Steven Maijoor: Painting like Rembrandt - managing risks in the age of AI

Speech by Mr Steven Maijoor, Executive Director of Supervision of the Netherlands Bank, at a Bloomberg event, Amsterdam, 16 September 2024.

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Thank you, Peter, for your kind introduction and for the invitation. I understand that the organisation of this event was looking for some entertainment. So they asked the regulator to speak. I mean, what can go wrong?

So here I stand, very conscious of my role, in the most beautiful museum of the country. In a few minutes you will enter the Gallery of Honour, the beating heart of the Rijksmuseum, showing masterpieces by the greatest painters of the 17th century. With one absolute focal point: the Night Watch.

As you may know, the Night Watch used to be bigger than it is now. Two hundred years ago, they cut off pieces from the painting to make it fit in a particular room. These pieces have never been found. A couple of years ago the museum's experts were able to reconstruct the missing pieces on the basis of a 17th century copy. They did so with the help of artificial intelligence. By comparing thousands of tiny pieces of the two versions of the painting, the computers basically learned to paint like Rembrandt. You should ask one of the experts here about it during your tour, it's an amazing story.

Digital innovation is literally everywhere. It has become part of everyday life, but its possibilities are still far from exhausted. The financial industry is one of the sectors in the economy that has embraced digitalisation to the full, especially here in the Netherlands. Digitalisation has produced more efficient business processes, greater transparency for consumers, and many new financial services, in particular in the area of payments. For example, in the Netherlands, only two in ten purchases are still made with cash. The other eight are done with digital means of payment.

At De Nederlandsche Bank, we welcome digitalisation in the financial sector. But we obviously also consider the risks.

Take for example the outsourcing of digital services to large technology companies. What if these companies are no longer able or willing to fulfil their obligations? Are financial institutions fully aware of what these companies are doing with the data they entrust to them? Another aspect is that many of these tech companies are not located in Europe. With geopolitical tensions rising, there is a desire, particularly among some European politicians, to develop certain critical technologies on European soil.

Tremendous effort has been put into developing European regulations to manage these and other digitalisation-related risks. So that European citizens and businesses can take full advantage of new technologies, safe in the knowledge that the risks are well managed.

Large digital service providers, such as cloud providers, are set to become subject to European oversight, for example. And supervision of crypto service providers is being expanded. However, developments are happening rapidly, and the challenge is to be able to reap the benefits of innovation while keeping out the bad stuff.

Of all innovations, generative artificial intelligence is undoubtedly the most exciting: with the emergence of incredibly capable generative models and dramatic advances in computing power, we might very well be on the verge of a new technological revolution. Who knows soon we can all paint like Rembrandt.

Also here, we must make sure to maintain a healthy balance between harnessing the benefits of innovation while mitigating the risks. When it comes to innovation, some regions, like the US, have traditionally focused more on the opportunities side, with a regulatory environment that's conducive to business innovation. We Europeans tend to focus on the risks and call for regulation. But falling behind in adopting new innovations is a significant risk too. So I would call for a balanced approach, and warn against constraining AI-driven innovation too much

But that doesn't relieve us of the obligation to monitor the risks that come with it. Many of the potential risks of AI may seem new, but if you look beneath the surface, they are strikingly similar to traditional financial risks. Risks that we are familiar with. We already have frameworks to assess concentration risk, third party dependence and interconnectedness. This is good news. Of course, it's not a simple copy-paste exercise. We may see new forms of interconnectedness in the financial system. For example, autonomous trading agents may interact to create new dynamics in financial markets. And technology that can be used to paint like Rembrandt also offers possibilities for creative fraud, from phishing to identity theft. So the nature of the risks may not be different, but the crooks are getting better. That means we are entering a new phase of the never-ending race between risk and risk management.

But we are entering this race from a relatively good starting point. AI is not a new discipline – various use cases have been around for quite some time now. And as I pointed out, many of the risks involved are risks we're already familiar with. They're just wearing new disguises. So although this is no reason for complacency, we can take comfort in the fact that we're not starting from scratch.

In short, to use a fitting metaphor, I see the glass as half full. And I'm confident that we'll be able to put digital innovation to good use while keeping its darker sides in check.

On that rather cheerful note, let me stop here and wish you a pleasant evening and a wonderful tour of the paintings.