Conference "Capital Markets in the Digital Age: Balancing Innovation & Oversight"

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09:40-10:00 – Panel 2: Supervision in the Age of AI: Introductory Presentation

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- It is a great pleasure to be here with you today and I would like to thank the President of the Board of Croatian Financial Services Supervisory Agency Ante Žigman for his kind invitation to introduce this panel on 'Supervision in the Age of AI'.
- It is a privilege to talk about a topic that is rapidly reshaping our profession: **financial supervision in the age of artificial intelligence**. We stand at a critical moment—where technology is not just a tool but a transformative force. AI is changing how we understand risk, how we interact with institutions, and how we protect consumers and markets.
- Artificial intelligence and especially generative AI has taken substantial leaps forward in recent years. Both in our private lives and in our professional lives we have been integrating AI.
- The financial sector is no exception, as we notice a growing implementation of AI tools in banking, insurance and investment management. According to a recent study, 90% of European financial entities have integrated AI to some extent, and 72% plan to increase Generative AI investments[1].

[1] https://www.ey.com/en_lu/insights/ai/ai-adoption-in-european-financial-services-progress-challenges-and-future-directions?

Part I: The Promise of AI in Financial Supervision

- Let's begin with the **opportunities of AI in financial supervision.**
- As you all know, I am a big proponent of data analytics and of integrating supervisory technology (Suptech) tools into our daily supervision. At the Belgian FSMA, we've chosen to organize our suptech capabilities in a dedicated data science team. The centralization of expertise strengthens our ability to develop technological knowledge and to keep pace with innovation.
- AI offers us unprecedented capabilities in **data analysis, pattern recognition, and predictive modelling**. These are not abstract concepts—they are already embedded into **suptech tools** that enhance our supervisory reach and precision.
- **Suptech tools**, powered by AI, allow us to process vast amounts of complex structured and unstructured data—from transaction records to social media sentiment—to detect anomalies and emerging risks.**The use of large language models** allows us to transform unstructured textual data into meaningful risk indicators which we can incorporate in our supervision.An example of a tool that we are developing at the FSMA is to quantify misstatement risks in annual reports.
- One of the biggest challenges in assessing financial reports is the sheer volume of data. Here we use large language models to extract and interpret both textual and structured data from annual reports.
- Once the data is extracted, it's automatically cross-checked with other data sources, which allows us to quantify misstatement risk.
- Furthermore, **Machine learning algorithms** can identify patterns of misconduct or financial stress before they escalate.

At the FSMA we have developed a webscraping tool which combines webscraping with AI to automatically collect and analyse large volumes of online data.

- This webscraping tool allows us to early detect fraudulent online credit offerings. It is a tool that pro-actively detects and monitors online scams. This tool allowed us to issue warnings for over 150 fraudulent offerings.
- In 2025, we are seeing that these tools move from **experimentation to deployment**. Authorities across the globe are integrating AI into their supervisory workflows, enabling almost **real-time monitoring**, **automated reporting**, and **risk-based prioritization**

  This is a **real gamechanger.**
- This is not just about efficiency—it's about **effectiveness**. AI empowers us to be **proactive rather than reactive**, to **anticipate risks** rather than merely respond to them.

Part II: The Challenges and Risks

- But with great power comes great responsibility.

  AI also introduces **new risks**—some technical, some ethical, and some systemic.
- **The first is Opacity and Explainability**: Many AI models, especially deep learning systems, operate as black boxes. If we cannot explain how a model reaches its conclusions, how can we trust it? To overcome this we need to build transparent and explainable AI systems. Systems whose decision-making can be understood and interpreted by humans.
- **The second risk is Bias and Fairness**: AI systems trained on historical data may perpetuate or even amplify existing biases. This can lead to unfair outcomes in areas like credit scoring, fraud detection, or compliance monitoring.

- **Data privacy and security** represent another critical challenge. AI systems often rely on vast amounts of sensitive data, raising concerns about unauthorized access, misuse, and compliance with data protection regulations. Strong data governance frameworks are therefore very important. These include clear policies and controls for data collection, usage, storage, and protection, helping to safeguard privacy and ensure data quality.
- **Finally,** there is a risk that supervisors become overly reliant on AI, sidelining **human judgment** and experience. We must strike a balance between automation and accountability.

Part III: Building the Future of Supervision

- So, how do we **move forward building the future of supervision**?

  First, we must invest in Capacity Building: Supervisory authorities must develop internal expertise in AI and data science. This includes hiring talent, training staff, and fostering a culture of innovation.
- **Second we need to develop a clear framework for the use of AI, by either applying existing regulations or introducing (specific) new rules**: Supervisors should lead in defining ethical principles for AI use in finance, such as transparency, accountability, fairness, and human oversight.
- **Third, we need to collaborate Across Borders**: AI knows no boundaries. We must strengthen international cooperation to share best practices, harmonize standards, and address cross-border risks.
- **This clearly shows that international collaboration,** whether it is for capacity building, sharing experiences or setting standards**, will be the way forward when it comes to the use of AI in supervision.**

- **In my capacity as Chair of IOSCO**, which is the global standard setter for financial markets, I believe that IOSCO will have a crucial role in this regard.
- In 2021, IOSCO already published the foundational guidance on the use of AI and machine learning by market intermediaries and asset managers. That work focused on governance, accountability, testing, and oversight—principles that remain highly relevant.
- However, Generative AI brings forward the need for a renewed discussion. Therefore IOSCO has published a consultation report earlier this year on Artificial Intelligence in Capital Markets: Use Cases, Risks, and Challenges.
- **IOSCO will also further invest in collaboration and sharing best practices** with regard to **the use of suptech and AI**. At the end of 2023, the FSMA hosted an IOSCO event on the development of new suptech, with more than 100 participants. This clearly shows that there is a **great demand and willingness to cooperate on suptech** solutions.

Conclusion

- In closing, I believe that AI is not a threat to financial supervision—it is an opportunity. But it is an opportunity that must be **managed wisely**.
- Let us embrace the tools that AI offers, while remaining vigilant about the risks it poses. Let us lead with **integrity, foresight, and courage**—so that financial supervision in the age of AI is not just smarter, but also fairer, safer, and more resilient.
- Thank you for your attention.