Exchanges must pay to join the SIPs;
- The SIPs have very complex revenue/cost/income sharing formulas; and
- The tape sharing plans are prone to gaming practices. These influence the way the industry interacts and trades with liquidity pools, resulting in smaller trade sizes and further fragmentation and market impact on orders.

Artificial movement of order flow, which is not based on a venue's competitive model, only fragments liquidity further rather than helping to facilitate true market efficiencies. Subsidizing undifferentiated marketplaces does not enhance Canadian capital markets or global competitiveness and is only a distraction from addressing the need to address real issues and add value.

Studies of U.S. equity marketplaces highlight the costs associated with operating and mandating centralized tapes in the U.S. and the bandwidth requirements of the tapes that "most market data users love to hate"<sup>2</sup> has resulted in a move by marketplaces and participants toward proprietary data feeds and overall higher market data expenses. It is TMX's understanding that end user costs have increased under the U.S. CTA regulated market data environment because end users purchase both regulated data products and unregulated data products. This was particularly apparent during the Flash Crash that is discussed in "Findings Regarding the Market Events of May 6, 2010"<sup>3</sup>. In particular, during the May 6, 2010 Flash Crash, the CTA had quote latency of more than 20 seconds, while the NYSE proprietary data had delays of just 8 milliseconds.

A report created for the U.S. Department of Finance<sup>4</sup> titled Equity Trading and the Allocation of Market Data Revenue examines the impacts tape sharing and rebates have on market structure, order sizes, venue relationships and market impact. The conclusion is that the very nature of applying a formula to tape sharing will directly impact the way liquidity is directed, the availability of accessible natural liquidity, and the relationships that venues and market participants are encouraged to form.

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1 Release No. 34-59230; File No. SR-CTA/CQ-2008-05

2 Real-Time Market Data: Circus of the Absurd, Tabb Group, January 2012

3 U.S. Securities & Exchange Commission and U.S. Commodity Futures Trading Commission, "Findings Regarding the Market Events of May 6, 2010", P. 76 to 77, <http://www.sec.gov/spotlight/sec-cftcjointcommittee.shtml>.

4 Cecilia Caglio, Department of Finance George Washington University

Stewart Mayhew, Office of Economic Analysis U.S. Securities and Exchange Commission, July 2012

**Appendix 2: *The Cost of Market Data – Canada vs. U.S.***

Canada has many differences vs. the U.S. in terms of regulatory environment, industry structure, size and scale. The U.S. enjoys tremendous economies of scale and substantially more gross revenue to cover overhead. When comparing CTA data accesses against TSX data accesses at the end of Q1 2011 we find:

**Table 2 – CTA Subscriptions vs. TSX Subscriptions**

<b>Access Type</b>	<b>Ratio CTA:TSX</b>
Professional Subscribers	6.0 : 1.0
Non-Professional Subscribers	21.5 : 1.0
Per Query (Usage)	8.2 : 1.0

It is also interesting to note that while traditionally U.S. firms were largely using consolidated tape subscriptions, many firms are now utilizing direct marketplace feeds and subscriptions in order to address latency and resiliency issues. This has resulted in either paying additional fees, both for a consolidated and direct subscription, or as a replacement for using consolidated data as in many cases this is enough.