

Joachim Nagel: Digital euro - vision, advances and challenges

Introductory remarks by Dr Joachim Nagel, President of the Deutsche Bundesbank, at the fireside chat with Massachusetts Institute of Technology students, Cambridge, Massachusetts, 16 April 2024.

* * *

Check against delivery

1 Introduction

Ladies and gentlemen,

I am very pleased to be here with you today.

As a macroeconomist and a central banker, I am delighted to be visiting the world's most famous technical university. The place where Paul Samuelson, one of the fathers of modern macroeconomics, worked. Where his assistant Robert C. Merton developed the foundations of modern option pricing theory.

Economists and central bankers currently have a particularly keen interest in the MIT digital currency initiative (DCI), which conducts intensive research on blockchain technology and digital currencies. One of the reasons for the Bundesbank's interest is that DCI research includes central bank digital currencies. These CBDCs are the topic of my talk and our chat. As you probably know, the Eurosystem is currently considering the introduction of the digital euro as a European central bank digital currency.

First, I would like to touch upon our vision for a digital euro and explain the goals behind it. Second, I will briefly summarise our current work on this project. And finally, I will set out possible challenges that could emerge if the digital euro is put into circulation. But before I start, I am delighted to announce that the Bundesbank and the MIT DCI have agreed to cooperate in the field of CBDC. The main focus will be research on pivotal design questions such as the implementation of data protection and privacy in a CBDC system – a topic that many citizens care a lot about, not the least in Germany.

2 Our vision for a digital euro

Let us now take a look into the future. Why do we need a central bank digital currency? What is our rationale for a digital euro? In my view, it is quite simple.

First, our world is becoming increasingly digital, hence central banks must follow suit. The ongoing digitalisation affects the way people pay for things, in particular. Eight years ago, for example, one out of five over-the-counter sales transactions was a card payment. Two years ago, this had increased to one out of three, as shown by a recent ECB study on the payment attitudes of consumers in the euro area.¹ As payments are becoming increasingly digital, we are looking into a digital product that complements our analogue product cash.

Second, the increasing use of digital technologies has led to rising interest in privacy and data protection. This also applies to digital payment systems. The problem is that private digital payment solutions often rely on third-party services, giving them access to consumers' payment data and allowing them to use this data for commercial purposes. A digital euro would offer the highest possible level of privacy.² The Eurosystem would not have access to digital euro users' personal information. Consumers would gain more control over their personal data.

Third, the digital euro would facilitate the development of pan-European payment systems. The euro has been around for a quarter of a century now. And though we have successful and advanced digital payment systems at the national level, there is still no cross-border single European solution for digital payments. In practice, German bank cards, for example, don't always work in other euro area countries, even if they contain a payment scheme operated by an international company. The digital euro would provide people with a digital means of payment that is standardised and would work in day-to-day transactions throughout the euro area.

3 Recent advancements

But let's come back to the present. What is the current status of the digital euro project? The Eurosystem launched the digital euro project in 2021 with an investigation phase. In November 2023, the Eurosystem embarked on the second phase of the project – the preparation phase. This involves finalising the set of rules for the digital euro and selecting providers to develop a digital euro platform and infrastructure. The Bundesbank plays an active role in the digital euro project. Against this backdrop, we have established a new department responsible for all tasks related to the digital euro.

Currently, the idea is for the digital euro to be used in two main ways: The standard use-case would be apps that are supplied by banks and other payment service providers, integrating the digital euro into their wallets. As an alternative, especially for smaller banks or service providers who do not intend to build their own app, the Eurosystem would develop and provide a smartphone payment app. Payments would be carried out in a contactless way, using so called NFC communication protocols, or by scanning QR codes. Offline payments between two consumers are likewise to be possible.

However, the introduction of a digital currency involves much more than just the technical issues that central banks are working on. It has to be endorsed, among others, by policymakers. They have to make key decisions. A proper legal basis for issuing a digital euro is currently under preparation, with the European Union working on an agreement on this crucial topic.

4 Future challenges

Of course, there are obstacles to be overcome before a digital central bank currency can be introduced. Let me mention just the most prominent one. The digital euro will be a riskless asset issued by the central bank. Therefore, its availability could create incentives for enterprises and households to shift deposits out of the banking sector into digital euros. If bank customers gradually transfer large volumes of their deposits into digital euros, this could have an adverse overall effect on the supply of credit and thus on the real economy. In times of financial turbulence or heightened uncertainty, we

might see abrupt and substantial outflows of money from the banking sector, which would also endanger financial stability. To avoid that, there are plans to set a holding limit for the digital euro.

The Eurosystem will not take over the role of banks. We are planning to issue a digital euro, but not to distribute it. Banks will continue to maintain important relationships with their customers. And the digital euro will be a platform for banks to provide additional services.

5 Concluding remarks

Ladies and gentlemen,

let me conclude.

After launching the preparation phase, we still have a long way to go before we decide whether to issue the digital euro. If we decide in its favour, I would expect it to take four to five years' time until we have introduced a digital euro. If Robert C. Merton is to be believed, we should not hurry the process. He wrote: "Separate and discrete innovations in products and services can be implemented in an entrepreneurial way and rather quickly. Innovations in financial infrastructure, however, must be more coordinated; they therefore take longer to implement and will occur more gradually."³ In my view, this statement may well hold for payment infrastructures as well.

Today, many people still have only a very vague understanding of the goals and framework of the digital euro project. Therefore, we have a lot of work ahead of us convincing the public and gaining its trust.

I am firmly convinced that the digital euro will be a success.

¹ ECB, [Study on the payment attitudes of consumers in the euro area \(SPACE\)](#), December 2022

² ECB, [A stocktake on the digital euro: Summary report on the investigation phase and outlook on the next phase](#), 18 October 2023, p. 37.

³ Merton, R. C. and Z. Bodie (1995), Financial Infrastructure and Public Policy: A Functional Perspective, In: Crane at al., The Global Financial System: A Functional Perspective, 1995, Boston: Harvard Bus. School Press.