Artificial Intelligence in Financial Services in Europe

COVINGTON

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Table of Contents

A. Introduction

Artificial intelligence is a fast evolving sector of technologies across industries including the financial services sector (in particular banks, asset managers and insurers) in Europe. This is why in 2018, the European Commission and the Member States introduced a joint commitment named *"The 2018 Coordinated Plan on Artificial Intelligence"* which was an essential first step in defining actions and funding instruments for the uptake and development of Artificial Intelligence **("AI")** across sectors in Europe and which has been further developed in the 2021 Review.

Nevertheless, no harmonized legal framework has been implemented in the European Union (EU) yet. The EU Proposal for an Artificial Intelligence Act of 21 April 2021 (2021/0106 (COD) - **"AIA"**), which is a cross-industries approach by the European Union to regulate AI, is currently being discussed in the European Parliament and Council. However, it is not sure if and when it will enter into force. So, for the time being, the local laws of the Member States continue to apply with the consequence of a fragmentation of applicable regulations.

B. AI Use Cases in Financial Services

The areas in which AI can be used by financial entities is very broad and can include front, middle and back office activities. Examples are the provision of robo advisory services, algorithm-based trading (already very common in the trading of bonds) or algorithm-based portfolio management services.

Other examples are the use of algorithms for efficient money laundering monitoring, the determination of credit scores or video-remote customer identification. In the insurance industry, AI is used e.g. for the processing of comprehensive insurance claims and for the defense against fraud attempts.

C. Financial Services Regulatory Implications

I. European Rules

Contributed by Covington & Burling
Author: Dr. Marco Brand

1. European Proposal Regulation on Artificial Intelligence (AIA)

As said, there is no harmonized European framework regulation of AI in place yet.
However, with the AIA the European Union launched the world's first comprehensive legislative package to regulate AI. The AIA pursues a risk-based 'horizontal' regulatory approach. It applies to the use of AI in the EU across industries including health, mobility and financial services sectors. The scope of regulation under AIA depends on the risk inherent to the AI use cases concerned:

- Unacceptable AI use cases, such as social scoring by governments, will be completely banned.
- High-risk use cases (e.g., critical infrastructure, safety component of products, essential private and public services such as credit scoring denying citizens opportunity to obtain a loan) will be subjected to prior conformity assessment and wide-ranging new compliance obligations.
- Limited-risk functions will be subject to enhanced transparency rules.
- Minimal-risk use cases can largely be pursued without any new obligations under the AIA.

The AIA would have a huge regulatory impact across industries including the financial services sector. However, as already mentioned, the AIA is still under review and being discussed in the European Parliament and Council. It is hard to predict if and when it will enter into force. Realistically it will not become effective before the end of 2025. Therefore, for the time being, existing national legislations continue to apply.

2. Existing EU-wide Regulations

There are only very few existing EU regulations expressly dealing with the use of algorithms/AI in financial services, e.g.:

- The evaluation of own capital requirements for banks and insurers when using internal models (Artt. 142 et seqq. and Artt. 362 et seqq. CRR for banks and Sec. 111 et seqq. of the German Insurance Supervisory Act for insurers);
- Margin calculations of Central Counterparties (CCPs) (Art. 49 EMIR).
- In these cases the competent regulator reviews and approves the algorithm-based model used for the calculations.

In addition, the provisions of Regulation (EU) 2016/679 (General Data Protection Regulation - **"GDPR"**), in particular the provisions relating to the processing of personal data (Chapter II of the GDPR) must be observed when using artificial intelligence systems. The GDPR requirements should already be considered in the planning process of artificial intelligence systems. There are ongoing discussions driven by consumer-protection about the need of stricter/additional data protection requirements in the context of artificial intelligence in financial services industries.

There are of course other European regulatory frameworks such as the Markets in Financial Instruments Directive (Directive 2014/65 - **"MiFID II"**) which have to be observed by MiFID firms when using AI. However, these rules have not been designed specifically for the use of AI.

Since all of the above rules are based on EU regulations, they directly apply in all Member States.

II. Germany

Contributed by Covington & Burling
Author: Dr. Marco Brand

Following its large study together with the Frauenhofer Institut about big data and artificial intelligence of 2018, the German Federal Financial Services Supervisory Authority **("BaFin")** published on 15 June 2021 a 16-pages white paper "Big Data and Artificial Intelligence: Principles concerning the use of algorithms in decision-making processes" in which the regulator specifies its regulatory practice and considerations in dealing with artificial intelligence in Germany. However, BaFin itself contemplates this administrative practice as preliminary which is subject to further discussions and developments.

1. Risk-Oriented Supervision of Artificial Intelligence

There is no specific German regulation relating to artificial intelligence in financial services and, accordingly, no legal basis for a general approval requirement for artificial intelligence systems. As a result, there are generally no independent reviews of artificial intelligence systems by BaFin. Such reviews are rather conducted in the course of licensing procedures and ongoing supervision.

BaFin's review of algorithm-based services generally includes the whole algorithm-based decision making process from the data collection to the final result. However, BaFin only reviews algorithm-based services insofar as they may become relevant for financial services regulations (risk-oriented and occasion-related supervision). This particularly means that the reviews are stricter where additional financial services-related risks are caused by the use of artificial intelligence systems. BaFin mentions the existence of 'high scalability' as such a risk factor because of the potential susceptibility to errors associated therewith.

A key feature of BaFin's administrative practice is that there are no stricter requirements to algorithm-based decisions than to decisions taken by human beings (technology-neutral approach). In other words: "Same business, same risk, same rules".

2. No Impact of Artificial Intelligence on Licensing and Notification Requirements

Artificial intelligence in general does not have any influence on the assessment whether an activity qualifies as a regulated activity. The only exception so far is the high frequency trading (subcase of own trading) under Sec. 1 par. 1a sentence 2 no. 4d of the German Banking Act (KWG) which per definition refers to the purchase and sale of financial instruments directly based on algorithms.

In addition, there is no general notification obligation towards the regulator regarding the use of artificial intelligence systems. As an exception, securities trading firms must notify the competent authorities and trading venues about the fact that they conduct algorithm-based trading (Sec. 80 par. 2 sentence 5 of the German Securities Trading Act).

3. Responsibilities, Risk Management and Outsourcing Requirements

a) Responsibilities

The management is responsible for the company-wide strategies relating to the use of AI systems. This requires appropriate technical skills of the responsible management bodies. To properly integrate staff in the decision making process involving artificial intelligence systems, compliance officers and internal/external revision as well as any other staff which has to deal with artificial intelligence systems in the company should have sufficient knowledge about how such systems work ("putting the human in the loop").

b) Risk Management Requirements

Specific risks adherent to artificial intelligence should also be considered in the risk management processes. More broadly, the firm wide risk management framework should consider all algorithm-based decision making processes and their interdependencies.
Existing guidelines regarding security risk management such as the Supervisory Requirements for IT in Financial Institutions (BAIT) of 16 August 2021, Supervisory Requirements for IT in Insurance Undertakings of 20 March 2019 and the Minimum Requirements for Risk Management (MaRisk) of 7 September 2021 do already (partly) apply to the use of AI systems by financial entities.

c) Outsourcing Requirements

If artificial intelligence-based services are outsourced to a third party, the management is responsible for the establishment of an effective outsourcing management including clear responsibility, reporting and control structures. By way of example, there must be appropriate protection against data manipulation.
As to the supervision of such outsourcing structures, BaFin considers to take the whole supply chain into consideration. According to BaFin, the regulatory focus should not only be on the regulated financial institution but also on activities of companies, which do not belong to the regulated financial industry, but which might have a (huge) influence on the integrity of financial markets (e.g., big techs). However, this does not mean that BaFin intends to supervise big techs as a whole comparable to the supervision of financial institutions. The idea is rather to establish a direct supervision relating to specific activities relevant for the financial services industry.

d) Other Compliance Requirements

Additionally, algorithm-based decision making processes should be duly documented to enable the company, auditors and the regulators to review and verify such processes.
Finally, a company should establish emergency measures for the maintenance of business operations in the case of a failure of artificial intelligence systems.

III. Austria

Contributed by DORDA
Author: Dr. Christian Richter-Schöller

Austrian regulatory law does not include specific provisions on AI. According to published case law, Austrian courts also did not specifically address legal questions around AI in the financial services sector.

While the Austrian Financial Market Authority **("FMA")** has not yet published any dedicated guidance relating to the use of AI in the financial services industry (unlike the German regulator – see above), in the recent past the FMA has cursorily included AI in some of its publications. According to those, the FMA is taking an in-depth look at the use of AI in the banking and asset management sector. However, the FMA neither lays out in detail which services it considers to be qualifying as AI, nor what according to its opinion the specific needs and requirements for services based on AI shall be.

Generally speaking, the FMA has consistently tried to demonstrate an open and friendly approach *vis-á-vis* new technologies, for example by designating a special "FinTech Point of Contact" and by publishing and regularly updating its legal views around FinTech. Among that publicly available information on the website of the FMA is also a chapter on automated advice and trading. While not explicitly dealing with AI, the FMA does consider similar techniques, for example algorithmic trading and automated advice systems. In a nutshell, the FMA employs a "technology neutral" approach which it summarizes as follows: *"In terms of the applicability of the activity of trading, it does not make any difference whether processes are (partially) automated"*. This means that from the viewpoint of the FMA all regulatory requirements, including licensing and good conduct rules, need to be met regardless of whether the client interacts with a human being or an algorithm. In our opinion, this is also the view that in all likelihood the FMA would take *vis-á-vis* services based on AI.

IV. France

Contributed by JEANTET
Author: Jean-François Adelle

1. Pro AI Regulatory Environment – Soft Regulation Preferred

The use of AI is largely encouraged by the French regulators, in particular as tools allowing to better combat fraud and money laundering, to improve best execution of financial securities transactions and credit scoring. Both the French Prudential Control and Resolution Authority **("ACPR")** and the French Financial Markets Authority **("AMF")** have put in place dedicated services to fintechs and maintain close links with players in the sector.

Use of AI has been standard practice for them for several years. In particular it enables the AMF to handle large volumes of data needed to perform its missions and analyze those data in record time.

Use of AI already falls under several existing sectoral EU (see C.1. above) or French regulations (GDPR, MiFID II, French regulation of digital assets) and necessary changes to French representation and transfer of financial securities legal framework have been implemented by Ordinance of 8 December 2017 to allow representation and transfer of financial securities through blockchain (via the shared electronic registration tool - DEEP). Players are therefore already subject to regulation. Going further, while there is no French regulation relating to AI in financial services as such, it is not at the moment envisaged to put forward a regulation of AI in France, that would complete further the contemplated AIA, although the regulators carefully scrutinize the emergence of risks associated with the use of algorithms.

The French government has presented on 8 November 2021 a €2.2 billion plan over five years to develop AI innovation in France and to ensure that regulations do not restrict such development. More than half of the plan will be devoted to the development of training, 40% to measures to support innovation and economic measures and almost 10% to support scientific research and transfer.

2. No Impact of Artificial Intelligence on Licensing and Notification Requirements

AI does not have influence on the assessment whether an activity qualifies as a regulated activity and notification obligations towards the regulator regarding the use of artificial intelligence systems except in connection with algorithmic trading defined by Article L533-10-3 of the French Monetary and Financial Code and with index alternative investment funds that must report periodically the results of the algorithm and any adjustment of the variables of the algorithm.

3. Management Responsibility - Compliance with Applicable Regulations

Management retains responsibility for activities incorporating AI and must ensure compliance with existing regulatory obligations relating to internal control, outsourcing (categorization of AI outsourcing as outsourced essential service provider), business continuity, protection against cyber risks, personal / non-personal data framework (GDPR, cloud computing) associated therewith.

4. Evaluation and Governance of Algorithms: ACPR's Recommendations

The ACPR published a white paper in June 2020, entitled "Governance of artificial intelligence algorithms in the financial sector", which provides practical guidelines on algorithms evaluation and governance requirements. The paper will be subject to further discussions and developments.

e) Evaluation of Algorithms

This ACPR has identified four interdependent criteria to be implemented in the design and development of an AI algorithm in the financial sector: 1) Appropriate data processing, ensuring regulatory compliance and taking into account ethical considerations such as fairness of processing or absence of discriminatory bias. 2) Use of a set of metrics sufficient to measure technical and/or commercial efficiency. 3) Stability, being the robustness and resilience of the algorithm during its life cycle, that should be tested on an ongoing basis.

4) Explicability, a notion linked to transparency, so as to provide explanations of algorithm goal or operation to end users (e.g., customers), compliance and governance officers, along for 4 levels of explanation (observation, justification, approximation, replication), depending on the targeted public and the na-ture of the relevant risk.

f) Governance

Integration of AI in processes of business lines impacts governance. The ACPR recommends that management has careful attention to the following aspects: 1) Establishing whether the AI component replaces a critical function (due to its operational role or the associated compliance risk) and its industrialization is technically satisfactory. 2) Interference of human biases in explaining results provided by AI technology (because human beings can have a stronger feeling of responsibility when contradicting an algorithm, the ACPR recommends to not involve human beings in the determination and formulation of algorithms explanations. 3) Periodical risk evaluation of safety tools and outsourcing practices. 4) Deploying adequate technical expertise and tools dedicated to ensuring continuous respect of the evaluation principles set up by the ACPR. 5) Internal and external audit functions should follow combined analytical and empirical approach.

V. Hungary

Contributed by KNP Law
Authors: Dr. Daniella Huszár & Oliver Koppany

In 2018, the European Commission and the Member States introduced a joint commitment named *"The 2018 Coordinated Plan on Artificial Intelligence"*, which was an essential first step in defining actions and funding instruments for the uptake and development of AI across sectors in Europe. Under this initiative, Member States were encouraged to develop national strategies, pursuant to which the AI Coalition and the Ministry of Innovation and Technology of Hungary issued t**he Artificial Intelligence Strategy of Hungary ("AI Strategy")** for the period 2020-2030, which was adopted by Government Resolution 1573/2020 (IX.9.).

Significant guidelines for the financial industry are set out in the **FinTech Strategy of Hungary ("FinTech Strategy")**, which includes the digitalization strategy of the domestic financial sector, with special focus on rapidly evolving financial technology solutions (FinTech), and the wide applicability of blockchain technology. This Strategy also contains comments from the Ministry of Finance, the Hungarian National Bank (MNB), and professional organizations (Bankers' Association, the Association of Hungarian Insurance Companies).

1. The Spread of Artificial Intelligence Usage in the Business Sector

The representatives of the Hungarian financial sector are taking advantage of the opportunities offered through digitalization, but most Hungarian credit institutions do not offer the innovative services and products digitally. However, several domestic institutes are using new identification technologies, while others are exploring the use of blockchain technology and AI, such as robotized advice or video-remote customer identification. In online wealth management, personal bankers are being carefully replaced by AI to help clients with their investments. Under the concept of robotized advice, the client answers some questions about their risk tolerance and about the investment returns they hope to achieve.

Based on the responses, the software can aid clients achieve the highest possible return on investment (ROI).

Several financial market representatives are seeking to build closer links with the fintech sector by setting up incubation programs. Credit institutions and insurance companies have already launched their own incubation and mentoring programs, providing opportunities for those with ideas and teams already working on prototypes. The MNB Innovation Hub is the MNB's Financial Innovation Platform, launched in 2018, which is open to both start-up fintech companies and existing licensed incumbents.

2. Regulatory Solutions under Hungarian Law

In Hungary, there is currently no binding legal regulation governing artificial intelligence in the economic sector, or in general. Only the above outlined solutions are providing guidance for the future. Most credit institutions are taking measures to comply with the PSD2 regulation, which is draining many of their resources. In recent years, as an example of insurtech, the first car insurance policies based on the use of telematics tools have also appeared in Hungary, but these attempts have met with only limited success.

a) General Approach by the MNB

The Hungarian Financial Services Regulator, the MNB, which is a founding member of the AI Coalition, supports and promotes the digitalization of the economy and encourages the use of new technologies, including artificial intelligence, in the domestic financial environment. MNB's guidelines are included in the overall FinTech Strategy, however, as it currently stands, these guidelines are future objectives rather than current existing regulatory provisions. The strategy focuses on 4 pillars, which are (1) Technology (2) Business Innovation (3) Competence and (4) Regulation.

Under the Technology pillar the overall objective is to enable incumbents and new joiners to enter the financial services market with high value-added, innovative technology solutions, supported by the state, including making high-quality databases available and enabling nationally standardized customer identification processes.

The Business Innovation pillar focuses on the developments of the financial sector. The overall goal of this pillar is to bring digital financial solutions and fintech developments into the mainstream of the innovation ecosystem and provide an appropriate test-environment for them.

One of the main objectives is to increase competence with different levels of education, hence according to the overarching objective, no citizen or business should be prevented from learning about and using modern, cost-effective digital financial solutions due to a lack of digital competences and/or financial awareness.

Overall objective of the Regulation pillar is to create a regulatory framework that encourages both fintech innovations and digital developments by traditional representatives in the financial sector and is conducive to the competitiveness of the national economy and the financial system. In the insurance and capital markets, the aim is that new technologies, such as robo-advisors (automated advisors) could be applied to the domestic market easily.

b) Regulatory difficulties in the absence of general legal provisions Example: Robo-Advice

The legal assessment of robo-advice depends on the service provided through the advice. Under current domestic regulation (Act CXXXVIII of 2007 on Investment Firms and Commodity Dealers, and on the Regulations Governing their Activities), robo-advice, because of the nature of the service, can be interpreted generally as investment advice (and falls under investment service(s)) or investment and financial analysis (investment research and financial analysis – ancillary services). In this case the client can also automatically entrust the robot with the investment of their assets in addition to the presentation of an investment opportunity which is considered algorithmic trading. The regulation in this case does not allow derogations from the EU legislation (Commission Delegated Regulation 2017/565/EU).

Investment services, research, financial analysis, and financial analysis related to financial instruments (securities, derivatives, etc.) are services that can only be provided by investment firms or credit institutions with the appropriate license from MNB or from an EU supervisory authority (an authorization proving eligibility to engage in investment service activities is a pre-requisite for providing ancillary services).

Based on the above, there are no particular obstacles for a properly licensed investment firm or credit institution to provide robo-advice. The regulatory difficulty arises if a firm that is not yet licensed wishes to provide such a service. However, it is important to emphasize that the difficulties are not due to the application of technology but to the strict regulation of the financial sector.

c) Algorithm-based Software

Software which is built on algorithms and source code are governed by Act LXXVI of 1999 on Copyright which applies to AI, but this legislation does not regulate the damage and liability issues related to the use of the software. The primary concern with considering the technology as software stems from its specific nature (the amount of data processing and decision making) which makes it difficult to treat it like a previously known and understood "ordinary" software.

d) Data Protection

Since the potential use of AI by financial and non-financial organizations is significantly influenced by data collection and processing, the role of data protection will be enhanced as well and could have significant consequences on business policies and managements to strengthen the competitiveness of companies. As Hungary's Data Protection Authority is very strict on the observance of data protection rules, businesses should pay careful attention to data protection requirements as their compliance or non-compliance may have an impact on their operations.

VI. Ireland

Contributed by Arthur Cox
Authors: Robert Cain & Jennifer Duffy

The Central Bank of Ireland ("CBI") has acknowledged that technological change is disrupting the landscape of financial services and that increasingly regulated financial services providers are making use of technological advancements such as AI.

In recent years we have seen increased engagement from the CBI with respect to AI as well as involvement in international and EU policy fora, including participation in a European Supervisory Authority working group focused on considering how AI is used in financial services. The CBI has embraced the European Commission's FinTech focus.

In addition, in April 2018 the CBI launched an Innovation Hub to facilitate open engagement with firms and stakeholders involved in developing financial services technology, by providing a direct, less formal, line of communication to the CBI. It has proven to be particularly popular in the sectors of Regtech, payments and markets and exchanges.

Despite increased engagement by the CBI, the use of AI in the financial sector in Ireland is largely governed by existing law and regulation, as the CBI has not yet produced industry specific guidance. The EU has been to the forefront of developing AI specific legislation, and as a regulation, the proposed EU regulation providing a legal framework for AI would be directly applicable in Ireland. That said, there are various existing requirements in relation to matters such as governance, control and risk-management, outsourcing, data protection and cyber-security which form the back-drop of the regulatory landscape for the use of AI in the Irish financial services sector.

1. General Compliance

Regulated financial services providers in Ireland need to ensure that their approach to AI is consistent with the general regulatory requirements placed on them including in relation to governance and control, risk management, outsourcing and data protection.

Generally the same principles of regulation, including (where relevant) the rules of the Consumer Protection Code, apply equally to both digital and traditional delivery environments.

Specific rules also apply to firms engaging in certain types of activity. For example, investment firms that use algorithmic trading (where a computer algorithm automatically determines aspects of an order with minimal or no human intervention) are required to comply with specific requirements to identify and mitigate the risks associated with this type of trading as provided for in MiFID II.

2. Impact of Artificial Intelligence on Licensing and Notification Requirements

The use of AI in general does not impact the assessment of whether an activity qualifies as a regulated activity. The CBI regulates a wide range of financial services activities including but not limited to: accepting deposits; receipt and transmission of orders in financial services; payment services; issuing and distributing electronic money; dealing on own account; portfolio management; and the underwriting or placing of financial instruments on a firm commitment basis. As the CBI approaches applicants on the basis of technological neutrality, its focus is on ensuring that firms are soundly governed, on the basis of a sustainable business model, in a way that ensures that customers are treated fairly and not exposed to inappropriate losses.

3. Responsibilities, Risk Management and Outsourcing Requirements

Regulated financial services firms are obliged to have adequate systems and controls to deal with operational and other risks, as well as clear and documented policies for business continuity and contingency planning. For financial stability reasons, the CBI recognizes that it is important that customer data is available, reliable and secure. The frequency and impact of technological issues must be minimized and firms ought to be able to recover quickly from any such issues, demonstrating strong operational resilience.

a) Outsourcing

The CBI is very focused on outsourcing as it is extensively used across financial services firm. In particular, the CBI is clear that although a service can be outsourced, the risk related to the service remains with the firm and its board:

"With all outsourcing arrangements, boards and senior management must understand that they are placing the resilience of their firm into the hands of a third-party and while they may be able to monitor the service during normal operation, when something goes wrong, they are reliant on someone else to fix it."

Firms ought to put in place robust continuity plans in case an outsourced AI solution fails.

b) Risk Management

The CBI has noted the importance of IT risk management. As technologies become embedded into the fabric of financial services firms, there are increased risks around IT failures, outages and cyber-attacks. The CBI emphasizes that IT risk management processes need to be enhanced as firms become more data centric. Additionally, the boards of financial services providers must be comprised of individuals who have sufficient skill, experience and knowledge with respect to technology and IT risk, such that they can effectively understand and manage risk. Adequate training should be provided so the risks of AI solutions adopted are understood.

c) Governance, Oversight, Accountability and Culture

Financial services firms have greater access to customer data than they may have had in the past. The CBI is conscious that this can lead to information asymmetries, which in turn can raise ethical questions on how data is used. The CBI expects firms to consider whether their usage of data is appropriate. In particular, people who lead firms are expected to create a culture that minimizes the risk of misconduct. There must be adequate governance in place and an understanding of the risks associated with any AI model. The new Senior Executive Accountability Regime under which regulated financial services providers and senior managers within those regulated financial

services providers will clearly frame where responsibility and decision-making rest within their organization, should help create better governance structures and increased individual accountability in Irish financial services firms, including those using AI solutions.

4. Enforcement

With regard to enforcement for breaches of regulation caused by the misuse of AI, the CBI has a long track record of imposing fines for systems and controls failures, including with respect to investigations arising from cyber-fraud incidents. For example, in April 2020, the CBI imposed a fine of €1,660,000 on the Governor and Company of the Bank of Ireland for breaches of the European Communities (Markets in Financial Instruments) Regulations 2007 and identified serious deficiencies with respect to third party payments, including inadequate systems and controls and inadequate governance and oversight. We would expect the CBI to continue to closely monitor regulated financial services firms, including those firms who, for example, rely on AI in their communications with customers or as part of their trading strategies.

VII. Luxembourg

Contributed by Elvinger Hoss Prussen
Authors: Tom Göricke, Gary Cywie & Anaïs Sohler

As a leading global financial center, Luxembourg has enabled, during the last years, many initiatives aimed at fostering and developing AI solutions for the financial services industry. Those inputs came from both the government and well-established private and institutional actors such as the University of Luxembourg and other representatives from the finance, banking and legal sectors. More notably, the Luxembourg supervisory authority of the financial sector, the Commission de Surveillance du Secteur Financier **("CSSF")** monitors how artificial intelligence solutions are likely to affect the financial sector in Luxembourg. In close collaboration with actors from the Luxembourg financial sector, the CSSF intends to anticipate and address forthcoming challenges, which the financial services sector may have to deal with in Luxembourg.

1. A government Driven and Ambitious Strategy on Artificial Intelligence

In 2019, the Luxembourg government launched its strategy on AI with the ambition "to be among the most advanced digital societies in the world, especially in the European Union. The strategy paper recognizes Luxembourg lacks "the critical mass to harvest the opportunities of large-scale datasets", except for the financial services sector.

2. An Innovation Hub Established by the Regulator

In February 2021, the CSSF published a paper aiming at "further describing the involvement and the work of the CSSF regarding the Financial Innovation". In the paper, the CSSF states that the "integration of technological innovation in financial services and markets is a continuing challenge for regulators such as the CSSF." While calling for a "constructive and open dialogue", the CSSF explains that it follows three main principles towards innovation in financial services, including AI:

- a proactive open regulatory approach;
- a prudent risk-based regulatory approach;
- a technology neutral approach.

The above-mentioned paper refers to a research study from the CSSF published in December 2018 in the form of a white paper (without any binding effect for supervised entities) specifically addressing the topic of AI. According to the CSSF, this white paper "provides the foundations for a constructive dialogue with all the stakeholders of the financial sector for a deeper understanding of the practical implementations of AI technology and its implications."

This white paper is published in the following context outlined by the CSSF: "Today, AI is one of the most promising technologies, and different kinds of practical applications, especially in the financial sector, are emerging. This topic attracts a lot of attention, but at the same time, there is still a sense of ambiguity about what kind of technology is hidden behind this term. The potential benefits that AI can bring are enormous, but these can only be achieved if the fundamentals of this technology and its underlying risks are well understood and an adequate control framework is put in place." That is why the research study aims at better understanding what AI is and the related risks. It also provides some practical use cases for the financial sector. Finally, the research study provides some key recommendations to consider when im-plementing AI.

3. General Rules Remain Applicable for the Moment

Currently, there is no specific national Luxembourg law or regulation in force specifically relating to the use of AI in the financial industry, with the exception of high-frequency algorithmic trading rules, which are however not specific to Luxembourg as they derive from MiFID II. However, financial institutions remain responsible for the services they provide, whatever technology they use.

Regulated financial institutions that wish to outsource all or part of the AI solution they wish to rely on to third party service providers, equally remain liable for the service towards their clients. General outsourcing rules will apply in this case and the CSSF will review the AI solution when reviewing the IT outsourcing notification. However, no specific rules or constraints in relation to AI apply to this review.

Notwithstanding the above, while certain AI services are not specifically regulated, they could nonetheless fall within the scope of the CSSF's supervision when provided by regulated entities to their clients. Notably, Luxembourg requires service providers providing certain IT services to be authorized by and under the supervision of the CSSF in accordance with Article 29-3 of the Law of 5 April 1993 on the financial sector, as amended. This article establishes a specific license of *"IT systems and communication networks operators of the financial sector"* for professionals who are responsible for the operation of IT systems and communication of regulated entities of the financial sector (e.g., for credit institutions, payment institutions, electronic money institutions, investment firms). Whenever the offer of such IT service providers relies on artificial intelligence, the artificial intelligence systems will then be under the scope of CSSF's general supervision of the relevant regulated activities.

VIII. Spain

Contributed by Uría Menéndez
Author: Pilar Lluesma

AI is a key element of the digitalization programme of Spain. The Government of Spain has established a plan for the development of digitalization, including AI, which has been defined in the National Artificial Intelligence Strategy *(Estrategia Nacional de Inteligencia Artificial)* **("ENIA")**.

The ENIA is one of the pillars of the Spanish Digital Agenda 2025 *(Agenda España Digital 2025)* and one of the components of the Recovery, Transformation and Resilience Plan for the Spanish economy *(Plan de Recuperación, Transformación y Resiliencia)*.

In relation to the financial sector, part of the funds provided for the ENIA have been spent in the establishment of a regulatory sandbox in Spain. Law 7/2020, of 13 November, for the digital transformation of the financial system **("Law 7/2020")** regulates the creation of the regulatory sandbox and includes a set of measures that seek to accompany the digital transformation of the financial system. The purpose of this regulatory sandbox is to implement, with all necessary guarantees, technologically-based innovation projects in the financial system (through new applications, processes, products or business models), including the use of AI.

The three national financial Spanish authorities, i.e. the Bank of Spain (*Banco de España,* **"BoS"**), the National Securities Markets Commission *(Comisión Nacional del Mercado de Valores,* **"CNMV"**) and the General Directorate for Insurance and Pension Funds (*Dirección General de Seguros y Fondos de Pensiones,* **"DGS"**), to the extent of their competence, control and supervise the test of the projects admitted after their evaluation.

Although banks and other financial entities are developing the use of AI for improving their systems, products and services, there is no specific regulation relating to AI in the financial sector. Notwithstanding the above, Spain is discussing with the European Commission the possibility of being the pilot country where the EU Proposal for an Artificial Intelligence Act of 21 April 2021 is tested, but no official confirmation has been adopted yet.

1. Risk-Oriented Supervision of Artificial Intelligence

As anticipated, there is no specific Spanish regulation relating to AI in financial services without prejudice to Law 7/2020. For that reason, financial entities do not need the approval of the competent authority for using artificial intelligence systems. In that sense, BoS, DGS and particularly, CNMV conduct their reviews when processing the authorisation or in their general ongoing supervision.

Algorithmic trading is the only AI activity regulated in Spanish legislation. Under Royal Legislative Decree 4/2015, of 23 October, approving the consolidated text of the Securities Market (Securities Market Act), investment firms that engage in algorithmic trading shall notify the CNMV the activities related with algorithmic trading by the specific procedure "NNA" of virtual office online register of that authority.

Investment firms that use algorithmic trading shall have effective systems and risk controls that guarantee the proper use of its systems and keep the record of the information related to it. In addition, when applying high-frequency algorithmic trading techniques, investment firms shall also keep records of their orders.

In relation to asset management, the CNMV has stated that the direct marketing of an algorithm/software to retail investors does not require the CNMV's authorisation or registration, although to the extent that the parametrisation of the algorithm by the clients themselves would require clients not only to have a certain level of technical training but also sufficient financial expertise to be able to use the algorithm prudently and personalise the results adequately according to their risk profile, the indiscriminate sale of this type of software to all types of investors, especially retail investors, is not advisable. However, if the company marketing the algorithm/software also parametrises it based on information provided by the client, the activity would be considered as the provision of investment advice and its performance would be subject to prior CNMV licensing.

2. Impact of Artificial Intelligence on Licensing and Notification Requirements

Investment firms have to notify the competent authority, i.e, CNMV of the usage of algorithm trading according to article 195.2.a) of the Securities Market Act. In this respect, investment firms shall describe the algorithm trading activities that pretend conduct when obtaining the relevant authorisation before the CNMV.

Besides the previous circumstances, there is no other regulated obligation of notification of AI with the CNMV or other competent authority without prejudice of the information to be provided on the use of AI when processing the authorisation of the relevant financial entity.

3. Responsibilities, Risk Management and Outsourcing Requirements

The management has to define, approve and supervise the strategies on the services that use AI taking into account the risk associated to them and the characteristics of the clients. Likewise, control units and employee need to have the sufficient skills and knowledge of the AI systems.

The financial institutions using AI has to establish effective measures to ensure the maintenance of business operations in the event of malfunctioning of their systems.

Lastly, investment firms will be fully responsible of its activities even if this AI activity is outsourced to a third party.

4. Additional matters

Regarding sustainable finance, the Spanish Government has launched the National Green Algorithms Program *(Programa Nacional de Algoritmos Verdes)* with the purpose of developing an AI which takes into account social and environmental issues. Nevertheless, it is soon to know the impact that this program may have in the financial sector.

IX. United Kingdom

Contributed by Covington & Burling
Author: John Ahern

The Bank of England and the Financial Conduct Authority both recognise that technological change is going to be of increasing relevance to the manner in which regulated financial services providers are going to deliver their services.

Post Brexit, the UK government released its national strategy for artificial intelligence in September 2021. There it pointed out that it has not introduced blanket AI-specific regulation, preferring instead to take a sector-led approach. This position might change once the UK's Office for AI releases its white paper on governing and regulating AI early this year. In the meantime, financial services firms using AI need to do so within the confines of existing regulation and supervisory approaches.

For many years, the FCA has a comprehensive policy on treating customers fairly and requires firms to communicate with them in a way which is clear, fair and not misleading. This is of particular relevance when it comes to deploying AI tools in firms' businesses, especially where it could have an adverse effect on customers (for example, when assessing creditworthiness).

a) General Compliance

As AI is increasingly adopted by the industry, the concerns around governance come more into focus. In this context, senior managers of financial services firms must be mindful of their individual liability. The UK Senior Managers Regime requires senior managers to take reasonable steps to avoid a breach in the parts of the business for which they are responsible. Senior managers will therefore take a personal interest in AI where it is driving decision-making within the scope of their responsibility. The regulatory approach on this is still emerging but, as a minimum, firms will need to allocate responsibility for AI-related risks appropriately within the organisation.

b) Responsibilities, Risk Management and Outsourcing Requirements

Regulated financial services firms are obliged to have

adequate systems and controls to deal with operational and other risks, as well as clear and documented policies for business continuity and contingency planning. In common with the view of many regulators in the European Union and elsewhere, the UK regulators are very focused on financial stability and, as part of that drive, they recognise that it is important that customer data is available, reliable and secure. Operational resilience is an important component of that effort and firms are expected to have strong policies, procedures and methodologies to ensure that they are operationally robust.

c) Outsourcing

Outsourcing requirements will not be a surprising component of extensive use of AI. Under Chapter 10 of the FCA's sourcebook on Systems and Controls (SYSC), it is clear that responsibility for any services or operations that are outsourced remains squarely with the authorised firm. In a regulatory world which was designed prior to the rapid rate of technological advancement that we have seen in the last ten years, firms need to be mindful of the different challenges that AI poses to their compliance posture generally, but also, in the specific context of outsouring arrangements, how this new world can create greater risk.

d) Risk Management

IT risk management is part and parcel of the general risk management agenda. We have seen in recent years the customer detriment that results from IT failures – not least in the retail banking sector. In that context, it is key that firms who use AI are factoring into business models the need to ensure that they retain personnel who can adequately understand and deal with the specific risks that might arise in an AI environment. This is not a just a question of the more technologically experienced staff being tasked with sole responsibility for these matters – there is a wider obligation to ensure that all relevant staff are conversant with the issues that the use of AI involves.

e) Enforcement

In a world where AI is likely to be relied upon more and more, firms should be alert to the risks of regulatory sanction – either for data leakage or systems failure. It has certainly been a feature of UK regulation that enforcement tools have been used more and more to drive a culture of compliance in the industry. Where technology and algorithms are used to decrease the day to day degree of human involvement in decision making, the industry should not be surprised that there will be continued strong regulatory concern about customer detriment. Any adverse consequences for individuals occasioned by the use of AI and modern technologies will likely result in a relatively robust enforcement stance wherever things go wrong.

D. Biographies

John Ahern
John is a partner in the London office of Covington. With more than 30 years of experience in UK, European, and Asian financial markets, John Ahern advises banks, multilateral trading facilities, broker-dealers, asset managers, and investment advisors on regulatory challenges. He offers clients deep knowledge of how regulators in different jurisdictions approach compliance and enforcement issues and helps them operate in compliance with financial regulations, while also maximizing opportunities. John's practice focuses on the regulation of banks and other financial institutions by the EU and UK prudential and conduct regulators. He regularly advises on various EU regulations that were developed in the aftermath of the 2008 financial crisis, including MiFID II, the Market Abuse Directive II, the Payment Services Directive II, and the EU's EMIR regulation in relation to futures and derivatives.

Dr. Marco Brand
Dr. Marco Brand, who is an associate in the Frankfurt office of Covington, has almost ten years of experience in financial regulatory law with a focus on the regulation of national and international payment service providers, asset managers, banks and financial service providers. He also has significant expertise in advising on money laundering matters. Mr. Brand also has a broad experience in advising FinTech companies including crypto service providers. He is the author of numerous publications in the financial markets field.

Jennifer Duffy
Jennifer is an associate in the Arthur Cox Financial Regulation practice, specialising in Irish and European financial services regulation. Jennifer has experience in advising a broad range of clients on financial regulation matters and is admitted to practice in Ireland and England & Wales. Jennifer advises on the supervision and regulation of banks and investment firms, the Central Bank of Ireland authorisation process, ongoing compliance with conduct of business and other requirements, market abuse, fintech, payment services, the regulation of cryptoassets and financial services M&A. Prior to joining Arthur Cox, Jennifer worked as a member of the Financial Regulation Group of Davis Polk and Wardwell LLP in London for several years.

Robert Cain
Robert is Head of the Arthur Cox Financial Regulation practice, specialising in Irish and European financial services regulation. Robert advises a wide range of domestic and international clients on all aspects of financial services regulation. His practice includes advice on Irish and EU authorisation and perimeter issues, ongoing compliance with conduct of business and other requirements, regulatory capital, market abuse, securities regulations, fintech and payment services, insurance and reinsurance regulation, AML, corporate governance and financial services M&A (including sales and purchases of financial assets and insurance assets). Robert also advises on regulatory enforcement action taken by the Central Bank of Ireland and European Central Bank and on industry investigations and inquiries. Robert previously worked in the Financial Regulation Group of Clifford Chance LLP in London for several years.

Dr. Daniella Huszár

Daniella graduated from Eötvös Loránd University Faculty of Law and Political Sciences in Budapest, Hungary. She is currently an Associate at KNP LAW and regularly publishes articles on the case law of the European Court of Human Rights as an author at Strasbourger Observer. She specializes in IP/IT law and data protection and conducts research regarding the regulation of social media platforms and artificial intelligence. She participated successfully in numerous conferences and competitions focused on freedom of expression and media law, such as the ITU Telecom World Conference, the National Scientific Students' Associations Conference, and the Price Media Law Moot Court Competition, organized by the University of Oxford. In 2021, Daniella was nominated and shortlisted for Wolters Kluwer's Jurist Award, and she was also supported with the National Young Talent Scholarship to conduct her research regarding the role and impact of artificial intelligence on our rights.

Oliver Koppany, Esq.

Oliver's practice involves assisting companies with their international operations specifically in the technology, life sciences, and real estate sector. He is involved with organizations in their day-to-day functions in Hungary and works closely with acquisition teams internationally with their M&A projects and set-up of their Hungarian operations. His focus is on matters which concern the United States and Hungary, and he often represents the interests of foreign entities with their activities in Hungary and Europe.

Oliver has a passion for technology, artificial intelligence, crypto currency regulations, in addition to blockchain and metaverse technologies. He regularly counsels Hungarian start-up companies in this space with regulatory advice in addition to practical advice on expansion across the European Union and the United States.

Gary Cywie

Gary Cywie is a partner at EHP. He specializes in Technology. His particular areas of expertise are the drafting and negotiating of IT outsourcing agreements in the financial services and insurance sectors, software licence and maintenance agreements and commercial contracts. In addition, he specializes in data protection and privacy, internet and e-commerce, electronic signature, electronic archiving, IT security and media and telecommunications. He also handles IP matters. Gary is also involved in Fintech developments, more particularly in relation to digital ledger technologies (DLT) such as blockchains, smart contracts and virtual currencies.

Thomas Göricke

Thomas Göricke is a counsel at EHP. His practice focuses on collective asset management and investment funds. He advises clients on the set-up and structuring of their Luxembourg investment fund operations as well as on regulatory matters, with a particular focus on sustainable finance. He is part of the firm's ESG task force and actively participates in various fund association working groups on ESG.

Anaïs Sohler
Anaïs is a senior associate at EHP. She became a member of the Paris Bar in 2013 and joined Elvinger Hoss Prussen the same year. She was admitted to the Luxembourg Bar under her home title in 2013 and as avocat à la cour in 2017. Anaïs holds a Master's degree in private law and a Master's degree in real estate law from the Université Paris II Panthéon-Assas (France). She also holds an LLM in commercial law from the University of Cambridge (UK).

Christian Richter-Schöller
Christian joined DORDA in 2014. He specializes in banking and capital markets as well as insurance supervisory law. He advises banks, financial institutions, insurance companies and intermediaries on regulatory issues, contract law and litigation.

Christian is also the co-initiator and co-head of DORDA's Sustainability Group. DORDA's Sustainability Group brings together experts from various legal fields on all matters around sustainability. As co-head, Christian coordinates the combined efforts of the group and specializes in sustainable finance.

Pilar Lluesma Rodrigo
Pilar Lluesma Rodrigo is counsel in Uría Menéndez's Madrid office. She began her career at Uría Menéndez in 1995 and rejoined the firm in 2018, having worked in the legal department of INVERCO from 2016 to 2017. She has 25 years of experience advising a wide range of financial entities, including credit entities, investment services firms, collective investment schemes management companies, and private equity management companies, in regulatory and financial matters. In particular, within the regulatory field, she advises on matters such as authorizations, cross-border provision of services, marketing of products, rules of conduct and transparency, disciplinary proceedings, reporting to supervisory authorities, anti-money laundering, derivatives and service client agreements.

Jean-François Adelle
Jean-François Adelle is a Banking and Finance partner of Jeantet Paris office. A banking and financial law specialist with more than 35 years of experience, Jean-François is active in transactional matters, regulatory advice and in litigation, mainly in international matters, for a clientele of financial institutions, fintechs, investment funds and large corporates, both French and international. He heads the Firm's Legal Opinions Committee. Jean-François has a strong and recognized regulatory advisory and financial engineering practice related to credit disintermediation (debt funds, alternative financing, crowdfunding platforms, etc.), payments services, crypto-assets, marketing of financial products, trust, derivative products, and prime brokerage. Currently the Senior Vice Chair of the Banking Law Committee of the International Bar Association, Jean-François is the author of numerous publications and is a frequent speaker at conferences on financial and banking law topics.

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