

United States House of Representatives
Committee on Financial Services
2129 Rayburn House Office Building
Washington, D.C. 20515

May 10, 2022

Memorandum

To: Members, Committee on Financial Services
From: FSC Majority Staff
Subject: May 13, 2022, Task Force on Artificial Intelligence Hearing entitled, “Keeping Up with the Codes – Using AI for Effective RegTech”

The Task Force on Artificial Intelligence will hold a hybrid hearing entitled, “Keeping Up with the Codes – Using AI for Effective RegTech” on May 13, 2022, at 9:00 AM in room 2128 of the Rayburn House Office Building and virtually via Cisco Webex. There will be one panel with the following witnesses:

- **Kevin Greenfield**, Deputy Comptroller for Operational Risk Policy, Office of the Comptroller of the Currency (OCC)
- **Melanie Hall**, Commissioner, Division of Banking and Financial Institutions, State of Montana, and Chair, Board of Directors, Conference of State Bank Supervisors (CSBS)
- **Kelly Lay**, Director, Office of Examination and Insurance, National Credit Union Administration (NCUA)
- **Jessica Rusu**, Chief Data Information and Intelligence Officer, Financial Conduct Authority (FCA), United Kingdom

Overview

The events of the 2008 global financial crisis, which included failures in regulatory compliance and supervision, spurred interest and growth in newer forms of technology in the financial industry.¹ While their meanings can be relatively fluid, “RegTech” (Regulatory Technology) refers to the use of emerging technologies such as Artificial Intelligence (AI) (and a subset of AI known as Machine Learning (ML)) by financial institutions to ensure compliance with applicable laws and regulations. Additionally, “SupTech” (Supervisory Technology) refers to the use of these technologies by financial regulators to support their supervisory, rulemaking, and enforcement efforts.² As technological developments continue to transform financial markets and institutions, RegTech and SupTech solutions are emerging as regulatory focus areas. Taken together, in the financial services space, these approaches may help both financial institutions and government regulators monitor transactions, evaluate risk, catch noncompliance, identify illicit finance, and implement regulatory changes in real-time.

Application of RegTech and SupTech Technologies in the Financial Sector

In the past few years, financial firms have used algorithms – precoded sets of procedures or instructions designed to perform a specific task or solve a mathematical problem – to help financial institutions meet regulatory requirements (through RegTech) as well as enable the development of new technologies by regulators to strengthen their supervisory capabilities

¹ *FinTech and RegTech in a Nutshell, and the Future in a Sandbox*, CFA Institute (July 2017).

² *FinTech and market structure in financial services: Market developments and potential financial stability implications*, Financial Stability Board (Feb. 14, 2019).

(through SupTech).³ Technologies such as AI (including ML), cloud-based services, and application programming interfaces (APIs) have enabled the growth of RegTech and SupTech to improve supervisory processes while ensuring compliance with regulatory requirements.⁴ AI vendors project that the use of RegTech programs and AI will continue to grow significantly over the next few years. Globally, the RegTech market is anticipated to reach \$55.28 billion by 2025, with a compound annual growth rate of 52.8%, according to some AI industry estimates.⁵

The use of AI and related emerging technologies can offer a broad range of benefits for both financial institutions and regulators. For regulated financial institutions, such as banks and credit unions, RegTech can “improve compliance outcomes, enhance risk management capabilities, and generate new insights into the business for improved decision-making.”⁶ At the same time, SupTech may provide regulators with “improved oversight, surveillance and analytical capabilities, and generate real-time indicators of risk to support judgement-based supervision and policymaking.”⁷ In both contexts, proponents of AI have pointed to the improvement in the speed of data analysis and the ability to synthesize large datasets that would otherwise be too cumbersome to effectively digest through traditional means.⁸

However, as AI programs have grown in popularity, so have concerns about potential adverse outcomes arising from their use. Algorithmic bias, explainability, and transparency are major areas of concern surrounding the potential adoption of this new technology. Some policymakers have expressed concerns that the use of AI technologies could result in financial market instability or discrimination against protected groups.⁹ For example, outputs from AI algorithms may exhibit algorithmic bias, wherein biases associated with the underlying data used by AI algorithms (such as in automated lending decisions or anti-money laundering screening programs) may unfairly disadvantage people of color or women.¹⁰ Together, these multiple issues have created ongoing challenges and related costs for both financial institutions and government regulators.

National Security, Illicit Finance, and Securities Applications

RegTech and SupTech solutions are used as tools in anti-money laundering (AML)/countering the financing of terrorism (CFT), fraud detection, cybersecurity, fortification of financial institutions’ required risk-based approach, and strengthening oversight. Currently, these areas of risk management and compliance in financial firms are heavily dependent on analyzing data and predicting how wrongdoing or other risks may occur. In the AML/CFT compliance arena – a domain in which RegTech is nearly ubiquitous – regulators have

³ *Id.*; see also *Fintech: Overview of Innovative Financial Technology and Selected Policy Issues*, Congressional Research Service (CRS) (Apr. 28, 2020).

⁴ *The Use of Supervisory and Regulatory Technology by Authorities and Regulated Institutions: Market Developments and Financial Stability Implications*, Financial Stability Board (Oct. 9, 2020).

⁵ *RegTech Market Size Worth \$55.28 Billion by 2025*, Bloomberg (Aug. 14, 2019).

⁶ *The Use of Supervisory and Regulatory Technology by Authorities and Regulated Institutions: Market Developments and Financial Stability Implications*, Financial Stability Board (Oct. 9, 2020).

⁷ *Id.*

⁸ *Innovative technology in financial supervision (suptech) – the experience of early users*, Bank for International Settlements (July 2018).

⁹ *FinTech and market structure in financial services: Market developments and potential financial stability implications*, Financial Stability Board (Feb. 14, 2019).

¹⁰ See House Committee on Financial Services, *Equitable Algorithms: How Human-Centered AI can Address Systemic Racism and Racial Justice in Housing and Financial Services* (May 7, 2021); see also *Letter from Chairwoman Waters and Representative Foster Urging Regulators to Ensure Algorithmic Bias Does Not Occur in Emerging Technology* (Nov. 29, 2021).

acknowledged that “private sector innovation, including new ways of using existing tools or adopting new technologies, can help banks identify and report money laundering, terrorist financing, and other illicit financial activity by enhancing the effectiveness and efficiency of banks’ AML compliance programs.”¹¹ A 2018 study assessing financial firms’ adoption of RegTech found that financial crime risk management professionals had the broadest adoption of RegTech, with approximately 74% using RegTech tools for anti-fraud and AML activities.¹²

This wide use of RegTech tools was recognized in passage of the Anti-Money Laundering Act of 2020, the first major reform of the Bank Secrecy Act (BSA) since 2001.¹³ Relevant provisions include a requirement that the Financial Crimes Enforcement Network (FinCEN) to “establish streamlined, including automated, processes” for the filing of “noncomplex” BSA reports, reducing burdens of reporting while maintaining or improving the usefulness of the reports.¹⁴ Other sections explore no-action letters for BSA-related issues,¹⁵ often used for the development of new technology, and require a rulemaking on technology testing methods, including clarity on when financial institutions can turn off outdated RegTech in favor of newer options.¹⁶ The law also establishes Innovation Officers at each of the Federal Financial Regulators to “provide technical assistance or guidance relating to the implementation of responsible innovation and new technology by financial institutions”¹⁷ and creates a subcommittee on Innovation and Technology for Treasury’s Bank Secrecy Act Advisory Group (BSAAG).¹⁸

In the realm of capital markets, RegTech and SupTech can be employed in a range of securities-related issues, including utilizing AI to conduct real-time surveillance of trades and personnel, studying data in publicly available securities disclosures, and facilitating accurate and transparent customer identification and customer identifiers utilized.¹⁹ Additionally, regulators may use machine learning and predictive algorithms to conduct risk management, promote better data quality and standardization, oversee customer data privacy and protection, and improve securities disclosures for investors.²⁰ An important addition to the regulatory toolbox has been the Consolidated Audit Trail (CAT).²¹ The CAT houses trading data from exchanges and broker-dealers.²² Both the Securities and Exchange Commission and the industries’ self-regulatory organizations could potentially utilize various data analytical tools, including use of AI, to detect and deter market practices that risk harming investors.²³

Notable Supervisory Developments from Regulators

Supervisory authorities and regulated entities have increasingly discussed the possible use of RegTech and SupTech technologies to “improve surveillance, reduce manual processes and

¹¹ Federal Financial Regulators, *Joint Statement on Innovative Efforts to Combat Money Laundering and Terrorist Financing*, (Dec. 3, 2018).

¹² *AI in RegTech: a quiet upheaval: How advanced technologies are changing the way that financial risk, financial crime risk and GRC are managed*, Chartis Research and IBM (2018).

¹³ H.R.6395, 116th Cong. (2021) (see Division F—Anti-Money Laundering (Sec. 6001-6511)).

¹⁴ *Id.* at Sec. 6202: Additional considerations for suspicious activity reporting requirements.

¹⁵ *Id.* at Sec. 6305: Assessment of Bank Secrecy Act no-action letters.

¹⁶ *Id.* at Sec. 6209: Testing methods rulemaking.

¹⁷ *Id.* at Sec. 6208: Establishment of Bank Secrecy Act Innovation Officers.

¹⁸ *Id.* at Sec. 6207: Subcommittee on Innovation And Technology.

¹⁹ *Technology Based Innovations for Regulatory Compliance (“RegTech”) in the Securities Industry*, Financial Industry Regulatory Authority (Sept. 2018).

²⁰ *Id.*

²¹ Consolidated Audit Trail (CAT), Securities Industry and Financial Markets Association (accessed Mar. 23, 2022).

²² *PRIMER: the Consolidated Audit Trail*, International Financial Law Review (July 1, 2020).

²³ Rule 613 (Consolidated Audit Trail), U.S. Securities Exchange Commission (accessed Mar. 23, 2022).

make more effective use of data.”²⁴ For instance, in a 2016 speech, Federal Reserve Board Governor Lael Brainard made one of the first references to RegTech by a Fed official, mentioning the “growing fintech segment called RegTech that aims to help banks achieve regulatory compliance more effectively.”²⁵ The Consumer Financial Protection Bureau (CFPB) has also addressed RegTech in several ways, including through its innovation office, participation in multi-regulator requests for information, providing guidance and amending its formal supervisory process, and utilizing technological innovations that reduce time and errors in its interaction with banks.²⁶ Recently, the CFPB publicly outlined options being considered to ensure that computer models used to help determine home valuations are accurate and fair.²⁷ Additionally, in June 2021, the Federal Deposit Insurance Corporation (FDIC) hosted a webinar on the ethics of AI and ML to discuss policy and consumer issues associated with algorithmic bias, among other things.²⁸

There have also been recent interagency efforts to assess the possible effects of AI used by financial institutions. For instance, in March 2021, financial regulators that are part of the Federal Financial Institutions Examination Council (FFIEC)²⁹ issued a request for information (RFI) on the use of AI by financial institutions in their provision of services to customers and related purposes.³⁰ The RFI asked for comments on appropriate governance, risk management, and controls over AI, and any challenges in developing, adopting, and managing AI.³¹ The RFI also investigated whether clarification from federal agencies would be helpful to financial institutions in their use of AI in a safe and sound manner, and in compliance with applicable laws and regulations, including those related to consumer protection.

In February 2021, the Treasury Department hosted the U.S. Financial Sector Innovation Policy Roundtable, bringing together policymakers, regulators, and the private sector experts to discuss how innovations like “interoperable, privacy-preserving digital identity solutions, and more effective anti-money laundering and anti-fraud mechanisms, can provide value to financial services companies and their customers by eliminating redundancies, reducing costs, combating illicit use, and promoting financial inclusion in an increasingly digital world.”³² During the event, participants emphasized the role of international organizations and collaborative events such as Innovation Hubs and Tech Sprints to support Fintech, RegTech, and SupTech initiatives.³³

²⁴ *FinTech and market structure in financial services: Market developments and potential financial stability implications*, Financial Stability Board (Feb. 14, 2019).

²⁵ *Speech by Dr. Lael Brainard: The opportunities and challenges of fintech*, Board of Governors of the Federal Reserve System (Dec. 2, 2016).

²⁶ *Innovation at the Bureau*, Consumer Financial Protection Bureau (CFPB) (accessed Mar. 17, 2022); see also *CFPB Announces Tech Sprints To Empower Consumers, Reduce Regulatory Burden*, CFPB (June 29, 2020).

²⁷ *Consumer Financial Protection Bureau Outlines Options To Prevent Algorithmic Bias In Home Valuations*, CFPB (Feb. 23, 2022) see also *Fintech: Overview of Innovative Financial Technology and Selected Policy Issues*, CRS (Apr. 28, 2020).

²⁸ *WEBINAR 3: Ethics of Artificial Intelligence and Machine Learning*, Federal Deposit Insurance Corporation (June 17, 2021).

²⁹ Members of FFIEC include the Federal Reserve, Consumer Financial Protection Bureau, Federal Deposit Insurance Corporation, National Credit Union Administration, and the Office of the Comptroller of the Currency.

³⁰ *Request for Information and Comment on Financial Institutions' Use of Artificial Intelligence, Including Machine Learning*, FFIEC, 86 FR 16837 (Mar. 31, 2021); see also, in 2017, the CFPB issued a prior RFI covering the use of alternative data in modeling techniques in the credit process – see *Request for Information Regarding Use of Alternative Data and Modeling Techniques in the Credit Process*, CFPB, 82 FR 11183 (Feb. 21, 2017).

³¹ FFIEC, *Request for Information and Comment on Financial Institutions' Use of Artificial Intelligence, Including Machine Learning*, 86 FR 16837 (Mar. 31, 2021); see also *Letter from Chairwoman Waters and Representative Foster Urging Regulators to Ensure Algorithmic Bias Does Not Occur in Emerging Technology* (Nov. 29, 2021).

³² *U.S. Treasury Department Holds Financial Sector Innovation Policy Roundtable*, U.S. Department of the Treasury (Feb. 10, 2021).

³³ *Id.*

International Regulatory Initiatives

Regulators outside the U.S. have also collaborated on RegTech and SupTech initiatives. In October 2020, the Financial Stability Board (FSB) published a report on the use of RegTech and SupTech technology by FSB members and regulated institutions.³⁴ The report discusses the risks and benefits of RegTech and SupTech technology and presents a range of case studies presenting examples of the deployment of these AI-enabled tools. The Bank for International Settlements (BIS), has also conducted research on RegTech and SupTech through its Innovation Hub.³⁵ One initiative that BIS featured, is called Project Rio, which is a prototype of a cloud-based market monitoring platform that processes real-time financial data feeds and computes relevant liquidity and market risk measures.³⁶

The European Central Bank (ECB) has included the use of supervisory technologies as a critical component into its strategic vision for banking supervision.³⁷ The Bank of France's supervisory unit is exploring SupTech solutions in the context of its Data Transformation Programme, which seeks to change the way it collects, stores, validates and analyses data."³⁸ The United Kingdom's Financial Conduct Authority (FCA) has supported different kinds of RegTech, beginning with a call for input from stakeholders in 2015.³⁹ FCA has also conducted tech sprints in this space since 2016 through their 'SupTech' TechSprint, which examined challenges faced by regulators in monitoring data.⁴⁰

Legislation

U.S. policymakers have introduced RegTech and SupTech-related legislation. For instance, H.R. 2989, the Financial Transparency Act of 2021 by Rep. Carolyn Maloney would require the federal financial agencies to adopt data standards to make information reported to financial regulatory agencies electronically searchable, enabling the development of RegTech.⁴¹ The House passed H.R. 2989 by a vote of 400-19 in October 2021. Additionally, H.R. 7022, the Strengthening Cybersecurity for the Financial Sector Act of 2022 sponsored by Rep. Bill Foster, would provide the National Credit Union Administration (NCUA) and the Federal Reserve System (FRS) with similar authority that banking regulators have in overseeing third-party vendors utilized by their regulated entities.⁴² Since 2015, the Financial Stability Oversight Council (FSOC) has highlighted this regulatory blind spot and has called on Congress to address it in every annual report.⁴³

³⁴ *The Use of Supervisory and Regulatory Technology by Authorities and Regulated Institutions: Market Developments and Financial Stability Implications*, Financial Stability Board (Oct. 9, 2020).

³⁵ *BIS Innovation Hub work on suptech and regtech*, Bank for International Settlements (accessed Mar. 24, 2022).

³⁶ *Rio: monitoring of fast-paced electronic markets*, Bank for International Settlements (Mar. 26, 2021).

³⁷ See Annex 1 – Case Study 2: *The European Central Bank in The Use of Supervisory and Regulatory Technology by Authorities and Regulated Institutions: Market Developments and Financial Stability Implications*, Financial Stability Board (Oct. 9, 2020).

³⁸ *The suptech generations*, Bank for International Settlements, Financial Stability Institute Insights (Oct. 17, 2019).

³⁹ *RegTech*, FCA (accessed Mar. 23, 2022).

⁴⁰ *Remarks by Jelena McWilliams at The Financial Conduct Authority's and Alliance for Innovative Regulation's 2019 Global AML and Financial Crime TechSprint*, FCA (Aug. 2, 2019).

⁴¹ *H.R. 2989*, 117th Cong. (2021).

⁴² *H.R. 7022*, 117th Cong. (2022).

⁴³ *Annual Reports*, FSOC (accessed on Mar. 23, 2022); See also *Oversight of Prudential Regulators: Ensuring the Safety, Soundness, Diversity, and Accountability of Depository Institutions*, House Financial Services Committee (HFSC), 117th Cong. (May 19, 2021), and *Cyber Threats, Consumer Data, and the Financial System*, HFSC Subcommittee on Consumer Protection and Financial Institutions, 117th Cong. (Nov. 3, 2021).