Joachim Nagel: AI and the future of central banking

Welcome address by Dr Joachim Nagel, President of the Deutsche Bundesbank, at the conference "Artificial Intelligence and the future of central banking", jointly hosted by SUERF (The European Money and Finance Forum) and the Deutsche Bundesbank, Frankfurt am Main, 9 December 2025.

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1 Introduction

Ladiesandgentlemen, dear colleagues,

It is a pleasure and an honour to welcome you today to the conference on "Artificial Intelligence and the Future of Central Banking", jointly hosted by SUERF–The European Money and Finance Forum–and the Deutsche Bundesbank.

I am pleased to see so many people here in the room with us in Frankfurt today. And it is wonderful that there are so many participants joining us virtually, too. This conference gives us the chance to discuss the importance of artificial intelligence (AI) for central banking and the wider economy. I would therefore especially like to thank the organisers of this conference, the speakers, and the participants in the policy panel. Thank you for making this gathering possible and for drawing up such an exciting agenda.

The subject of today's conference is both topical and important. We are all aware that we are living and working in a period of change. We as central bankers are committed to fulfilling our mandate and performing our tasks in this challenging environment. Artificial intelligence offers us great opportunities, but it poses challenges, too. I therefore welcome today's event with open arms, as it will allow us to exchange ideas and perspectives on both.

At the Bundesbank, we develop and use different AI applications that support employees in a wide range of tasks. For example, we have released a platform enabling staff throughout our institution to configure text-based intelligent assistants (which we call TIAs) for their daily work. These TIAs can even be used to process confidential data. A second Bundesbank platform uses natural language processing (NLP), allowing large volumes of documents to be pre-processed and analysed.

Yet another example is MILA the Monetary-Intelligent Language Agent model, which we set up to analyse central bank communication with the help of generative AI.[1] When given my remarks to analyse, this model concluded that the brief speech I am giving today exhibits something you will surely also notice for yourselves: optimism about how we can use the transformative potential of AI. I have both optimism and confidence: confidence that we will also master the challenges posed by the transformative power

of AI for central banks and the economy in general. I would therefore like to use the next few minutes to shed light on both the opportunities afforded by AI and the challenges it presents.

2 The transformative potential of AI

The transformative potential of AI arises from different dimensions and promises of this technology. We expect artificial intelligence to improve our business processes. It also represents an extension of our analytical toolkit. I would now like to focus on two of the aspects we will be taking a closer look at in today's conference.

The first of these is the use of AI for enhanced forecasting and structural analysis: AI offers tools to process vast datasets. These can help, amongst other things, to detect previously unseen patterns. But they can also improve predictive accuracy. For example, machine learning may help to anticipate inflationary pressures, shifts in labour markets, or structural breaks in the economy more swiftly than traditional models allow.

Applications based on machine learning at the Bundesbank are, inter alia, used to model inflation, interest rates and fiscal expenditures as well as loan and trade volumes. Our experience shows that machine learning approaches are not always superior to traditional ones. Hence, I would like to emphasise that AI complements the work of our employees as an additional tool. It does not replace expert knowledge.

The second aspect I would like to mention is the following: AI is not only a means to better understand the macroeconomy. It is itself becoming a driver of macroeconomic dynamics. It can, amongst other things, affect productivity, labour markets, and capital formation. For example, it will impact on the diffusion of innovation and may thus affect potential growth.

The Bundesbank Survey of firms (BOP-F) for the second quarter of 2025 reflected the impact of generative AI on the world of work.[2] A majority of firms that already employ generative AI expected that its use would improve their profitability, customer satisfaction and employee satisfaction. For the year 2024, around one-half of the firms that had already employed AI by that time reported that the use of generative AI increased their productivity.

However, expert opinions on the magnitude of AI's impact on productivity vary greatly. Understanding such forces and dynamics is crucial for central banks, as they assess the medium-term economic outlook, structural change, and the transmission of monetary policy.

3 Challenges of AI from a central banking perspective

Colleagues at the Bank for International Settlements have been looking more closely at the use of AI applications in central banking.[3] Their findings show that central banks have been early adopters of AI and machine learning techniques for important tasks.[4] At the same time, the great potential of AI poses several challenges for central banks. Let me explain this again using the two aspects I focused on before.

First, it is of crucial importance that models are reliable and that they can be interpreted properly. Advanced AI methods are sometimes regarded as "black boxes". This is because it can be more difficult to fully understand how they achieve their output compared to traditional approaches. However, for central banks, transparency and credibility are key. Both are crucial in terms of how central banks work and how they communicate with markets and the public. It is therefore important to invest in explainable AI methods–some of which we will see in today's presentations.

The second issue concerns the challenges presented by the economic implications of AI. The transformative power of AI might foster structural changes. Thus, monitoring the impact of AI in its multiple dimensions and from different perspectives is crucial. This is challenging because AI is progressing swiftly, and its macroeconomic impact might change rapidly.

At the current juncture, we are seeing many firms in the euro area still using AI on a limited or experimental basis.[5] Moreover, in many occupations, AI is currently mainly supporting employees in various tasks, rather than fully taking over their jobs. However, as we have seen, the capabilities of AI are expanding quickly. And so are its potential implications for labour markets and monetary policy transmission.

We must proceed with caution and take care to continually update our evaluation of the impact of AI. To do so, we require, inter alia, information on the use of AI that is representative and comparable across countries. Such data are scarce, however. In view of this, the Bundesbank, Banca d'Italia and Banco d'España are working together on harmonising questions on AI in their representative firm surveys.

To sum up, I hope I have given you some insight into how we at the Bundesbank are open to new technologies, how we try to leverage their potential and how we discuss their advantages and disadvantages.

4 What this conference aims to achieve

Today gives us the opportunity to share advanced research and central banking practices with regard to AI, machine learning, non-traditional data and macroeconomic dynamics. There will be room for thoughtful dialogue on how the work of central banks needs to evolve in light of the advent of AI. And there will be room for building networks. Over the next few hours, you will probably challenge assumptions, perhaps confront blind spots and–as I very much hope–lay the basis for future collaboration.

5 Conclusion

Let me close with a few personal reflections. Being open to innovation is not just about technology–it's also about mindset and the exchange of information and ideas. I am proud to be part of a central bank community that embraces both innovation and an open exchange about how to apply it best. This conference provides a forum for all of the above, so let's take full advantage of the opportunity!

While we discuss AI's technical and economic dimensions, though, let us not forget the broader societal dimension: technology should ultimately serve people. The same holds for us as central banks: We should use AI to serve the public interest by fulfilling our mandate. This goal and our commitment to it remain as important as ever.

Thank you very much for your attention.

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[1] Deutsche Bundesbank (2025), Monetary policy communication according to artificial intelligence, Monthly Report, March 2025.

[2] Deutsche Bundesbank (2025), Survey of firms (BOP-F), Q2 2025: Impact of generative AI on the world of work.

[3] Bank for International Settlements (2025), The use of artificial intelligence for policy purposes, Report submitted to the G20 Finance Ministers and Central Bank Governors, October 2025.

[4] Araujo, D., S. Doerr, L. Gambacorta and B. Tissot (2024), Artificial intelligence in central banking, BIS Bulletin, No 84, 23 January 2024.

[5] Deutsche Bundesbank (2025), Use of artificial intelligence–a European comparison, Monthly Report, May 2025.