



EUROPEAN CENTRAL BANK

EUROSYSTEM

# The role of the digital euro in digital payments and finance

---

Crypto Asset Lab conference  
organised by the University of  
Milano-Bicocca

17 January 2025



**Piero Cipollone**  
Member of the ECB's Executive Board

# The transformation of money and payments

A rapid transformation is affecting money, payments and our responsibilities.

**Two factors are having a profound effect on our mandate:**



## Digitalisation

Rapid developments in digital technologies are generating new demands, creating emerging markets and introducing novel risks



## Risk of fragmentation

- Geopolitical challenges
- European retail payment solutions remain at national level and there is no European solution available to compete with international schemes

# The European Central Bank's role

Importance of **central bank money** to ensure the stability of the financial system and preserve sovereignty

To address the challenges, the ECB is working in four main areas:



SEPA

Digital euro



New technologies for wholesale settlement

Cross-border interlinkages



# Overview

- 1 The changing retail payment landscape and ECB's response
- 2 Innovation in wholesale and cross-border payments
- 3 Conclusion

# 1

## The changing payment landscape and the ECB's response

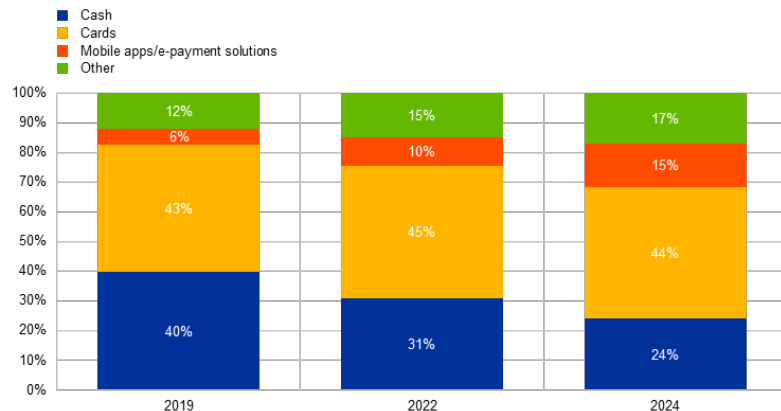
# European payment habits are changing

The ECB's latest survey on payment attitudes in the euro area shows that:

- **Paying online has become more common** (36% of the value of non-recurring day-to-day payments in 2024, up from 18% in 2019)
- **Cards account for the largest share of payments in value, both online and in shops**
- **The share of cash has continued to decline in payments at the point of sale** (from 54% in 2016 to 39% in 2024 in value)
- **Use of mobile solutions is rising sharply**

## Day-to-day payments in the euro area by payment instrument, in value terms

(% of the value of all non-recurring day-to-day payments)



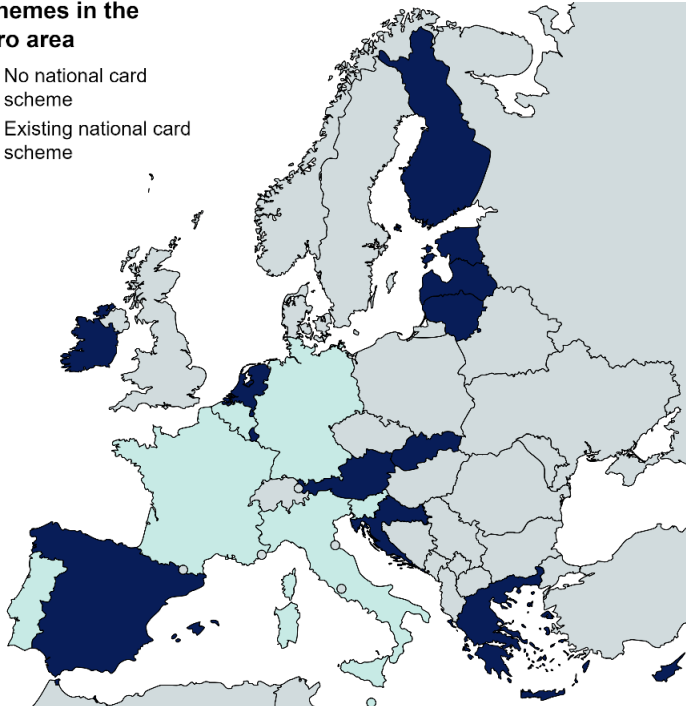
Source: ECB (2024), *Study on the payment attitudes of consumers in the euro area (SPACE)*.

Note: The "Other" category includes bank cheques, credit transfers, direct debit, instant payments, loyalty points, vouchers and gift cards, crypto-assets, buy-now-pay-later services and other payment instruments.

# The lack of a European digital means of payment

## National card schemes in the euro area

- No national card scheme
- Existing national card scheme



**There is currently no European digital means of payment covering all euro area countries**

13 of the 20 euro area countries do not have a national card scheme and instead rely on international card schemes, which were used to settle 65% of electronically initiated transactions made with cards issued in the euro area

**We are lacking European players offering payment solutions at the European level**

# Implications for our monetary sovereignty



**New foreign payment solutions** are entering Europe, combined with the existing (and increasing) dominance of international card schemes



**Risks to monetary sovereignty** in the new geopolitical environment, where stablecoins are gaining further traction

- E.g.: traditional payment solutions that explore stablecoins for online purchases





# The Eurosystem's retail payments strategy

SEPA does not offer a digital payment option for our most important daily needs, i.e. in-store, mobile and e-commerce payments.

## The Eurosystem's retail payments strategy



Our primary goal is to **foster the development of privately operated, pan-European solutions for payments** at the point of interaction, governed at the European level.

The **Eurosystem supports market-led initiatives** that meet a set of requirements defined for such a solution.



The **full deployment of instant payments** is another key priority.



# Digital euro

To deliver on our mission and fulfil our responsibilities, we need to bring retail central bank money into the digital age by providing **a digital equivalent to cash**.

## A digital euro would empower Europe in three ways:



### Support the digital transition

A digital euro would ensure that money remains a public good for everyone



### Offer greater daily convenience

It would be available to everyone and accepted everywhere in the euro area



### Enhance Europe's strategic autonomy

A digital euro would be built with European technology and infrastructure

**We are currently laying the technical foundations for the potential issuance of a digital euro.**



# Digital euro

## Key design choices

### Use cases



Person-to-person  
payments



Point-of-sale  
payments



E-commerce



Complementary to  
cash



Highest privacy  
standards



Inclusive and  
accessible



Offline payments



# Digital euro

## Preparing our currency for the future

### Investigation phase

October 2021 to October 2023

Concept definition, technical exploration and design proposal

### Preparation phase

November 2023 to October 2025

Main expected next steps:

- Finalise **scheme rulebook**
- Select **service providers**
- Learn through **experimentation**
- **Dive deeper** into technical aspects, including further research into offline functions and developing a testing and roll-out plan for the future

### Next phase

From November 2025

Potentially developing and rolling out digital euro use cases

A decision to issue a digital euro will only be considered by the ECB once the European Union's legislative process has been completed

# 2

## Innovation in wholesale and cross- border payments

# Exploring new technologies for settling wholesale transactions

**There has been a significant increase in the adoption of financial technology**, particularly distributed ledger technology (DLT) and tokens.

Compared with the current ecosystem, a shared DLT platform could:

- ➡ **enhance efficiency**, with trading, settlement and custody on the same platform; 24/7/365 operating hours; instantaneous settlement facilitating T+0; smart contracts to automate and speed up processes between issuers and investors
- ➡ **lower barriers to entry**, enabling small and medium-sized enterprises to access capital markets.

**To address strong market demand, the Eurosystem has conducted exploratory work to test DLT for settling wholesale transactions in central bank money.**

Tokenisation and DLT could revolutionise market infrastructures and address the technological barriers to establishing a **digital savings and investments union**.



# Cross-border interlinkages

**The ECB has recently decided to launch initiatives to help improve cross-border payments inside and outside the EU, in line with G20 objectives.**



## **Multi-currency settlement**

This will leverage the multi-currency feature of the Eurosystem's instant payments settlement service (TIPS) to settle funds end-to-end instantly in central bank money in multiple currencies.



## **Global cross-border payments**

The ECB is committed to improving cross-border payments globally, including by interlinking with fast payment systems outside Europe.



## **One-leg out instant payment scheme**

We will explore how TIPS can support the use of the SEPA one-leg out instant payment scheme with selected partners, to enable instant payments to payees outside the euro area.

# 3

## Conclusion



# Conclusion

Payments are becoming increasingly digital

Europe is lagging behind in digitalisation and cannot scale up



We increasingly **depend on non-Europeans companies** for the circulation of **“our” money** throughout the euro area, and for supporting **people’s everyday payment needs**



**Geopolitical context** has changed, with **dependencies turning into vulnerabilities**



**Central bank money helps preserve the role of the euro as a currency**

# Conclusion

The ECB is addressing new challenges by:

- Supporting the creation of **pan-European payment solutions** and the improvement of **instant payments**
- Preparing the potential issuance of a **digital euro – a digital version of cash**
- Exploring **new technologies for settling wholesale transactions such as DLT**
- Improving **cross-border payments** inside and outside the EU



---

Thank you