SPEECH

The future of money: a central bank perspective

Contribution by Piero Cipollone, Member of the Executive Board of the ECB, to a roundtable at Aspen Institute Italia

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Money is at the heart of what central banks do.[1] Ever since central banks have existed, their core role has been to issue money and protect its value. That mandate will not change – but the technological environment in which we deliver it is changing, and it is changing radically.

Digital payments are now the norm, and new technologies are disrupting financial services. Financial institutions have become technological entities, and tech firms have entered the spheres of payments and finance.

Central banks are no exception. If they want money to remain stable, trusted and usable in a digital world, they must help shape that world and modernise central bank money. If they fail to do so, central banks may no longer be able to provide an anchor of stability to the financial system.

In the euro area context, there are good reasons for the central bank to not just follow but take the lead in the transformation of money. As a monetary union, we share a single currency and a single monetary policy. For that to work, we must ensure the singleness of money across the euro area: one euro must always be worth one euro, no matter its form and no matter where in the euro area.

The Eurosystem – that is, the ECB and the national central banks of euro area countries – has played a key role in this respect. In just 25 years the euro has become the currency of 20 countries (soon to be 21) and the world's second most important currency. The Eurosystem issues euro banknotes, which have become the tangible symbol of Europe's economic unity. And we have built robust infrastructures – T2 for large-value payments, T2S for securities, TIPS for instant payments and ECMS for collateral – which allow money and assets to move safely and efficiently across the euro area.

We now need to take the next steps. Today, I will discuss the challenges we face, how public and private money can complement each other and what this means for retail, wholesale and cross-border payments. Our strategy is three-fold. First, we are getting ready for the potential issuance of a digital equivalent of cash: the digital euro. Second, starting next year, we will make it possible to settle transactions based on distributed ledger technology (DLT) in central bank money. And third, we are working on interlinking our fast payment system with those of other countries to enhance cross-border payments.

Three problems in search of a solution

But let me start with the challenge we face.

It has sometimes been suggested that digital central bank money is a solution in search of a problem. But it is increasingly acknowledged, even by those that dispute the solution, that we face a real issue in the euro area context. To paraphrase the title of Pirandello's famous play[2], I see three problems in search of a solution.

First, retail payments in Europe are still fragmented. The Single Euro Payments Area (SEPA) has integrated credit transfers and direct debits, but we still lack a European solution for everyday payments at the point of sale and in ecommerce that works throughout the euro area.[3] As a result, we rely heavily on a few non-European card and wallet providers. This dependence puts our strategic autonomy at risk.

Second, the nature of money and payments is changing. Tokenisation and DLT promise more efficient capital markets.[4] Yet without tokenised central bank money at their core, these new ecosystems would rely on fragmented pools of private settlement assets, reintroducing credit risk and fragmentation. We would be more exposed to the expansion of settlement assets denominated in foreign currencies or issued elsewhere, which would undermine our monetary sovereignty. And public money would no longer provide the anchor of stability into which all private assets can be converted.

Third, cross-border payments remain too slow, too costly and too opaque. Stablecoins offer an alternative. But stablecoins come with a number of risks for domestic currencies and financial systems.[5] And if dollar-based stablecoins were to expand and continue dominating the market, they could erode the international role of the euro.

In this context, doing nothing is not a sound option. If central bank money were to become marginal in a digital world, we would risk having a less resilient payment system, a less stable financial system, weaker monetary sovereignty and reduced strategic autonomy. European financial institutions and infrastructures would be at a competitive disadvantage, and the euro's role could diminish.

Building on the complementarity of public and private money

Our mandate does not allow us to ignore these risks. When the foundations of money and payments are shifting, the central bank must evolve as well. Our goal is not to crowd out private innovation, but to provide a solid public foundation on which innovation can flourish safely and at scale.

This requires a renewed public-private partnership across all payment dimensions – retail, wholesale and cross-border. Our strategy rests on three pillars: the complementarity of public and private money, a collaborative approach with market participants and strict technology neutrality.

Central bank money and private money are not rivals, they complement each other. Central bank money provides the ultimate settlement asset, free of credit and liquidity risk, and the reference that makes one euro equal to one euro across banks, instruments and technologies. The convertibility of private money into central bank money gives people confidence that a euro is a euro, whatever form it takes.

This gives private intermediaries a solid basis on which to provide trusted and innovative services. Moreover, our infrastructures and standards provide common rails that the private sector can use across Europe. This reduces fragmentation, ensures interoperability and lowers costs in a network industry where scale and common standards matter.

We already offer digital central bank money and the associated rails for wholesale payments. And the digital euro would extend the same approach to retail payments, complementing cash with its digital equivalent and offering pan-European rails that private European providers can use to innovate and scale up their solutions. But we cannot stand still in wholesale payments either as the market explores the opportunities associated with tokenised securities, DLT-based trading and settlement, and smart contract automation.[6] For these innovations to be scaled up safely in Europe, central bank money has clear advantages in terms of safety, scalability and liquidity management compared with private settlement assets constrained by the reserves backing them and market risk. In fact, the private sector has been clear: the absence of central bank money as a settlement asset is a major obstacle to the growth of the digital asset ecosystem.

Our approach is explicitly collaborative. We engage with all stakeholders. We test solutions with the market rather than designing them in isolation. This is what we did in 2024 when we conducted the most extensive exploratory work on wholesale DLT settlement in central bank money in the world to date.[7] And we are following the same approach in preparing for the possible issuance of the digital euro. For instance, we collaborated with market participants to explore the digital euro's innovative potential.[8] And we will launch a pilot exercise that will offer banks an opportunity to gain first-hand experience in a simulated digital euro ecosystem.[9]

In supporting this digital transformation, we remain technology neutral. While being open to new technologies, we do not pick winners. Instead, we focus on setting the conditions for a safe, integrated system that is fit for the digital age and supports innovation.

Shaping the future of money

So, in practice, what are we doing to help shape the future of money?

The digital euro

In the retail space, we are working on the potential issuance of a digital euro. Assuming that European co-legislators adopt the Regulation on the establishment of the digital euro in the course of next 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.

The digital euro would be a digital form of cash. It would offer a public solution that is legal tender and can thus be used to pay wherever merchants accept digital payments, throughout the euro area, in both physical and online shops.

The digital euro would extend the benefits of physical cash to the digital sphere. At a time when the role of cash in day-to-day payments is declining, it would ensure that consumers always have a European option to pay digitally. This would increase consumers' freedom of choice and Europe's strategic autonomy. The digital euro would be available both online and offline, supporting resilience and privacy. And by avoiding excessive reliance on a few dominant players, it would reduce costs for merchants and ultimately prices for consumers.

The digital euro is also being designed to preserve the role of banks in financing the economy. Banks will distribute the digital euro, maintain customer relationships and manage digital euro accounts or wallets. They will be remunerated for these services. Moreover, we have included safeguards to preserve banks' role in credit intermediation and monetary transmission:[10] the digital euro will not bear interest, holding limits will prevent destabilising outflows and links to existing bank accounts will allow consumers to seamlessly pay amounts that exceed their digital euro holdings.

For payment service providers, including banks, the digital euro is an opportunity. A single European standard, backed by legal tender status and an unparalleled acceptance network, will make it easier to scale up European cards, wallets and value-added services. Co-badging existing solutions with the digital euro[11] and building on common standards will lower the cost of expanding acceptance and make it easier for European initiatives to expand across the euro area.

Tokenised central bank money

In wholesale payments and capital markets, we aim to make tokenised central bank money available to support an integrated European market for digital assets.

Tokenisation can reduce reconciliation, shorten settlement chains, enable atomic delivery-versus-payment and allow near-continuous trading and settlement.[12] But without a common, risk-free settlement asset, liquidity can splinter, assets may not be traded across platforms and the landscape could fragment along national or private lines.

Tokenisation also offers us the opportunity to design an integrated European market for digital assets – in other words, a digital capital markets union – from the outset. Providing tokenised central bank money is essential for this digital asset ecosystem to grow in Europe and not elsewhere. This will also ensure it is built on European infrastructures, euro settlement and EU-wide rules.

To this end, the ECB is pursuing a dual-track approach.[13]

Project Pontes will connect market DLT platforms to our existing TARGET services, so that tokenised asset transactions can be settled in central bank money.[14]

Project Appia will explore two possible approaches for an integrated digital asset ecosystem, which could potentially be combined.[15] First, a European shared ledger that brings together central bank money, commercial bank money and other assets on a single platform where market stakeholders provide services. Second, a European network of interoperable platforms that reduces current frictions in the market.

Interlinking fast payment systems

In cross-border payments, our objective is openness with autonomy.

Today, many cross-border transactions still pass through long correspondent banking chains, making them slow, costly and opaque. One possible future would see global, dollar-based stablecoins and their platforms dominate cross-border payments, creating risks of new dependencies and currency substitution.

We want a different path.

Within Europe, TIPS already provides instant settlement in central bank money and is being extended across currencies. In the near future, TIPS could evolve into a global hub for instant cross-border payments. By interlinking TIPS with the fast payment systems of other countries, starting with India and other partners worldwide, we can cut intermediaries, shorten transaction chains and lower costs.

The digital euro, too, is being designed with potential international use in mind, in a way that respects other countries' sovereignty and avoids unwanted currency substitution. It could in time act as a connector, adding another safe option for cross-border payments. Moreover, like TIPS, the digital euro's design includes multi-currency enabling features that would allow non-euro area countries to use the digital euro infrastructure to offer their own digital currencies and facilitate transactions across these currencies.

Conclusion

Let me conclude.

Technological disruption is transforming money and finance. For Europe, this is both a risk and an opportunity. If we simply rely on foreign private solutions, we will import technologies, standards and dependencies and risk fragmentation and instability. If we act together, we can build an innovative, integrated and resilient digital financial system that has the euro at its core but remains open and respectful of the sovereignty of our partners.

Our strategy is clear. Central bank money must remain available and usable, also in digital form, as the anchor of trust. Public and private sectors must work together. The Eurosystem provides settlement in central bank money and common standards, thereby giving private intermediaries a sound basis for competing and innovating. And markets, not the central bank, will decide which technologies and business models succeed, within a framework that keeps money and payment systems safe and integrated.

In retail payments, the digital euro will complement cash and support a truly European market for everyday digital payments.

In wholesale markets, tokenised central bank money through projects such as Pontes and Appia will make it possible to settle digital asset transactions safely in central bank money.

In cross-border payments, interlinking fast payment systems and exploring tokenised settlement will make payments cheaper, faster and more transparent while preserving our monetary sovereignty.

The choice before us is simple: watch the future of money being shaped elsewhere, or help design it ourselves. By acting now, in partnership with the private sector, Europe can lead in the transformation of money, support its competitiveness and resilience, and deliver tangible benefits for citizens and businesses.

1.

This contribution is an abridged version of Cipollone, P. (2025), "The transformation of money: technological disruption and the future of financial services", guest lecture at the Frankfurt School of

Finance & Management, 8 December.

2.

Pirandello, L. (1921), *Six Characters in Search of an Author*.

3.

Cipollone, P. (2024), "Innovation, integration and independence: taking the Single Euro Payments Area to the next level", speech at the ECB conference on "An innovative and integrated European retail payments market", 24 April.

4.

Decentralised ledger technology allows information to be shared and kept synchronised across a network. Tokenisation is the process of converting or issuing assets as programmable tokens. Tokenisation allows programmable tokens to carry two sets of information at the same time: information about the asset itself (what it is, who issued it, who holds it, etc.) and the rules about how this token can be used (who can hold it, how it can change ownership, as well as more complex rules compiled into smart contracts).

5.

See Cipollone, P. (2025), "Stablecoins and monetary sovereignty", presentation at the Euro50 Group Meeting, 18 October.

6.

Cipollone, P. (2025), "Tokenisation and the future of finance: the role of central bank money", presentation at the Central Bank of Ireland's Financial System Conference 2025, 25 November.

7.

ECB (2025), *Bridging innovation and stability: the Eurosystem's exploratory work on new technologies for wholesale central bank money settlement*, June.

8.

See ECB (2025), *Digital euro innovation platform – Outcome report: pioneers and visionaries workstreams*, September and Cipollone, P. (2025), "Preparing the future of payments and money: the role of research and innovation", keynote speech at the conference "The future of payments: CBDC, digital assets and digital capital markets", hosted by Bocconi University, the Centre for Economic Policy Research and the European Central Bank, 26 September.

9.

ECB (2025), "Eurosystem to invite payment service providers to participate in digital euro pilot", *MIP News*, 28 November.

10.

See ECB (2025), *Technical data on the financial stability impact of the digital euro*, October.

11.

Co-badging domestic private schemes and the digital euro would mean that domestic schemes would be the preferred brand wherever they were accepted, and the digital euro would be the fall-back solution wherever they were not accepted. See ECB (2025), *Fit of the digital euro in the payment ecosystem – Report on the dedicated Euro Retail Payments Board (ERPB) technical workstream*, October.

12.

Vlassopoulos, T. (2025), "Making wholesale central bank money fit for the digital age - Delivering innovation, integration and independence to Europe's wholesale financial markets", speech at the House of the euro, 7 November.

13.

ECB (2025), "ECB commits to distributed ledger technology settlement plans with dual-track strategy", *press release*, 1 July.

14.

See the ECB's webpage on Project Pontes.

15.

See the ECB's webpage on Project Appia.