

Marja Nykänen: Opportunities and challenges of AI in the economy, finance and supervision

Opening remarks by Ms Marja Nykänen, Deputy Governor of the Bank of Finland, at the seminar on the impact of AI on economy, finance and supervision, Helsinki, 13 November 2024.

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Good morning, ladies and gentlemen. It is my great pleasure to warmly welcome you all to this very topical seminar. Whether you are physically here in Helsinki or online, thank you for giving us your time.

The aim of this seminar is to explore the potential impact of artificial intelligence, AI, on the economy, the financial sector and financial supervision.

Like you, I am curious to know more about the potentially transformative effects of AI on our sector and industry in the near and more distant future. The opportunities are and will be innumerable. I probably also share with many of you a feeling of slight unease, perhaps a fear of the unknown. There are, after all, many things we have yet to learn, not least how we will best be able to benefit from the innovations brought by AI.

But above all, I share the excitement that something big is happening. Something that can give us a much greater understanding about different circumstances in the financial sector, something that may bring completely new products that will help us and inspire us. I'm sure a great many of you who have gathered here today want to be at the forefront, among the first, actively shaping what AI will look like in our sector.

Many of us have backgrounds in economics - or law, like myself. AI will obviously bring great benefits to other sectors too, beyond finance. Healthcare is perhaps the sector where people's expectations of AI are at their highest. Even so, there is concern whether human contact will disappear from healthcare when machines take over. After all, when we are vulnerable, we want the care and comfort of human contact.

For some reason though, I don't hear this same yearning for human contact in the financial sector. Maybe we should be offended by this?

But seriously, returning to the matter at hand - Let me start by elaborating somewhat on the concept of AI and its potential effects on the economy, the topic of the first session.

The significance of AI has been compared with breakthrough advances in other general-purpose technologies, such as electricity and the Internet. What these have in common is that they offer applications across countless fields and have substantially transformed societies and economies. AI, for its part, is widely expected to have a major impact on labour markets and productivity, and possibly also on income distribution and economic growth.

The concept of AI as a field of science originated in the 1950s, but it was only with the significant increase in computer capacity and availability of high-quality data that a new

leap in AI development became possible. The concept of AI has, of course, evolved over time, and it has often been associated with machine learning. A significant step more recently, as we know, has been the proliferation of generative AI and large language models powering solutions such as ChatGPT and Copilot.

The International Monetary Fund, the IMF, notes that the impacts of AI may vary by country depending on factors such as the country's readiness to utilize AI. Advanced economies are best positioned to leverage AI, but they are also the most exposed to AI-driven structural changes in the labour market, including the disappearance of some jobs and the creation of others. While the least developed economies are less exposed to these changes in the labour market, they are also less prepared to leverage AI, risking the creation of a new technological divide.

The race for AI supremacy is already on. Mario Draghi's recently published report on the future of European competitiveness argues that the world stands on the brink of a new digital revolution driven by the proliferation of AI. The report expects AI to be a key factor in Europe's future productivity growth. The report also emphasizes the importance of increasing AI investments in Europe, including data centres and supercomputers, in order to avoid falling behind the United States and China. Importantly, it also recommends education and retraining programmes to help the workforce adapt to changes brought about by AI.

Let's turn now to the impact of AI on finance, the topic of the second session.

AI systems have been present in the financial sector for over a decade.

As in many other sectors, the use of AI is already improving productivity. AI-powered systems can process large volumes of data in real time, allowing faster decision-making. Tasks like loan approvals, which once took days, can now be completed in minutes. So, what else can we expect? Additional automation in tasks such as customer service, fraud detection and regulatory compliance can further help drive down costs and minimize risks of human error.

Beyond operational gains, AI is also bringing new tools to risk management and improving both service quality and customer experience. AI tools can monitor market trends, spot risks and detect anomalies in real time, enhancing an institution's ability to manage risks effectively. On the customer side, AI allows for personalized financial services based on individual behaviours, improving satisfaction and engagement through tailored recommendations and solutions.

New technologies always come with risks, however. Let me briefly mention a few of these.

One important risk is the lack of transparency and explainability. For example, AI models can hallucinate outcomes, and their decision-making process can be black boxes or simply too complex for humans to understand. We need to ensure there are necessary ethical guardrails in place, and human oversight of AI.

Cyber risks are also very relevant in the financial sector. As a concrete example, deepfake videos and images create issues in trust and reliability. The increasing use of

AI systems also involves the risk of malicious contamination or poisoning of the underlying data or processes.

Rules governing various aspects of AI are also evolving. The EU's new regulation on artificial intelligence – the AI Act, which is in the process of being implemented – is set to significantly impact the development and use of AI across society, including the work of financial supervisors. In addition to the EU AI Act, numerous other EU-level legal instruments, national laws and soft law – guidelines, recommendations and so on – already govern AI in the current landscape.

The second session will also look at the balance of benefits and risks by considering questions such as: "What role will AI play in surveillance and risk management?", "How can regulators ensure a level playing field for financial market participants when it comes to the use of AI?" and "In what ways can AI help institutions better predict market trends, mitigate risks and respond to financial crises?".

Finally, the third session will concentrate on the impact of AI on financial supervision. How will AI change the work of financial supervisory authorities and central banks?

Central banks and supervisors all over the world are already investigating or implementing AI to improve everyday work. This is also the case here in Finland. Last year, the Bank of Finland and the Finnish Financial Supervisory Authority, the FIN-FSA, launched a data economy initiative. This strategic initiative aims to greatly improve our ability to use data analytics for making better decisions, creating innovations and improving operational efficiency, and to be a frontrunner in leveraging new technologies and data in our daily work. Although the challenge is great, we are in a good position to move forward at this point, as this is already up and running.

The Bank of Finland and the FIN-FSA have a long tradition of working with data. A huge amount of data is collected for both statistical and supervisory purposes, and our Analytics Center of Excellence – 'ace' for short – incorporates a lot of experience of working with cutting-edge technologies like the large language models. On top of this, our new dedicated data strategy function provides a solid foundation for data governance and management practices, ensuring that the data we use is accurate, reliable and secure.

This provides an excellent foundation for building new capabilities to leverage AI. But if we want to create more value from data and AI, we must ensure the close alignment of technology with business objectives and requirements. This is why we are working closely with business interests and have already identified close to 100 potential AI use cases in our organization. The FIN-FSA has been especially active in testing some of these ideas, and you can hear more about these experiments tomorrow morning.

What then are the key drivers for this data analytics work? Most important perhaps is efficiency. The workload is ever increasing and the need for fast and accurate decisions is key. Put simply, with the help of AI tools it is possible, for example, to analyse a greater number of documents with the same human resources as before. Potentially, we can also achieve even better quality. But it is important to underline that AI is a

virtual assistant, not a decision-maker. Indeed, human oversight and critical assessment are now more important than ever. For instance in writing this speech, AI has merely been a servant, not the master.

Events like this are also a great opportunity to share best practices and lessons learned from working with the technology. Both microprudential and macroprudential authorities need to develop new monitoring tools, and in the third session we will hear about many supervisory technology initiatives from around Europe.

To conclude, I would like to highlight some key points.

High-quality data, new technologies and human capital are undoubtedly the key drivers of the AI age. But the interplay between data, technology and human capital presents significant challenges. The exponential growth of data necessitates robust frameworks for collection and analysis.

The technologies are evolving rapidly, creating skills gaps that can leave many workers behind, emphasizing the need for continuous education and training. Moreover, the reliance on AI systems requires not only a workforce that can adapt to these tools but also understand their implications.

Why then are we particularly excited about using AI?

While we need to carefully manage the risks involved with these new technologies, we see great potential in them. Not only can we enhance our work efficiency through automation, but new technologies and large datasets promise new insights that can help drive forward our understanding of the functioning of our economy, and improve supervisory work.

The role of us humans in all this is and will be crucial. It is important that we fully utilize the deep expertise and various perspectives of our different organizations to meet the rising challenges of AI, data proliferation and analytics. Only by fostering an open culture of innovation and investing in human capital and technology can we ensure that we keep pace with the evolving landscape around us.

The AI and data revolution must be harnessed to improve Europe's competitiveness and stability, as well as to enhance the resilience of the economy and financial system.

Thank you for your attention. Once again, a warm welcome to all of you. I wish you a very beneficial, inspirational and thought-provoking seminar!