

**Testimony of Jessica Rusu,  
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**To:**

**The US House of Representatives; Committee on Financial Services; Task  
Force on Artificial Intelligence**

**“Keeping Up with the Codes – Using AI for Effective RegTech”**

**May 13, 2022**

**Washington, D.C. (Virtual Attendee)**

## Summary

This testimony will set out some of the key work and supporting documents that the Financial Conduct Authority (FCA) and other UK agencies have published in relation to our innovation work, particularly related to Artificial Intelligence (AI), Regulatory Technology (RegTech) and Supervisory Technology (SupTech).

For the purposes of this document, we define RegTech as industry solutions designed to make specific regulatory processes more effective and efficient, or larger, multi-faceted technology projects designed to modernise regulatory compliance functions across organisations. We define SupTech as the application of innovative technologies by regulators to enhance their supervisory and market oversight functions. This includes technologies that support both data analytics and data collection processes, across regulatory reporting, document analysis, prudential analytics, misconduct analytics and others.

## Approach to Innovation

### 1. Building a digital regulator: how the FCA is riding the innovation wave (April 2022)

- This is a speech by Jessica Rusu at the Innovate Finance Global Summit 2022.
- The role of data and technology is increasingly pertinent as we are faced with volatile geopolitical conditions.
- There are three themes at the centre of our work to ensure we can effectively carry out our role as a regulator:
  - i. Fostering innovation – to create an enabling environment for innovation in financial services, while proactively scanning the horizon to get on the front foot of emerging issues.
  - ii. Being intelligence-led – to leverage data science and advanced analytics to inform our decision-making and help us regulate at scale.
  - iii. Preparing for the future – providing insights to ensure that our regulations are fit for purpose in a rapidly changing market.
- Synthetic data has been a key feature of our digital sandbox, and we have recently published [a Call for Input](#) to gather views and assess the potential of synthetic data to further spur innovation in the market.
- In May, we hosted our first ever CryptoSprint, engaging with the industry to seek their ideas to inform our regulatory policy thinking. This will be the start of a programme of industry engagement as we work together to develop a dynamic framework that supports innovation while protecting consumers.
- Later this year we will host a joint TechSprint with the Payment Systems Regulator (PSR) on Authorised Push Payment Fraud. It will explore solutions to identify and prevent APP Fraud, for example through identification of suspicious social media advertising and scam promotions.

### 2. Drivers of change in the financial services industry and how we are responding (November 2021)

- This is a speech by Jessica Rusu at the CDO Exchange for Financial Services in 2021.
- The threat landscape has shifted for consumers, with fraudsters and scammers benefitting from new technologies and new consumers being

drawn to high-risk markets and products, motivated by competition with friends, family, acquaintances and the influence of social media.

- To tackle the challenges faced by consumers and industry, we must make the best use of our own resources – connecting the dots in terms of intelligence across the organisation, drawing on strategies and approaches from data science, and leveraging data to create new tools and techniques which allow us to detect harm and intervene more quickly.
- We have a vital role in enabling the FinTech sector to achieve its potential and position the UK at the forefront of technological growth.

### **3. Levelling the playing field – innovation in the service of consumers and the market (April 2021)**

- This is speech by FCA CEO Nikhil Rathi at UK FinTech Week in 2021.
- We believe that success in financial innovation has been enabled by regulatory open-mindedness.
- Support for innovation has been matched by action to protect consumers and markets.
- Tackling many of the issues we face – whether it is finding market abuse in transaction data, mapping access to cash against consumer vulnerability, scraping the web for poor advertising or the quicker raising of red flags about those we regulate – relies on the innovative use of technology and data, in many cases drawing on lessons from others in industry.
- In order to meet our objectives over the long term we need not only to improve our structure, technology and data analytics capabilities, but also to adapt our culture and our risk appetite, and for us to take innovative advantage of our powers. This is the motivation for bringing this together under a new DTI division led by Jessica Rusu.

### **4. FCA Data Strategy (January 2020, updated August 2020)**

- The FCA's refreshed data strategy builds on learnings from our [first data strategy](#), published in 2013. It sets out how the organisation will focus on new technology and advance analytics techniques that are available and look at how we can apply these to improve our own efficiency and effectiveness.
- The data strategy has three strategic objectives:
  - i. Gain deeper understanding of how markets work and consumer behave to shape our interventions.
  - ii. Identify and respond to problems in firms and markets to intervene and minimise harm earlier.
  - iii. Build a flexible, future-ready organisation to react faster to market changes and shifting priorities.
- The portfolio of work to deliver on these priorities is structured around the following areas:
  - i. Projects and Key Business Initiatives in every single division that exploit our capabilities and ways of working to bring benefit to us all.
  - ii. Changes to our culture and skills to provide the environment, training and recognition for all employees to identify and champion opportunities to fully exploit data and deliver improvements in their areas.
  - iii. A new FCA data operating model that provides central capabilities and services to push forward our transformation, while growing data and analytical capability throughout the organisation.

- iv. Improved Central Data Services that support our governance, control and supply of data and enable us to make better use of it by providing support across a range of disciplines.
- v. New Data Management and Analytical tools to give us control, flexibility and power in the way that we use our data.
- vi. Core enabling technology platforms giving us the foundational technologies and infrastructure to fully harness the power of data.
- We have committed to publishing updates on our progress and how we deliver continue to support our mission.

## **Artificial Intelligence / Machine Learning**

### **1. FCA and Bank of England (BoE) - AI Public-Private Forum: [Final report](#) (February 2022)**

- The FCA and BoE launched the Artificial Intelligence Public-Private Forum (AIPPF) on 12 October 2020 ([Terms of Reference](#)). The purpose was to further dialogue on AI innovation between the public and private sectors. More specifically, the AIPPF sought to:
  - i. Share information and understand the practical challenges of using AI within financial services, as well as the barriers to deployment and potential risks.
  - ii. Gather views on potential areas where principles, guidance or good practice examples could be useful in supporting safe adoption of these technologies.
  - iii. Consider whether ongoing industry input could be useful and what form this could take.
- The AIPPF ran for one year, with four quarterly meetings and a number of workshops. It brought together a diverse group of experts from across financial services, the tech sector and academia, along with public sector observers from other UK regulators and government.
- The Final Report explores the various barriers to adoption, challenges and risks at three levels within AI systems: Data, Model Risk and Governance. It also explores potential ways to address such barriers and challenges, as well as mitigate potential risks. These are highlighted in the key findings and examples of best practice.
- Ultimately, this report aims to advance the collective understanding and promote further discussions amongst academics, practitioners and regulators to support the safe adoption of AI in financial services.

### **2. 'AI Transparency in financial services – why, what, who and when?' – [FCA Insight Article](#) (February 2020)**

- The FCA and The Alan Turing Institute worked together on a year-long collaboration on AI transparency.
- This is a blog post where we explain the motivation for pursuing such a project and present an initial framework for thinking about transparency needs in relation to machine learning in financial markets.

### **3. [AI in Financial Services](#) – The Alan Turing Institute report commissioned by the FCA (June 2021)**

- The FCA and The Alan Turing Institute worked together on a year-long collaboration on AI transparency. As part of this work, the FCA

commissioned a report to inform and advance the debate about responsible AI in the context of financial services.

- The report provides an introduction to relevant technological concepts, discusses general challenges and guiding principles for the adoption of AI, maps out potential benefits and harms associated with the use of AI in financial services, and examines the fundamental role of AI transparency in pursuing responsible innovation.

#### **4. FCA and BoE Joint - Machine Learning in UK Financial Services [Research Note \(October 2019\)](#)**

- The FCA and BoE conducted a joint survey in 2019 to better understand the current use of machine learning (ML) in UK financial services, including the current state of deployment, maturity of applications, use cases, benefits and risks.
- This is a research note presenting our analysis of the responses to the survey. It includes a qualitative overview of the use of ML across the respondent firms
  - i. A quantitative overview of the use of ML across the respondent firms
  - ii. The ML implementation strategies of firms that responded to the survey
  - iii. Approaches to the governance of ML
  - iv. The share of applications developed by third-party providers
  - v. Respondents' views on the benefits of ML
  - vi. Perceptions of risks and ethical considerations
  - vii. Perspectives on constraints to development and deployment of ML
  - viii. A snapshot of the use of different methods, data, safeguards performance metrics, validation techniques and perceived levels of complexity
- We will be re-running the joint survey with the BoE later this year.

#### **5. [The future of regulation: AI for consumer good](#) – Speech (July 2019)**

- This is speech delivered by former FCA Executive Director of Strategy and Competition Christopher Woolard at the Alan Turing Institute's AI ethics in the financial sector conference.
- As the regulator, we consider the use of AI in financial services from three main perspectives:
  - i. Firstly, which parts of the debate are novel and where is there continuity.
  - ii. Secondly, how can we ensure AI is creating value for citizens.
  - iii. And lastly, how can we work with others to develop a shared understanding that will determine our approach over the years ahead.

### **Supervisory Technology (SupTech), including Advanced Analytics and Data Science**

#### **1. FCA RegTech Forum – FCA Approach to Innovation & SupTech [Event Recording \(February 2022\)](#)**

- This is an on-demand recording of the FCA's RegTech Forum on our approach to regulatory innovation and SupTech.
- The event showcased how our end-to-end approach to innovation has evolved over the years and lessons learned, followed by a more detailed overview of our SupTech projects and how we are utilising new technologies to meet our objectives.

- The event featured a panel with domestic and international regulators and academia to discuss the importance of innovation for regulators, how the field of SupTech is evolving, and what the future might hold for it.

## **2. [FCA Approach to Innovation & SupTech](#) - [Transcript](#) and [Video Recording](#) (February 2022)**

- This is a transcript and video recording of the speech given by Jessica Rusu at the aforementioned RegTech Forum 'Approach to Innovation & SupTech' event in February 2022.
- Across the Data, Technology, and Innovation division, we are investing heavily in the skills and technology foundations that will make the FCA a regulator fit for a digital future.
- We are developing a new Digital Unified Intelligence Environment (DUIE) that fundamentally re-imagines how we collect intelligence, analyse data, and will help the FCA take action in a more joined up way.
- Underpinning the Data Strategy is the cultivation of a spirit of innovation, of which we believe there are three key ingredients: culture, experimentation, and collaboration.
- Building a diverse and inclusive culture is an imperative to create the environment that is receptive to new ideas – an environment that has not only the necessary skills, but also the agile mindset to adapt to change.
- Supporting early innovation is about supporting experimentation, and two ways the FCA does this through our digital sandbox initiative and our TechSprint model.
- We believe it is important to work collaboratively with industry on shared challenges. Our innovation culture will be influenced by our external network, and collaboration with innovative firms, academics, and industry forums in building the future of regulation. This is what we refer to as the 'RegTech-SupTech bridge'.

## **3. [Meeting the pace of technological change](#) – [Speech](#) (November 2019)**

- This is a speech delivered by former FCA Director of Innovation Nick Cook at the Chief Data Officer Exchange Financial Services conference in London.
- The changing technology landscape means that regulators, such as the FCA, need to continually adapt to remain fit for purpose for both the markets and firms we oversee and the consumers we serve to protect.
- Our innovation services started as a 2-person initiative called 'Project Innovate' offering regulatory feedback to innovative business models, and it has grown into an entire division dedicated to bringing disruption to financial markets in the interest of consumers.
- We are continually asking ourselves whether FCA innovation services could be enhanced to broaden relevance and appeal, including by providing greater support to the RegTech market. We are looking at ways to do this through the creation of a 'digital sandbox'.
- Our TechSprints have provided opportunities to collaborate with RegTechs on focussed proofs-of-concept, including in the area of AML and financial crime. Our [2019 Global AML and Financial Crime TechSprint](#) brought tech firms and the industry together to explore the potential of Privacy Enhancing Technologies, or PETS (e.g. federated learning; complex scenario modelling and scenario simulation), to make improvements in the area of financial crime detection.

## **4. [From Innovation Hub to Innovation Culture](#) – [Speech](#) (June 2019)**

- This is a speech delivered by former FCA Director of Innovation Nick Cook at the 6<sup>th</sup> Central Bank Executive Summit.
- We believe that regulators should actively stimulate certain innovation within the market that we believe will deliver public value. We have been vocal in our desire to see further innovation and progress in anti-money laundering and financial crime, and we have previously seen the positive impact that publicly identifying a specific area of interest can have on technological development.
- The FCA has an increasing focus on international engagement in innovation in financial services and being a global advocate for innovation. This is why we proposed and launched the Global Financial Innovation Network (GFIN).

## **Regulatory Technology (RegTech)**

### **1. 'RegTech – a Watershed Moment?' – [FCA Insight Article \(June 2020\)](#)**

- Each year the FCA carries out a significant amount of research and analysis to help financial markets work effectively. The FCA Insight section is designed to promote access to some of the most interesting and thought-provoking highlights of our work.
- The Covid-19 crisis has brought to the fore the potential for technology to streamline regulatory activity and bring benefits to organisations. The Covid-19 crisis may prove a pivotal moment for the RegTech industry's growth and transformation.
- Regulators have a role in supporting the adoption of technology to solve regulatory challenges while maintaining careful oversight of the sector.

### **2. 'The Future of RegTech – what do firms really want?' – [FCA Insight Article \(June 2021\)](#)**

- The use of technology to streamline the regulatory process in financial services continues to be a fast-moving and fast-growing sector.
- Data since the start of the pandemic indicates that RegTechs are realising potential found during the Covid-19 crisis to help industry adopt technology solutions for tackling new types of financial crime and respond to changing regulatory rules.
- The FCA commissioned an external agency to conduct quantitative research among large UK financial services firms about the current state of play in the RegTech industry, their perceptions of RegTech and the FCA's role, as well as the impact of Covid-19.
- Through these interviews, we received a good understanding of how firms engage with RegTechs and what the onboarding journey looks like – a crucial part of the adoption process.
- It was observed within the RegTech ecosystem that RegTech firms have the challenge of making the leap from 'proof of concept' to demonstrating clear 'proof of value'. The FCA's digital sandbox has been designed to assist innovators to develop new solutions and products through access to synthetic data assets, and demonstrate the potential value of these products to the market by way of an observation platform open to market participants.

### **3. [Fostering innovation through collaboration: The evolution of the FCA TechSprint Approach Report \(March 2020\)](#)**

- This is a report we published in 2020 exploring the lessons we have learned from hosting seven TechSprints across a range of subjects. As part of our commitment to foster innovative and collaborative global financial markets,

we want to share our experience and support other organisations in their efforts to address key industry problems.

- The report includes information on how the FCA goes about planning TechSprints that may be of interest to regulators considering planning their own events.

#### 4. [FCA Insight Podcast - Using technology to fight financial crime \(August 2019\)](#)

- This is an audio recording and [transcript](#) of an FCA Insight Podcast hosted by former FCA Director of Innovation Nick Cook during the FCA's 2019 Global AML and Financial Crime TechSprint.
- In the podcast, Nick Cook is joined by Global Head of Financial Crime Threat Mitigation at HSBC, Jennifer Calvery, and Co-Founder and CEO at 11:FS, David Brear, to discuss how new technologies can be used to prevent and detect financial crime.

#### 5. [Technology and global ties: turning the tide on financial crime - Speech \(May 2018\)](#)

- This is a speech delivered by former FCA Executive Director of Strategy and Competition Christopher Woolard at the Anti-Money Laundering TechSprint in 2018.
- Key points from this speech include:
  - i. The financial system is the gateway through which criminals must pass to make crime pay.
  - ii. New technologies have huge potential to monitor, analyse and prevent financial crime. Machine learning to improve the detection of suspicious activity, artificial intelligence driven anti-impersonation checks and distributed ledger technology to improve the traceability of transactions are just some of the real, practicable solutions technology has gifted us.
  - iii. A clean, competitive financial system cannot be achieved in isolation – only by working together can we make a real impact. It is only by working together, pooling our resources and sharing our expertise, that we will achieve the real and tangible change we are all seeking.