June 1, 2021

Via Electronic Mail

Docket No. OP–1743
Board of Governors of the Federal Reserve System
Email: regs.comments@federalreserve.gov

Re: Request for Information and Comment on Financial Institutions' Use of Artificial Intelligence, including Machine Learning

CLS Bank International ("CLS") welcomes the opportunity to respond to certain questions set forth in the Board of Governors of the Federal Reserve System, Bureau of Consumer Financial Protection, Federal Deposit Insurance Corporation, National Credit Union Administration, and Office of the Comptroller of the Currency's request for information and comments on financial institutions' use of artificial intelligence, including machine learning. Specifically, CLS has provided the following responses to the 17 questions:

Question 1: How do financial institutions identify and manage risks relating to AI explainability? What barriers or challenges for explainability exist for developing, adopting, and managing AI?

Explainability is evaluated by benchmarking Machine Learning ("ML") / Artificial Intelligence ("AI") models against traditional statistical methods (e.g., comparing predictions from Support Vector Regression with predictions from Linear Regression). Additionally, in the application of ML/AI at CLS, the use of time series data for forecasting enables easier AI explainability.

Question 2: How do financial institutions use post-hoc methods to assist in evaluating conceptual soundness? How common are these methods? Are there limitations of these methods (whether to explain an AI approach's overall operation or to explain a specific prediction or categorization)? If so, please provide details on such limitations.

Conceptual soundness is evaluated by benchmarking ML models against traditional statistical methods (e.g., comparing predictions from Support Vector Regression with predictions from Linear Regression).

Since there is only one model with ML components at CLS, post-hoc methods are not commonly used at CLS.

Question 3: For which uses of AI is lack of explainability more of a challenge? Please describe those challenges in detail. How do financial institutions account for and manage the varied challenges and risks posed by different uses?

No comments. Currently there are no such uses of ML/AI models at CLS.

Question 4: How do financial institutions using AI manage risks related to data quality and data processing? How, if at all, have control processes or automated data quality routines changed to address the data quality needs of AI? How does risk management for alternative data compare to that of traditional data? Are there any barriers or challenges that data quality and data processing pose for developing, adopting, and managing AI? If so, please provide details on those barriers or challenges.

Data quality and data processing for a ML/AI model is performed in the same way as it is conducted for other non-ML/AI models at CLS. Updates made to the data underlying the models are checked twice daily and the results of checks are displayed on a data quality scorecard. CLS does not use alternative data in its ML/AI model; rather, traditional data sets are used.

Question 5: Are there specific uses of AI for which alternative data are particularly effective?

No comments. CLS uses traditional structured data in relational databases.

Question 6: How do financial institutions manage AI risks relating to overfitting? What barriers or challenges, if any, does overfitting pose for developing, adopting, and managing AI? How do financial institutions develop their AI so that it will adapt to new and potentially different populations (outside of the test and training data)?

CLS manages risk of overfitting as a special type of model risk. CLS fits forecasting models into a dataset sufficiently large enough to represent a wide spectrum of business scenarios.

CLS's only ML/AI model also uses ensembling, a combination of predictions from four alternative models, which is a known statistical method often used to smoothen out forecasting errors.

Question 7: Have financial institutions identified particular cybersecurity risks or experienced such incidents with respect to AI? If so, what practices are financial institutions using to manage cybersecurity risks related to AI? Please describe any barriers or challenges to the use of AI associated with cybersecurity risks. Are there specific information security or cybersecurity controls that can be applied to AI?

No comments. Given the limited use of ML/AI at CLS, no particular cybersecurity risks have been identified and no such incidents have occurred to date.

Question 8: How do financial institutions manage AI risks relating to dynamic updating? Describe any barriers or challenges that may impede the use of AI that involve dynamic updating. How do financial institutions gain an understanding of whether AI approaches producing different outputs over time based on the same inputs are operating as intended?

CLS's ML model is re-fitted daily to the most recent data. CLS uses traditional structured data in relational databases.

The performance of the ML model is monitored daily and back-tested annually.

Question 9: Do community institutions face particular challenges in developing, adopting, and using AI? If so, please provide detail about such challenges. What practices are employed to address those impediments or challenges?

No comments.

Question 10: Please describe any particular challenges or impediments financial institutions face in using AI developed or provided by third parties and a description of how financial institutions manage the associated risks. Please provide detail on any challenges or impediments. How do those challenges or impediments vary by financial institution size and complexity?

No comments. CLS is not using or pursuing AI developed or provided by third parties.

Question 11: What techniques are available to facilitate or evaluate the compliance of AI-based credit determination approaches with fair lending laws or mitigate risks of noncompliance? Please explain these techniques and their objectives, limitations of those techniques, and how those techniques relate to fair lending legal requirements.

No comments. Not applicable to CLS due to the nature of CLS's offerings and given that CLS does not use any ML/AI techniques for credit modeling.

Question 12: What are the risks that AI can be biased and/or result in discrimination on prohibited bases? Are there effective ways to reduce risk of discrimination, whether during development, validation, revision, and/or use? What are some of the barriers to or limitations of those methods?

No comments. Not applicable to CLS due to the nature of CLS's offerings and given that CLS does not use any ML/AI techniques for credit modeling.

Question 13: To what extent do model risk management principles and practices aid or inhibit evaluations of AI-based credit determination approaches for compliance with fair lending laws?

No comments.

Question 14: As part of their compliance management systems, financial institutions may conduct fair lending risk assessments by using models designed to evaluate fair lending risks ("fair lending risk assessment models"). What challenges, if any, do financial institutions face when applying internal model risk management principles and practices to the development, validation, or use of fair lending risk assessment models based on AI?

No comments. Not applicable to CLS, due to the nature of CLS's offerings and given that CLS does not use any ML/AI techniques for credit modeling.

Question 15: The Equal Credit Opportunity Act (ECOA), which is implemented by Regulation B, requires creditors to notify an applicant of the principal reasons for taking adverse action for credit or to provide an applicant a disclosure of the right to request those reasons. What approaches can be used to identify the reasons for taking adverse action on a credit application, when AI is employed? Does Regulation B provide sufficient clarity for the statement of reasons for adverse action when AI is used? If not, please describe in detail any opportunities for clarity.

No comments. Not applicable to CLS, due to the nature of CLS's offerings and given that CLS does not use any ML/AI techniques for credit modeling.

Question 16: To the extent not already discussed, please identify any additional uses of AI by financial institutions and any risk management challenges or other factors that may impede adoption and use of AI.

No comments. Currently there are no plans to develop any ML/AI models for any additional uses.

Question 17: To the extent not already discussed, please identify any benefits or risks to financial institutions' customers or prospective customers from the use of AI by those financial institutions. Please provide any suggestions on how to maximize benefits or address any identified risks.

No comments.