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March 31, 2025

Re: CSA Staff Notice and Consultation 11-348 - Applicability of Canadian Securities Laws and the use of Artificial Intelligence Systems in Capital Markets

Questrade Financial Group ("QFG") is a mission-driven Canadian, founder-owned and led company with a 25-year track record of serving Canadians and helping them become much more financially successful and secure. Today, the company has grown into a multi-brand and multi-line business enterprise with over $60 billion in assets under administration. Since its inception as an investment brokerage in 1999, QFG has expanded from Questrade, one of Canada's most established and celebrated online financial service providers, into the verticals of wealth management, mortgages, deposits, insurance, and real estate through strategic acquisitions. Questrade is one of Canada's largest independent online investment brokers, offering a low-cost alternative for Canadian retail investors and traders.

QFG welcomes the opportunity to participate in this consultation and provide feedback to the CSA and its member organizations regarding the use of AI systems in capital markets. We thank the CSA for affirming that the technology itself should not be regulated, and we also believe that the CSA has a well-established regulatory framework to address risks, irrespective of the technology used. Please find our comments forthwith.

RESPONSES

1. ***Are there use cases for AI systems that you believe cannot be accommodated without new or amended rules, or targeted exemptions from current rules? Please***

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be specific as to the changes you consider necessary.

AI, and other new technologies, introduce opportunities to better serve market participants which include lower operating costs and increased productivity, driving overall costs down and creating room to reduce costs for Canadians.

The evolving use of AI in providing personalized financial advice, particularly in the realm of automated portfolio rebalancing and tailored financial planning, may require targeted and light-touch exemptions or clarifications.

CSA is cautioned against introducing overly prescriptive regulations, which are likely to be outdated before or shortly after they are finalized, would dissuade innovation and deter firms and investors from adopting AI and realizing its benefits.

Specifically, it is recommended that the CSA consider a regulatory sandbox or pilot program for AI-driven advisory tools. The sandbox should include clear metrics for success and predefined exit strategies to enable firms to test and refine these systems under close regulatory supervision, while also gathering data on their effectiveness and potential risks.

Additionally, clarity around the definition of 'meaningful interaction' in the context of AI-driven KYC and onboarding would be helpful. The current interpretation can be ambiguous when AI systems are used for initial data collection and may prevent firms from deploying solutions that reduce human error and improve customer experience. For example, consumers permissioned data collection alone does not add value, the value is added when the data is used in contexts that help consumers make data driven decisions - which should be enabled and supported.

2. ***Should there be new or amended rules and/or guidance to address risks associated with the use of AI systems in capital markets, including related to risk management approaches to the AI system lifecycle? Should firms develop new governance frameworks or can existing ones be adapted? Should we consider adopting specific governance measures or standards (e.g., OSFI's E-23 Guideline on Model Risk Management, ISO, NIST)***

Canada's existing securities laws, and resulting governance frameworks, can adequately accommodate the use of AI by market participants. Should clear legislative and regulatory gaps arise, the advice would be for the CSA to focus on providing principles-based guidance that promotes innovation, but also sets clear expectations for risk management, ethical considerations, and documentation. Emphasis should be placed on rigorous backtesting, scenario analysis, and out-of-sample testing to ensure that the AI systems perform as expected under various market conditions.

The integration of globally accredited standards and best practices is strongly encouraged wherever feasible to ensure alignment and facilitate broader adoption. We understand that

some view the draft guideline as not being aligned with comparable guidance in other key markets, such as the United States and United Kingdom. Given the critical importance of Canada's competitiveness, we would ask CSA to ensure that alignment is prioritized so that Canadian financial institutions are encouraged to adopt productivity-enhancing and risk-reducing technology leveraged by their global competitors.

3. ***Data plays a critical role in the functioning of AI systems and is the basis on which their outputs are created. What considerations should market participants keep in mind when determining what data sources to use for the AI systems they deploy (e.g., privacy, accuracy, completeness)? What measures should market participants take when using AI systems to account for the unique risks tied to data sources used by AI systems (e.g., measures that would enhance privacy, accuracy, security, quality, and completeness of data)?***

Data governance practices are paramount for market participants to determine which data sources to use. Governance practices should include fulsome consideration of global and industry best practices, as well as strong oversight and management of the following:

- **Privacy**: Strict adherence to privacy laws including robust data anonymization and encryption, and ensuring all data usage is conducted with clear consent.
- **Intellectual Property**: Ensuring all IP rights are understood and respected. Clear guidelines on the permissible use of public and private data sources in AI systems are also imperative.
- **Quality of Data**: Implementing data validation processes, using reputable data providers, and establishing feedback loops to correct inaccuracies. Data quality checks, data lineage tracking, and regular audits ensure data integrity is prioritized.
- **Security:** Employing strong cybersecurity measures to protect against data breaches and unauthorized access.
- **Fairness**: Utilizing unbiased and representative datasets to prevent discriminatory outcomes in critical decision-making processes.

Given the pace of this evolving technology area, it would be overly burdensome to require firms to test data integrity for every application regardless of the materiality and risk of the application and, as such, materiality and risk should also be considered closely in any guidance or policy development.

4. ***What role should humans play in the oversight of AI systems (e.g., "human-in-the-loop") and how should this role be built into a firm's AI governance framework? Are there certain uses of AI systems in capital markets where direct human involvement in the oversight of AI systems is more important than others (e.g., use cases relying on machine learning techniques that may have lesser degrees of explainability)? Depending on the AI system, what necessary skills, knowledge, training, and expertise should be required? Please provide details and examples.***

The degree of human involvement in AI-driven processes should be adjusted based on the

inherent risks associated with each use case. For example, AI systems with lower explainability, such as those using deep learning, enhanced human oversight is critical. This includes regular model reviews, stress testing, and the ability to override AI-generated decisions. Further some models may require a human-in-the-loop approach to augment human judgement.

Staff involved in AI oversight require a blend of financial expertise, data science knowledge, risk management, and regulatory awareness. We suggest that the CSA encourage firms to invest in ongoing AI literacy training for their employees, as well as AI observability tools to monitor production AI systems.

5. *Is it possible to effectively monitor AI systems on a continuous basis to identify variations in model output using test-driven development, including stress tests, post-trade reviews, spot checks, and corrective action in the same ways as rules-based trading algorithms in order to mitigate against risks such as model drifts and hallucinations? If so, please provide examples. Do you have suggestions for how such processes derived from the oversight of algorithmic trading systems could be adapted to AI systems for trading recommendations and decisions?*

Continuous monitoring is possible today, and the practice and tools are continuously evolving for the better. Further it is important to appreciate there are notable differences between Gen-AI (increasingly adopted since Nov 2022) and traditional AI (which has existed in various forms for decades). For example, one core challenge with Gen-AI is that the dimensionality of the problem space is almost infinite. In algorithmic trading, the problem space is mostly numeric and is therefore much simpler. There is minimal overlap between the domains of traditional AI and generative AI, with the most common overlap coming from sentiment analysis.

Regarding Gen-AI, the bottom line is there is a real lack of determinism in Gen-AI much like there is with neural networks, although neural networks are a fraction of the size of today's foundational Gen-AI models. Given this lack of determinism, testing is critical and the "evals" domain is one of the biggest reasons LLMOps platforms continue to grow in popularity as startups offering these services raise Series C funding and beyond.

The following actions could be utilized to support this objective:

- **Model Drift Detection:** Monitoring model performance against real-time data and flagging deviations.
- **Anomaly Detection:** Using statistical methods to identify unusual AI system outputs.
- **Backtesting and Stress Testing**: Regularly evaluating AI systems against historical data and simulated market conditions.
- **Machine Learning Ops Pipeline Reviews**: Requires continuous retraining, replacement of blessed model if new model is better than the current model in the model registry.

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- **AI guardrails:** AI guardrails are specific to Gen-AI, not traditional AI, and additional tools to monitor and check AI outputs before displaying to clients, in order to add another layer of safety particularly in customer-facing applications
- **Online and offline evaluation of Gen-AI models:** Especially using LLM-as-a-Judge metrics which are becoming more and more reliable as model vendors release newly updated models with more pre-training data, better reasoning capabilities, longer context windows, stronger capabilities in terms of following instructions and more reliable in terms of structured output.

These processes can be adapted from algorithmic trading oversight. For example, post-trade reviews could be used to identify AI-driven trades that deviate from expected patterns and investigate the underlying causes.

6. *Certain aspects of securities law require detailed documentation and tracing of decision-making. This type of recording may be difficult in the context of using models relying on certain types of AI techniques. What level of transparency/explainability should be built into an AI system during the design, planning, and building in order for an AI system's outputs to be understood and explainable by humans? Should there be new or amended rules and/or guidance regarding the use of an AI system that offer less explainability (e.g. safeguards to independently verify the reliability of outputs)?*

Transparency and explainability are crucial and it is our view that clients must be explicitly informed whenever an AI system contributes to a decision that materially impacts them.

As recognized by Notice and Consultation 11-348, what constitutes an appropriate degree of explainability will depend on the circumstances and it is recommended that the CSA should regularly convene industry experts to continue to work on industry guidance regarding explainability.

AI systems should be designed with mechanisms for output traceability, even if full explainability is challenging. For systems with limited explainability, the following could be done:

- **Sensitivity Analysis:** Assessing how changes in input data affect AI system decisions.
- **Clear Documentation:** Maintaining detailed records of AI system design, data sources, and performance metrics.

7. *FinTech solutions that rely on AI systems proposing to provide KYC and onboarding, advice, and carry out discretionary investment management challenge existing*

reliance on proficient individuals to carry out registerable activity. Should regulatory accommodations be made to allow for such solutions and, if so, which ones? What restrictions should be imposed to provide the same regulatory outcomes and safeguards as those provided through current proficiency requirements imposed on registered individuals?

A firm's regulatory obligations do not change whether AI supports the provision of these services to clients or is the primary means by which these services are provided.

Reasonable interpretation or housekeeping amendments may be made to National Instrument 31-103, Registration Requirements, Exemptions and Ongoing Registrant Obligations (NI 31-103). Reasonable interpretation or housekeeping amendments reflect the reality that increased reliance will be placed on AI systems to conduct registerable activity.

Should regulation be required, a phased approach would be essential, starting with AI-driven fact-based content generation, KYC and onboarding, followed by automated advice and, eventually, discretionary management. Restrictions could include:

- ○ **Proficiency Standards for AI Systems:** Requiring AI systems to meet rigorous performance and reliability benchmarks.
- ○ **Human Oversight:** Maintaining human oversight of AI-driven decisions, especially in high-risk areas.
- ○ **Investor Protection:** Ensuring that AI systems provide clear disclosures and links to more information to help customers understand what they're interacting with.

8. *Given the capacity of AI systems to analyze a vast array of potential investments, should we alter our expectations relating to product shelf offerings and the universe of reasonable alternatives that representatives need to take into account in making recommendations that are suitable for clients and put clients' interests first? How onerous would such an expanded responsibility be in terms of supervision and explainability of the AI systems used?*

In short, no. CSA is encouraged to focus on principles-based guidance that emphasizes the importance of suitability, risk management, and transparency, rather than prescriptive rules on product shelf offerings.

9. *Should market participants be subject to any additional rules relating to the use of third-party products or services that rely on AI systems? Once such a third-party product or service is in use by a market participant, should the third-party provider*

be subject to requirements, and if so, based on what factors?

In meeting their current regulatory requirements, firms can draw from their existing third-party risk management processes to address third party AI applications.

Clear guidelines on vendor due diligence, including requirements for security audits, performance testing, and ongoing monitoring may be helpful. However, we recommend CSA acknowledge distinct accountabilities for AI system users and providers who supply such systems to the market - a tiered system based on the criticality of the AI system may be helpful in this case.

10. *Does the increased use of AI systems in capital markets exacerbate existing vulnerabilities/systemic risks or create new ones? If so, please outline them. Are market participants adopting specific measures to mitigate against systemic risks? Should there be new or amended rules to account for these systemic risks? If so, please provide details. Examples of systemic risks could include the following:*

    ○ *AI systems working in a coordinated fashion to bring about a desired outcome, such as creating periods of market volatility in order to maximize profits;*
    ○ *Widespread use of AI systems relying on the same, or limited numbers of, vendors to function (e.g., cloud or data providers), which could lead to financial stability risks resulting from a significant error or a failure with one large vendor;*
    ○ *A herding effect where there is broad adoption of a single AI system or where several AI systems make similar investment or trading decisions, intentionally or unintentionally, due, for example, to similar design and data sources. This could lead to magnified market moves, including detrimental ones if a flawed AI system is widely used or is used by a sizable market participant;*
    ○ *Widespread systemic biases in outputs of AI systems that affect efficient functioning and fairness of capital markets.*

One of the larger systemic risks with using black box gen-AI models from vendors such as Google, Meta, Anthropic etc. is that consumers have a dependence on the vendors responsible AI and red-teaming practices to prevent inappropriate and potentially harmful outputs. Consumers of these vendors can take some steps to mitigate this risk, but not to remove it entirely, and continue to depend on these vendors and their willingness and ability to "do the right thing."
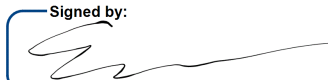
CSA could consider:
● **Enhanced Surveillance Tools:** Developing AI-powered surveillance tools to detect market manipulation and anomalous trading patterns. We encourage dialogue with

Dealers to ensure mutual understanding and alignment to existing rules respecting market integrity.

- **Ethical AI Guidelines:** Developing guidelines on ethical AI development and deployment, including data governance and bias mitigation.
- **Stress Testing Requirements:** Mandating stress testing of AI systems under various market conditions.

Thank you for your thoughtful look at these issues and for your consideration of our feedback Please do not hesitate to contact me should you require any additional information.

Sincerely,

Edward Khlodenko
President and CEO
Questrade Financial Group

cc.
British Columbia Securities Commission
Alberta Securities Commission
Financial and Consumer Affairs Authority of Saskatchewan
Manitoba Securities Commission
Ontario Securities Commission
Autorité des marchés financiers
Financial and Consumer Services Commission, New Brunswick
Superintendent of Securities, Department of Justice and Public Safety, Prince Edward Island
Nova Scotia Securities Commission
Office of the Superintendent of Securities, Service Newfoundland and Labrador
Northwest Territories Office of the Superintendent of Securities
Office of the Yukon Superintendent of Securities
Nunavut Securities Office