

SPEECH

Money in the digital age

Speech by Piero Cipollone, Member of the Executive Board of the ECB, at Istituto Affari Internazionali

Frankfurt am Main, 28 May 2026

For centuries, central banks have issued money and safeguarded its value. That mandate has not changed.

What has changed is the technological environment around it. Consumers increasingly pay digitally, financial institutions explore new technologies, and new players and infrastructures are reshaping how money is used across the economy.

If central banks want to ensure that money remains stable, trusted and usable, they must help bring it up to date with technological developments.

In contrast, if central bank money does not adapt to technological change, it risks losing relevance in key parts of the economy. This would weaken the role of public money as an anchor of stability, as well as increase fragmentation and the risk of instability in the financial system. We believe the appropriate policy response is not to resist digitalisation but rather to extend central bank money into this new technological environment while preserving its core attributes: safety, uniformity and reliability.

Keeping pace with the digitalisation of money and payments

Let me start by outlining how digitalisation is having an impact on every layer of our monetary and payment systems, and the specific challenges this raises for the euro area.

Retail payments are becoming increasingly digital and platform-based. Wholesale financial markets are evolving as tokenisation and distributed ledger technology (DLT) develop. Used in the right way, digitalisation could help reduce costs and speed up cross-border payments, while avoiding the risk of further fragmentation.

Policy responses need to be coherent on those three fronts, ensuring that innovation, efficiency and integration advance without undermining financial stability and trust in central bank money.

These responses must also reflect the specific conditions in each jurisdiction. In the euro area, we face three main challenges.

First, for retail payments we do not have a European digital means of payment that works consistently and seamlessly across the entire euro area. The solutions offered by European private digital payment providers are only available at national level and for certain use cases, while central bank money exists solely in the form of banknotes and coins, which of course cannot be used for online transactions. As a result, we rely heavily on a few non-European providers for retail payments, and this dependence clearly poses a risk.

Second, in wholesale markets, most large-value transactions between euro area financial institutions are currently settled in central bank money through TARGET services. But this could change if central bank money does not adapt to tokenisation, which has the potential to transform financial markets. Tokenisation and DLT promise to make capital markets more efficient. Yet without tokenised central bank money at its core, the new ecosystem would rely on fragmented pools of settlement assets.

Third, cross-border payments remain too slow, too costly and too opaque. Digital transformation could further increase fragmentation in this area. For a highly open economy like the euro area, where external trade accounts for around half of GDP, this is a significant concern.

Modernising central bank money

We are addressing these problems with the three key pillars of our comprehensive payment strategy.

[1]

First, we are getting ready to potentially issue a digital equivalent of cash: the digital euro.

Second, we will make it possible to settle DLT-based transactions in central bank money as of September this year.

Third, we are working on interlinking fast payment systems to enhance global cross-border transactions.

In the face of technological change, it is our duty to reshape how we provide public money, such that it remains a risk-free settlement asset and a foundation of trust on which the private sector can innovate and develop.

Private payment solutions can bring efficiency, new functionalities and customer-facing advancements.

The role of central banks is not to replace the private sector. Instead, we must ensure that public money continues to anchor the financial system as technology evolves. In the euro area, we are applying this principle across the board.

A digital euro for retail transactions

Digitalisation is transforming the way households and firms make everyday payments, yet access to central bank money remains confined to cash. This raises a vitally important question: how can public money remain usable and relevant in an increasingly digital economy?

The digital euro is intended as a digital form of cash for day-to-day use in retail payments. The objective is not to replace physical cash or private payment solutions. Instead, we want to complement existing means of payment by ensuring that central bank money is always an option and is accepted throughout Europe.

The digital euro is designed as a payment instrument, not as an investment product. We envision it as part of a broader public-private payments ecosystem. It will not yield interest, and individual holdings will be capped to preserve financial stability and ensure banks continue to provide credit to the economy.^[2]

We are convinced that people should always have access to a public option to pay digitally, wherever they are in the euro area – the digital euro can make this a reality. It will be available both online and

offline, supporting resilience and protecting privacy. And, by helping to reduce reliance on a few dominant players, it will cut costs for merchants and ultimately lower prices for consumers.

The digital euro will also have legal tender status, and common standards adopted by virtually all points of sale across the euro area will facilitate its acceptance everywhere. Banks and other providers will be free to use this public infrastructure and thus to scale up the payment services they offer at European level. This will make it easier for private payment solutions to be rolled out throughout the euro area.

We have recently signed agreements with three European standard-setting organisations – European Card Payment Cooperation, nexo standards and the Berlin Group – so that their technical standards can be used for acceptance of digital euro online payments at points of sale.^[3] By leveraging these open standards and working closely with the respective standardisation bodies, the ECB minimises adoption costs for the market. This approach will simplify digital euro acceptance, create a uniform user experience across the euro area and enable European payment schemes to expand without requiring technical upgrades to payment terminals.

Assuming that European co-legislators adopt the Regulation on the establishment of the digital euro this year, a pilot exercise and initial transactions could take place as of mid-2027, and the digital euro could be ready for first issuance in 2029. Importantly, we will not need to wait until then to see the incentives materialise for private payment providers to expand their existing product offerings and geographical reach. Merchants will likely start to adopt these standards immediately after adoption of the digital euro Regulation. This step will remove any remaining uncertainty in this area, which has been under discussion for almost three years.

A tokenised euro for wholesale transactions

Let me now turn to wholesale transactions.

Financial markets are undergoing structural change. By representing financial assets as digital tokens – or, put simply, files – tokenisation makes it possible to transfer and update assets more efficiently than is currently the case. It allows the entire life cycle of an asset – from trading to settlement to custody – to run on the same platform, available 24/7. And it supports automation through smart contracts. In a nutshell, tokenisation holds the promise of faster transactions with lower processing costs.

However, this promise is predicated on the possibility of having on-chain settlement assets in tokenised form.^[4] These may be either private or central bank liabilities, as is already the case today.

Stablecoins are currently the leading private solution. They got off to an early start by offering a tokenised settlement asset widely used in crypto markets. More recently they have been put forward as a solution to improve cross-border payments. They can also be used to settle on-chain transactions of tokenised traditional assets. They offer speed, programmability and continuous availability.

Stablecoins nevertheless carry credit and liquidity risk and may have an impact on financial stability. Their safety depends on the quality and liquidity of reserves, the robustness of redemption arrangements, and effective regulatory oversight. If widely adopted, they may bring about profound

change in the role played by commercial banks in maturity transformation and as the major channel for financing the real economy.^[5]

But stablecoins are only one of several possible tokenised settlement assets. Tokenised deposits, for example, could offer a private alternative. Time will tell which of these private solutions will prevail or if they will manage to coexist.^[6]

In any event, in the Eurosystem we think that all forms of tokenised private money will benefit from the availability of tokenised central bank money. Central bank money provides risk-free settlement, ensures payment finality and supports confidence in market infrastructure. These aspects will help the tokenised ecosystem grow and will support integration. With a larger market, demand for all forms of tokenised settlement assets, including private ones, will increase. The result will be similar to the current system where public and private settlement assets coexist.

To make sure that Europe reaps the benefits of tokenisation and supports the creation of an integrated European market for digital assets, the Eurosystem is pursuing a staggered approach.^[7]

We are connecting market DLT platforms to our existing TARGET services to be able to settle tokenised asset transactions in central bank money. As part of our Pontes project, this service will be available as of the third quarter of this year.

We are working continuously with the private sector to establish a longer-term vision for how a fully integrated tokenised ecosystem could operate, including by inviting feedback on the Appia roadmap published earlier this year. We aim to present a comprehensive blueprint in 2028.^[8]

This work complements the European Commission's efforts to remove regulatory barriers to the wider use of tokenisation. In particular, the Commission has proposed extending and simplifying the DLT Pilot Regime to enable firms to test and scale DLT applications. At the same time it is reforming the Central Securities Depositories Regulation to enable large-scale activities of central securities depositories using DLT. Looking ahead, it will also be important to consider whether fostering an integrated European market for digital assets would benefit from a dedicated EU legal framework allowing tokenised assets to be issued, held and transferred seamlessly across the EU.^[9]

Interlinked fast payment systems for cross-border payments

Finally, let me turn to cross-border payments.

Despite technological progress, cross-border payments remain comparatively slow, expensive and opaque when measured against domestic payments. These frictions affect households, firms and financial institutions. They hamper international trade and financial integration and make remittances slow and costly.^[10]

Addressing these frictions is a shared international policy objective which we are pursuing by giving strong support to the G20 cross-border payments agenda.^[11] But these frictions could worsen if new technologies increase fragmentation. We therefore need to overcome this risk.

The Eurosystem's TIPS infrastructure already offers instant payments not only in euro but also in other currencies, including the Swedish krona and the Danish krone.

But to take our response to cross-border inefficiencies even further, we are working on interlinking fast payment systems available in many other countries, including outside the European Union.^[12]

This interlinking will allow payments to move seamlessly across borders without undermining countries' monetary sovereignty, as could happen with the spread of stablecoins denominated in a dominant currency. This approach builds on existing infrastructures rather than replacing them with entirely new global systems. It promotes trust and protects the monetary sovereignty of the participating jurisdictions.

Conclusion

Let me conclude.

Across retail, wholesale and cross-border payments, our goal is to preserve trust and stability, as technology reshapes how money is used.

The private sector will continue to drive innovation. By modernising central bank money where needed and making sure it is available across all domains, the public sector must make sure that it continues to be the anchor underpinning the financial system.

Thank you.

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4.

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6.

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7.

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8.

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10.

See Panetta, F. (2026), "[Interconnect to stabilize: cross-border payments in a fragmenting world](#)", keynote speech at the Embassy of Italy to the United Kingdom on "Cross-Border Payments at a Turning Point", London, 5 May.

11.

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12.

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