July 1, 2021

Melane Conyers-Ausbrooks,
Secretary of the Board
National Credit Union Administration
1775 Duke Street
Alexandria, VA. 22314-3428.

RE: Financial Institutions' Use of Artificial Intelligence, Including Machine Learning (RIN: 3064-ZA24)

Dear Ms. Conyers-Ausbrooks:

On behalf of the National Association of Federally-Insured Credit Unions (NAFCU), I am writing in response to the request for information (RFI) issued by the National Credit Union Administration (NCUA), Federal Deposit Insurance Corporation (FDIC), Office of the Comptroller of the Currency (OCC), Bureau of Consumer Financial Protection (CFPB or Bureau) and Board of Governors of the Federal Reserve System (collectively, “the Agencies”), regarding financial institution use of artificial intelligence (AI) and machine learning (ML). NAFCU advocates for all federally-insured not-for-profit credit unions that, in turn, serve 124 million consumers with personal and small business financial service products. Credit unions are leveraging AI to support a variety of operational needs to better deliver safe and affordable services to their members. Common business functions that integrate AI solutions include underwriting, risk management, marketing, and automation of customer service operations. While AI holds promise for credit unions and their member-owners, sustained innovation in this field will depend on regulators’ commitment to facilitate and encourage responsible experimentation.

General Comments

NAFCU has generally supported non-regulatory approaches for encouraging the use and acceptance of AI technologies.1 At the same time, NAFCU agrees with the Agencies that credit unions must adopt AI innovations safely and encourages the NCUA to approach fair lending risks identified in the RFI—such as lack of explainability, overfitting and unlawful dynamic updating—through the framework of existing law and regulation.

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1 See NAFCU Comment Letter to OMB, Guidance for Regulation of Artificial Intelligence Applications Docket No. 2020-00261 (March 13, 2020); see also, Executive Order 13859, “Maintaining American Leadership in Artificial Intelligence,” (February 11, 2019).
An overly complex or intrusive supervisory framework for assessing the innerworkings of AI algorithms would likely deter credit unions from investing in these technologies and frustrate efforts to partner with credit union service organizations (CUSOs) and other technology providers. While NAFCU welcomes a coordinated regulatory approach to AI and other financial technology issues, the Agencies should generally aim to clarify existing examination procedures rather than develop entirely new ones, unless there is an expectation of reduced examination burden. Such an approach would facilitate AI adoption among credit unions who are eager to use these technologies to better serve credit-thin applicants and historically underserved communities but have limited capacity to absorb new examination or compliance obligations.

AI can help credit unions expand access to high-quality credit among lower-income populations, yet the most conspicuous example in this field also demonstrates how regulatory scrutiny might invite significant data collection to prove—at granular levels—that AI-driven decisions are compliant with fair lending laws, such as the Equal Credit Opportunity Act (ECOA). A supervisory approach for assessing AI fair lending risks that necessitates a deconstruction of AI-driven models to satisfy regulatory curiosity will be unsustainable for all but the largest and most sophisticated financial technology companies.

Most credit unions and community financial institutions will be reliant on third-party solutions to integrate AI into their lending pipelines, and these institutions are unlikely to have source code access for AI models. For regulators to demand that financial institutions require such access in vendor contracts could imperil the viability of credit union fintech partnerships and undermine the broader financial inclusion goals that AI can help achieve. Even for those credit unions that develop their own AI tools or systems, the burden of documenting compliance at the programming level would be excessive. Moreover, it is doubtful that regulators will themselves have the capacity to conduct reviews at this level without significantly expanding headcount and budgets. Accordingly, as a general principle, regulators should prefer results-oriented approaches for assessing AI risks and leverage existing data sources to monitor fair lending compliance (e.g., Home Mortgage Disclosure Act data). Supervisory expectations should also scale based on whether AI or ML models involve supervised or unsupervised learning rather than conform to a one-size-fits-all approach because the techniques used to explain these models are likely to differ.

As the NCUA and the other Agencies recognize in the RFI, credit unions face considerable and wide-ranging competitive pressures from both larger financial institutions and non-bank financial technology (fintech) firms. Chief among these competitive pressures, and particularly important in this RFI’s context, are AI-driven expense compressions in core lines of business—home and auto lending—that present credit unions myriad immediate and long-term business risks.

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2 In 2017, the Bureau announced a No-Action Letter to Upstart Network, Inc., a company that uses alternative data and machine learning in making credit underwriting and pricing decisions. As a condition of approval, Upstart agreed to provide the Bureau with information comparing outcomes from its underwriting and pricing model against outcomes from a hypothetical model that uses traditional application and credit file variables. However, the full extent of Upstart’s specialized compliance plan remains confidential. See CFPB, Response to Upstart No-Action Letter Request (September 14, 2017), available at https://files.consumerfinance.gov/f/documents/201709_cfpb_upstart-no-action-letter.pdf.

financial institutions and fintech competitors are increasingly leveraging AI’s cost and operational efficiencies realized during loan application and origination processes to not only capture lending market share but also to introduce consumers to broader suites of financial products, including deposit and payment products.

Regulatory barriers that stand in the way of responsible AI innovation risk compromising the quality of member services and long-term industry viability. On the other hand, thoughtful AI adoption coupled with a flexible regulatory framework that encourages experimentation will allow credit unions to better and more cost-effectively serve present-day members and remain at the forefront of engaging unbanked and underbanked Americans.

Credit Unions AI Usage

AI enables credit unions to compete more efficiently with online lenders and fintech companies, whose physical detachment from the communities they serve and differing supervisory treatment may confer certain cost advantages. AI has not, however, fundamentally altered credit unions’ historical role as relationship lenders committed to maintaining a close bond with the communities they serve.

NAFCU’s research indicates that credit unions are increasingly adopting AI. In 2019, 47 percent of surveyed respondents said that they were considering investments in AI over the next two years. Some credit unions are already partnering with third parties to successfully implement AI driven tools to improve members’ access to credit, strengthen existing risk management processes, and improve customer service. Testimony presented at the U.S. House of Representative’s Task Force on Financial Technology’s May 7, 2021 meeting highlighted the use AI algorithms as part of credit union loan application processes, and NAFCU members have said that certain applications of ML have been used to flag and reduce application errors.

Artificial Intelligence in Credit Underwriting

AI has the ability to quickly capture and analyze large amounts of both traditional and alternative data, which can help expand access to affordable credit at credit unions. Alternative data consists of data elements that are typically found outside of a traditional credit file, such as information related to bill payment, cash flow, spending behavior, employment stability, and debt ratios. While conventional credit underwriting systems can incorporate alternative data through manual adjustments and reprogramming, AI driven systems can be refined more quickly.

AI analysis can also produce a more robust and holistic assessment of an applicants’ creditworthiness and has often been cited by regulators as a tool to expand access to low-cost

4 For example, fintech mortgage lenders may have structural advantages as nonbanks and benefit from reduced regulatory burden that corresponds with a lack of federal safety and soundness standards. Research presented at the FDIC’s April 2019 Fintech Symposium suggests that 60-70 percent of “shadowbank” (i.e., nonbank lender) growth is likely due to regulatory arbitrage, and the rest due to advances in technology. See Piskorski, Tomasz, Fintech and Shadow Banking (April 2019), available at https://www.fdic.gov/bank/analytical/fintech/presentations/piskorski.pdf.

5 NAFCU, Economic & CU Monitor Survey (June 2019).
mainstream credit for millions of underserved and “credit invisible” Americans. In some cases, AI-driven assessments of applicants’ creditworthiness can produce more accurate results than is possible when relying solely on traditional credit score lending models (traditional lending models). Unlike traditional lending models reliant on discreet, backwards-looking data specific to an individual, algorithmic lending models use training data containing billions of observations from millions of individuals when assessing applicants’ creditworthiness.

In a July 2019 NAFCU survey, nearly half of respondents reported that they used alternative data for credit underwriting. Among credit unions who reported using alternative data, the most common data considered includes cash flow information, stability of address, and rent payment history. While the use of alternative data by itself does not necessarily imply a corresponding use of AI or ML for credit decisioning purposes, it can lay the foundation for use of such technology in the future.

Risk Management and Financial Crime

AI-powered fraud analytics have enhanced credit union risk management practices and efforts to prevent financial crime by improving detection of irregular financial behaviors. Many credit unions are already using third-party technology bundled with debit and credit card products to prevent fraudulent transactions or to flag suspicious transactions. In some cases, this technology leverages AI and ML processes (e.g., neural networks) to develop predictive models for fraud mitigation purposes.

Credit unions are eager to adopt more effective fraud management tools given the increasing prevalence of card not present fraud and the impossibility of manually monitoring transaction patterns. NAFCU surveys suggest that a significant share of credit union technology investment over the next three years will be directed towards fraud prevention. While these investments may encompass more than just AI, the future of risk management and anti-fraud tools points towards greater incorporation of AI and ML technologies. For example, some credit unions have reported using products that leverage ML to recognize member handwriting to accurately process remotely deposited checks on smartphones.

AI and ML also have the potential to reduce Bank Secrecy Act (BSA) and anti-money laundering (AML) compliance costs. In June 2021, NAFCU submitted comments to the NCUA and Financial Crimes Enforcement Network (FinCEN) regarding principles contained in the Interagency Supervisory Guidance on Model Risk Management (MRMG). NAFCU recommended that FinCEN favorably evaluate the use of AI technologies to reduce compliance burdens associated

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7 NAFCU, Economic & CU Monitor Survey (June 2019).
with filing suspicious activity reports. Given the rising cost of BSA/AML compliance, credit unions are interested in acquiring new technology solutions that leverage AI or ML to improve the efficiency of transaction monitoring and offset growing compliance budgets. NAFCU’s 2020 Federal Reserve Meeting Survey revealed that over 52 percent of respondents expect to increase the number of full-time equivalent staff members devoted to BSA/AML compliance, a 20 percent increase from 2019.

Some credit unions are already using commercial BSA/AML compliance solutions that use risk scoring models built upon AI or ML processes. NAFCU has recommended that the MRMG support use of these models and recognize the role of existing vendor due diligence in terms of managing risks associated with adoption of commercial AI solutions.

Customer Service Improvements

One of the most publicly visible implementations of AI technology is the use of chatbots to enhance customer service. NAFCU has learned that AI-enhanced call center services are becoming increasingly common among credit unions and offer a cost-effective means of responding to routine member questions. NAFCU believes the use of AI technologies for resolving member questions can enhance the consumer response function of a compliance management system and regulators should encourage the use of such technology without prescribing AI-specific methods for escalation or resolution of consumer inquiries.

Compliance with the Current Expected Credit Loss (CECL) Standard

Although the CECL standard will not be effective for credit unions until the beginning of 2023, some credit unions have chosen to leverage ML to develop models for estimating future credit losses. In most cases, these models involve supervised ML, which greatly aids in the explainability of the model. However, NAFCU has learned that early examiner assessments of internally developed CECL models have not always benefited from a consistent approach relative to commonly used vendor solutions.

If credit union ML models that support CECL compliance are receiving greater supervisory scrutiny, even at the pre-adoption phase, this could disincentivize credit unions from developing tailored, in-house solutions. While some smaller credit unions may, in fact, be better off selecting a vendor to assist with development of a CECL model, those that are unsure of whether to invest in the talent and resources to support internal model development should not be dissuaded due to regulatory uncertainty alone. In the long term, if such uncertainty discourages foundational investments in data science talent within a credit union, the negative consequences could be further reaching than just the cost of CECL compliance, particularly when lack of such expertise can widen the competitive gulf with fintech companies in other areas, such as product development.

To ensure that credit unions who choose to adopt AI or ML based CECL solutions are not subject to more burdensome examinations, NAFCU recommends that NCUA examinations focus on the precision of the model’s outputs rather than the contents of programming and software. Doing so would be more efficient for both the examiner and the credit union, and would alleviate the
perceived uncertainty that may exist for some credit unions who are wary of developing their own technology if it will attract excessive examiner scrutiny. At the same time, the NCUA should recognize that not all credit unions will have the resources to leverage AI solutions for CECL compliance. The NCUA should seek to accommodate a range of methods for estimating future credit losses which reasonably reflect the size and sophistication of a credit union.

**NAFCU Supports Efforts to Reduce Barriers to Innovation**

Financial sector regulators should tailor future actions related to AI in a way that recognizes the need for less prescriptive intervention and greater accommodation of innovation through pilot programs, no-action letters, waivers, and elimination of outdated rules. In 2020, the Office of Management and Budget (OMB) published a draft memorandum titled “Guidance for Regulation of Artificial Intelligence Applications” which recommended that agencies consider “using any authority under existing law or regulation to grant waivers and exemptions from regulations, or to allow pilot programs that provide safe harbors for specific AI applications.”¹⁰ NAFCU supports this approach and regards it as critically important to reducing barriers to innovation, particularly within the credit union industry.

Waivers and pilot programs can help alleviate regulatory uncertainty without requiring agencies to engage in formal rulemakings that might otherwise inflate compliance costs based on a premature assessment of AI risk. Compliance costs present one of the biggest obstacles to credit union adoption of new financial technology. Among NAFCU-surveyed credit unions, 82 percent of respondents noted that such costs present a moderate or significant barrier to the adoption of new financial technology.¹¹ At the same time, development of AI solutions is often viewed as necessary for maintaining competitive vitality.

In an environment where non-bank fintech companies may be enjoying less rigorous supervisory oversight than traditional financial institutions, regulators should be exploring frameworks that make innovation accessible not just to the largest and most sophisticated entities, but also to smaller, community-based institutions. The need to establish a fair playing field cannot be overstated. A majority of financial institutions (banks and credit unions included) surveyed in Fannie Mae’s Q2 2019 Mortgage Lender Sentiment Survey said that they considered “online business-to-consumer lenders” as their biggest competitor, citing these firms’ advantages in technology.¹²

While credit unions have taken a more cautious and deliberate approach to adopting new technology when confronted with the prospect of greater examination scrutiny, a more accommodating regulatory framework for testing AI applications could help even the playing field with larger banks and fintech companies. To develop such a framework, NAFCU supports OMB’s

recommendation that agencies should “consider how best to promote retrospective analysis of rules that may be outmoded, ineffective, insufficient, or excessively burdensome, and to modify, streamline, expand, or repeal them in accordance with what has been learned.” OMB has specifically recommended that these retrospective reviews consider whether “regulatory changes are necessary to remove barriers to the adoption of net beneficial AI systems.” NAFCU believes that the elimination of outdated regulations is often necessary to encourage meaningful innovation, given that guidance and waivers alone have not always produced compelling results.

One way the NCUA could remove regulatory barriers to innovation would be to allow credit unions to invest in technology companies to cultivate the talent and solutions needed to implement AI solutions effectively within the credit union industry. CUSOs can be limited as vehicles for such investment because they must primarily serve credit unions, a fact that may deter fintech companies from engaging with credit unions to the extent that they regard the CUSO structure as more of a hinderance than a benefit in a highly competitive financial services market. The NCUA should recognize that partnerships between fintech companies and credit unions may become increasingly important components in high-touch service models and competitive business strategies. Failure to accommodate a wider range of fintech partnerships could ultimately result in technological stagnation for credit unions, which will ultimately harm their member-owners. Reasonable investment limitations could be implemented to ensure that effective collaboration with technology companies does not have a detrimental impact on safety and soundness.

The NCUA should also consider forming a working group of credit union industry stakeholders to pursue targeted discussion of the questions presented in this RFI. The use of a working group to inform agency research concerning industry adoption of AI could mitigate concerns that public discussion of technical aspects of AI technology will reveal proprietary information or trade secrets. The NCUA should also consider whether a sandbox environment, led by a dedicated Office of Innovation, might be useful in terms of facilitating responsible innovation. Other financial regulatory agencies have adopted similar programs and the NCUA may be able to gather more credit union specific data on AI usage if it were to offer a comparable resource.

**Explainability and Overfitting Risks**

The RFI recognizes that the usefulness of AI depends on well-curated sources of training data to develop an underlying model. The RFI notes that given such dependency on training data, AI may “perpetuate or even amplify bias or inaccuracies inherent in the training data or make incorrect...”

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13 Office of Management and Budget, Draft Memorandum, “Guidance for Regulation of Artificial Intelligence Applications.”
14 See id.
15 The Consumer Financial Protection Bureau (CFPB) launched an initiative called Project Catalyst in 2012 to encourage consumer-friendly innovation and entrepreneurship in markets for consumer financial products and services. In 2016, Project Catalyst was configured to serve as a gateway for financial companies to apply for No-Action Letters, which served as limited guarantees that the Bureau would not pursue supervisory action with respect to an approved product or service not already on the market; however, only a single company ever received such a letter under the first iteration of the program. Recent changes to the CFPB’s innovation policies, including more definite assurances to protect applicants from potential liability, have attracted greater interest from applicants and resulted in new approvals.
predictions if that data set is incomplete or non-representative.” This problematic result is sometimes characterized as “overfitting” – where an algorithm “learns” from idiosyncratic patterns in the training data that are not representative of the population as a whole. Separate from the problem of overfitting is potential uncertainty regarding an AI model’s method of generating its particular results, whether or not they are idiosyncratic. For the purposes of the RFI, this second problem is characterized a lack of explainability.

As the Agencies acknowledge, techniques used to improve the explainability of algorithms tend to be post-hoc methods, which rely on analysis of outcomes rather than the transformation of inputs. The Agncies suggest that both overfitting and explainability problems could challenge regulators’ ability to detect potential fair lending risks, but also acknowledges that the importance of conceptual soundness in developing models for credit underwriting purposes is already described in existing agency guidance and is well established in industry practice.\(^\textit{16}\)

Credit unions were created to offer provident credit to all members of their communities and this organizing principle helps to explain the prevalence of robust relationship lending models across the industry. As cooperatives that are directly accountable to their member-owners, credit unions are focused on developing long-lasting, trusted relationships—an interest that is best served by adhering to core principles of equality and fairness.

Credit unions follow existing regulation and guidance implementing ECOA and other anti-discrimination laws and have a track record of exceptional fair lending compliance. Most credit unions engage in self-tests or self-evaluations as part of their ongoing monitoring of fair-lending risks. While self-evaluations can vary in terms of their scope and sophistication based on a credit union’s risk profile, they generally encompass review of denied applications; comparisons of loan files; analysis of HMDA data, and review of lending policy exceptions. Self-tests can be similarly varied and encompass a variety of analytical techniques (e.g., surveys, use of test applicants, review of credit transaction records). Both types of testing could function as post-hoc methods for evaluating the results of AI-driven lending decisions. NAFCU believes that these existing methods should be regarded as effective for detecting and addressing fair lending risks. For reasons discussed previously, deconstructing the entirety of an AI algorithm to address explainability or overfitting risks would be costly and less productive for examination purposes.

Lenders may also choose to tweak AI models to correct for overfitting and, in such cases, regulators should focus on the results of those design choices rather than underlying programming. For example, some lenders have chosen to assign penalty scores for ML or AI developed models that treat protected classes unfairly. It would be counterproductive for regulators to demand an explanation of how adversarial penalty or regularization models are calibrated when a comparison of outputs could produce a clearer and more confident picture of the algorithm’s overall fairness. In some cases, demanding perfect explainability could undermine the goal of achieving equitable

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\(^\textit{16}\) See 12 CFR §§ 1002.2(p),(t),(y). The commentary to Regulation B’s definition of a credit scoring system in § 1002.2(p) notes that “[i]n cases where a credit scoring system is used in conjunction with individual discretion, disparate treatment could conceivably occur in the evaluation process. In addition, neutral factors used in credit scoring systems could nonetheless be subject to challenge under the effects test. (See comment 6(a)-2 for a discussion of the effects test).
results if it prevents cost-effective iteration of new lending models that are designed to flag and correct proxy discrimination.

**Disparate Impact**

Regulation B provides that ECOA may prohibit creditor practices that have a disparate impact. Regulation B’s commentary explains that a disparate impact exists when a practice is discriminatory in effect because it has a disproportionately negative impact on a prohibited basis. Even if a creditor has no intent to discriminate and the practice in question appears neutral on its face, a creditor may be liable under a theory of disparate impact unless the creditor practice meets a legitimate business need that cannot reasonably be achieved as well by means that are less disparate in their impact. NAFCU acknowledges the intended purpose of disparate impact liability, but the standard could present new challenges in the context of algorithmic lending decisions driven by AI or ML models.

To provide greater clarity regarding the operation of the burden shifting framework used in disparate impact cases when AI underwriting methods are involved, the CFPB should revisit aspects of the Department of Housing and Urban Affairs (HUD)’s 2019 proposal regarding its Disparate Impact Rule.17 Although HUD’s September 2020 final rule amending the Disparate Impact Rule never took effect and has been reconsidered, the original proposal took a forward-looking view of how the burden shifting framework used in disparate impact cases might be clarified in instances where complex lending algorithms are involved.18 In the proposal, HUD generally recognized the need for a tailored defense to minimize the burden of production when a recognized third party, not the defendant, is responsible for creating or maintaining an industry standard model.19 With credit unions likely to be reliant on vendor-developed AI models in the future, such a defense would be worth exploring, particularly in cases where end users of such products have little control over the development of the AI model.

**Conclusion**

Empowered to thoughtfully employ AI and ML in their operations, credit unions will be able to reduce business costs, allocate greater resources to member-facing services, and reach underserved and unbanked members in their communities with greater ease. Current industry practice has shown that credit unions are using AI to develop more customizable, price-competitive lending products and more effective compliance solutions, which could help the underbanked avoid predatory financial products offered by nonbank payday lenders.

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18 See id. at 42860; see also HUD, Spring 2021 Rulemaking Agenda, “Reinstatement of HUD’s Discriminatory Effects Standard (FR-6251).”
19 In these situations, HUD noted in its 2019 proposal that “[t]he defendant may … not be able to defend the model itself, even where a perfectly rational reason exists for its use. Further, if the plaintiff prevails, the plaintiff would only remove the model from use by one party, whereas suing the party that is actually responsible for the creation and design of the model would remove the disparate impact from the industry as a whole.” 84 Fed. Reg. 42859.
Credit unions are committed to pursuing responsible innovation, but to meaningfully pursue AI and ML technologies requires a supervisory approach that does not add to already high examination burden. The Agencies should consider encouraging AI and ML experimentation through pilot programs, waivers, and other tools designed to embrace AI’s demonstrated capacity to deliver fairer and more accurate predictions of creditworthiness, as well as greater security. Such an approach would not only help expand access to credit in underserved communities, but would also ensure that credit unions can continue to offer competitive products in a rapidly evolving marketplace for financial services. Failure to provide such flexibility risks putting credit unions at a distinct disadvantage relative to fintech companies and could ultimately erode access to affordable credit tailored to the needs of individual communities.

NAFCU appreciates the opportunity to comment on the Agencies’ request for information. Should you have any questions or require additional information, please do not hesitate to contact me at (703) 842-2266 or amorris@nafcu.org.

Sincerely,

Andrew Morris
Senior Counsel for Research and Policy

Cc: Ann E. Misback, Secretary, Board of Governors of the Federal Reserve
Comment Intake, Bureau of Consumer Financial Protection