Cboe

Angelo Evangelou
Chief Policy Officer

October 26, 2020

Alp Eroglu
International Organization of Securities Commissions (IOSCO)
Calle Oquendo 12
28006 Madrid
Spain

Re: Public comment on the use of artificial intelligence and machine learning by market intermediaries and asset managers

Mr. Eroglu,

Cboe Global Markets ("Cboe") is a global exchange operator and leader in exchange-traded equities, options, and futures. We have experience analyzing and deploying new technologies and appreciate the opportunity to provide feedback on the consultation report on the use of artificial intelligence ("AI") and machine learning ("ML") by market intermediaries and asset managers (the "Consultation Report).[1]

While our own use of AI and ML is nascent, we understand the use of AI and ML in the financial industry is growing. Risk management, portfolio management, research, trading and back office functions are but a few of the potential applications of AI and ML that promise to provide significant benefits to organizations and investors. We also understand that the use of AI and ML may present particular risks that need to be well-understood in order to address those risks. The Consultation Paper identifies a few areas of concern specific to the use of AI and ML by market intermediaries and asset managers, including: governance and oversight; algorithm development; testing and ongoing monitoring; data quality and bias; transparence and explain ability; outsourcing; and ethical concerns.

In light of these concerns the Consultation Report recommends IOSCO members adopt particular regulatory measures in order to appropriately supervise the use of AI and ML by market intermediaries and asset managers. The proposed regulatory measures are as follows:

> Measure 1:   Consider requiring firms to designate senior management responsible for the oversight of the development, testing, deployment, monitoring and controls of AI and ML.
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> Measure 2:   Require firms to adequately test and monitor the algorithms to validate the results of an AI and ML technique on a continuous basis.

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[1] Consultation Report on the Use of Artificial Intelligence and Machine Learning by Market Intermediaries and Asset Managers, IOSCO, June 2020, *available at*,
https://www.iosco.org/library/pubdocs/pdf/IOSCOPD658.pdf.

      <u>Measure 3</u>:   Require firms to have the adequate skills, expertise and experience to develop, test, deploy, monitor and oversee the controls over the AI and ML that the firm utilises.

      <u>Measure 4</u>:   Require firms to understand their reliance and manage their relationship with third party providers, including monitoring their performance and conducting oversight.

      <u>Measure 5</u>:   Consider what level of disclosure of the use of AI and ML is required by firms.

      <u>Measure 6</u>:   Consider requiring firms to have appropriate controls in place to ensure that the data that the performance of the AI and ML is dependent on is of sufficient quality to prevent biases and sufficiently broad for a well-founded application of AI and ML.

Importantly, IOSCO encourages its members to consider the proposed measures "in the context of their legal and regulatory frameworks." We strongly agree with this sentiment and encourage IOSCO to emphasize this point with its members. As the Consultation Report notes "[m]any jurisdictions have overarching requirements for firms' overall systems and controls[.]" Although we concede that few jurisdictions have regulatory requirements that specifically apply to AI and ML, we are confident that our risk management processes (policies and procedures, software development lifecycle, etc.) will naturally adapt to AI and ML and can be monitored and overseen in the context of existing regulatory frameworks (e.g., SEC's Regulation SCI). It would be vastly preferable for AI and ML considerations to be incorporated into existing regulatory frameworks rather than adopting entirely new regulatory regimes to apply to AI and ML.

Thus, we recommend IOSCO go a step further by adopting an additional – primary directive – measure specifically providing that prior to adopting any additional regulatory measures IOSCO members should first carefully examine existing legal and regulatory frameworks to determine whether they are sufficient to address *material* risks posed by AI and ML. We are of the view that in many cases existing regulatory frameworks will indeed be sufficient to manage these risks. This examination process will help ensure regulations do not hamper the growth of AI and ML and that any new regulations in this area are absolutely necessary. It is equally important that IOSCO members analyze whether existing frameworks currently hinder the adoption and deployment of AI and ML. For example, the Consultation Report suggests regulatory regimes requiring algorithms to be fully understood and explainable throughout their lifecycle limits the use of algorithms that evolve over time. One of the great promises of AI and ML is the ability to fine-tune over time. It's important that regulatory frameworks are not a roadblock to progress. To the extent current regulations are a hinderance they should be modified accordingly.

Lastly, AI and ML may raise additional risks and considerations; however, the use of AI and ML alone do not create significant risks for organizations or investors. As with all technology deployment, risk is related to the criticality or importance of the function in which the technology is deployed. AI and ML risks are no different and should be viewed through this lens.

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The considerations raised by the consultation are appropriate. Our concern is that additional regulations resulting from IOSCO's proposed guidance may be premature. We therefore encourage IOSCO members to carefully examine existing laws, regulations, and risk mitigation practices in order to ensure that any additional requirements are absolutely necessary. Thank you for your consideration.

Sincerely,
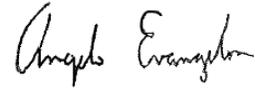
Angelo Evangelou
Chief Policy Officer
Cboe Global Markets, Inc.