BANCA D'ITALIA
EUROSISTEMA

From the winter Olympics to the digital euro
A dialogue between academia and central banks

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INTRO

Ladies and gentlemen, dear colleagues,

As some of you may know, I have a real passion for sports – and the Winter Olympics hold a special place in that passion. So it is a particular pleasure to be here in these valleys, only a few months after they hosted the Winter Games.

But the Olympics are not only a celebration of sport. They are also a very visible test of infrastructure: transport, connectivity, accommodation and, increasingly, payments.

Over the last eleven editions of the Games (since 1988), non-cash payments by spectators watching the competitions live have been intermediated exclusively by one provider, under an agreement with the Olympic Committee signed in 1986. Yet the 2026 edition was the first in which this arrangement sparked a public debate in the press.

Why now? Digital payments are no longer a convenience at the margin of economic life. They have become part of its basic infrastructure. And when a service becomes essential, questions about its openness, efficiency and resilience become public-interest questions.

This is the starting point of my remarks today. The digital euro is not primarily about creating digital payments. Digital payments already exist, and many of them work very well. The question is whether Europeans should continue to have access to public money as their economic lives become increasingly digital.

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The digital euro is about preserving the singleness of money, supporting efficiency and resiliency in an increasingly digital and fragmented payment ecosystem, and ensuring that public money continues to serve citizens in a digital society.

Today, I will discuss how recent developments in the European payments market, together with an active dialogue with the research community, have led us to work on the digital euro project. By the end of the evening, I hope to move your priors towards the conclusion that a European central bank digital currency can help future-proof the singleness of money in the euro area, while supporting a more efficient, resilient and integrated European payments market.

A CHANGING PAYMENTS LANDSCAPE

In the euro area, the share of consumption paid in cash fell from 54 to 39 percent between 2016 and 2024. Moreover, the share of purchase value spent online doubled from 18 to 36 percent between 2019 and 2024.[1] These figures capture the transformation I have just described: a growing part of economic life is moving into environments where cash cannot be used.

That matters because cash is not just another payment instrument. Cash is public money. It is a direct liability of the central bank. It is universally accessible. It settles immediately. It does not require a commercial platform or a contractual relationship with a private provider. And it gives citizens a public outside option in payments.

In the physical world, this has been taken for granted for a long time. If you do not want to use a card, or if a merchant does not accept one, cash remains available. But in the digital world, this is no longer true. Citizens cannot use cash online. They cannot use it in most mobile or platform-based payments. They cannot use it for many forms of remote commerce.

Here lies the starting point of the digital euro debate. Europeans increasingly live, buy and interact in digital environments, but public money remains available to them only in physical form.

This creates (at least) three challenges.

The first is a challenge for the **singleness of money** – and the trust on which it rests. Singleness of money means that one euro is one euro: private or public, in person or online, in normal times or in exceptional circumstances. This principle depends on trust: trust that private money can always be converted into public money at par, trust that payments will be accepted and settled safely, and trust that the monetary system has a public anchor. But it also depends on access. Public money has historically been the most inclusive form of money: available to everyone, without requiring a commercial platform

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1 See, respectively, Chart 4 and 1 from the ECB (2024). "Survey on Payment Attitudes of Consumers in the Euro Area 2024".

or a specific private provider. If public money remains available only in physical form while more transactions take place digitally, that inclusive public anchor becomes less present in everyday economic life.

The second challenge concerns **efficiency and competition**. Payments are a network industry: people want to pay in ways that others are willing to accept, and merchants want to accept the instruments that people use. These network effects create strong economies of scale and scope. They can support efficiency, but they can also reward size sharply and weaken market contestability.

In the euro area, only two schemes intermediate around two thirds of card transactions.[2] Twenty years ago, card payments were a smaller part of total consumption, so that concentration was less salient. Today, card transactions represent almost half of European purchase value. What was once a relatively narrow market-structure issue has become a broader question of efficiency, competition and bargaining power.

The third challenge is **resilience and strategic autonomy**. Payments are a strategic service. If citizens, firms and public authorities depend heavily on a small number of providers – and especially if those providers are extra-European – the issue is not only one of competition. It is also one of continuity, preparedness and autonomy.

The recent debate around the Winter Olympics is useful precisely because it makes this transformation visible. An exclusivity agreement that might once have appeared as a minor operational detail became headline news because digital payments are now essential. When a service becomes essential, its governance, openness and resilience become public-interest questions.

THE DIGITAL EURO PROJECT, ITS ECONOMIC BASIS AND FEATURES

Against this background, the digital euro should be understood not as another payment app, but as digital public money.

The digital euro would be the digital form of European cash. It would be a public means of payment, available across the euro area, usable in all payment situations, and designed to coexist with existing private solutions. It would not be a replacement for cash. Nor would it be a replacement for banks or private payment service providers. It would be a public infrastructure on which private actors can build, compete and innovate.

This infrastructure perspective is essential. We do not build roads because we want to replace cars, buses or bicycles. We build roads because mobility requires a shared infrastructure. We do not build broadband networks because we want to replace websites or apps. We build them because digital interaction requires connectivity. In the same

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2 See ECB (2026). "The Digital Euro in a Fragmenting World - Ensuring Europe's Resilience and Autonomy in Payments". Public lecture by Piero Cipollone, Member of the Executive Board of the European Central Bank, at an event hosted by the Stockholm School of Economics in Riga and Latvijas Banka, Riga.

way, a digital euro would provide a common public monetary infrastructure for a digital economy.

Why does Europe urgently need a shared infrastructure while other countries can wait and see? Because we are a monetary union highly integrated at the wholesale level, but we remain fragmented when it comes to the retail payment services market. On this fragmentation, non-European schemes with global footprints thrive.

The aim, however, is not to crowd out private initiative. It is to make sure that private initiative develops on a foundation that preserves the public good properties of money: singleness, trust, accessibility, monetary sovereignty, and resilience.

WHAT RESEARCH TEACHES US – AND HOW DESIGN RESPONDS

This is also where the dialogue with academic research becomes crucial. The value of research is not only to tell us whether a digital euro may be useful. It is also to discipline its design.

Recent academic research helps us understand why the effective availability of a universal outside option in payments matters. Such an outside option safeguards buyers and sellers from excessive market power by intermediaries, thereby enhancing welfare.[3] Cash has played this role for a long time. But as more economic activity moves online, cash becomes less effective as an outside option, and its disciplining role can weaken.

We can see why this matters in several developments: rising merchants' fees,[4] attempts by payment systems providers to limit co-badging, and the growing 'platformization' of payments, where payment services are increasingly bundled with data collection, consumer profiling and other services.

At the same time, research also warns us that a CBDC is not a simple instrument. Depending on its design, it may have implications for financial stability, monetary policy implementation, competition in payments and deposits markets, citizens' privacy, and resilience. The central message from the literature is therefore not that CBDC is good or bad in the abstract. It is that design is decisive.

The first and most intuitive design issue is the balance between two of the functions a digital currency can serve: means of payment, used for transactions, and store of value nature, held as an alternative to bank deposits. A digital euro must be useful enough to function as a genuine means of payment. But it should not become so attractive as a store

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3 See Lagos and Zhang (2022). "The Limits of ONETARY ECONOMICS: On Money as a Constraint on Market Power" showing how the fraction of payments in cash in equilibrium does not matter per se, but the availability of an universal outside option in settlements does. The fact that consumers *could choose* to settle in cash instead of availing of intermediaries' services implies the pricing power of intermediaries is constrained.

4 See the EU Commission (2025). "Study on New Developments in Card-based Payment Markets, Including as Regards Relevant Aspects of the Application of the Interchange Fee Regulation", Figure 26.

of value that it induces excessive substitution away from bank deposits. Such substitution could affect banks' funding, reduce the supply of credit and harm economic activity.[5]

This concern is directly reflected in the Eurosystem's design choices. The digital euro would not be remunerated, reducing the incentive to hold it as an investment asset. Holding limits would mitigate the risk of excessive substitution from bank deposits. And businesses would be able to receive payments in digital euro, but not to hold permanent digital euro balances. These features are not technical details. They are how the design translates research into safeguards.

A second issue concerns monetary policy implementation**.** If conversion between private and public money became large enough to make central bank reserves scarcer, intermediaries might need to borrow more from the central bank, increasing the importance of the refinancing rate, and potentially changing the operational framework.[6] This is another reason why the digital euro is being designed as a payment instrument, not as a large-scale store of value.

A third set of insights is more positive. Research shows that under certain conditions, a CBDC can improve competition. For example, where banks have market power in deposit markets, a CBDC may discipline that market power, raise deposit rates, improve the attractiveness of deposits, and increase credit and output as a result.[7] More broadly, a digital public outside option can help preserve contestability in increasingly concentrated and platform-based payment markets.

Here again, the Eurosystem's design matters. The digital euro is not intended to replace intermediaries. It relies on them. The Eurosystem would provide the common infrastructure and the public monetary asset; supervised private intermediaries would distribute it, manage customer relationships, provide front-end services and compete on value-added solutions. The aim is to combine a common public foundation with private innovation and competition.

Fourth, research also helps us think about privacy and data protection. Payment data are valuable and consumers may not fully internalise the consequences of sharing them. Aggregated data can strengthen firms' ability to profile consumers and price discriminate. An independent central bank serving a constituency with solid rule of law, by contrast,

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5 For an example of a model in which central bank digital currency overcomes deposits as a store of value, with negative real effects, see Fernandez-Villaverde et al. (2023). "Central Bank Digital Currency: Central Banking for All?".

6 I.e., the relevant rate anchoring the interbank rate would not be the overnight deposit rate at the central bank. As more banks need to borrow, either among themselves or from the central bank, the central bank's refinancing rate importance would increase. The interbank rate would go from being tied to the remuneration of reserve deposits (floor), to stay between such floor and the ceiling set by the refinancing rate (corridor), to be pushed to the refinancing rate (ceiling). Also in such framework, outlined by Abad, Nuño, and Thomas (2025). "CBDC and the Operational Framework of Monetary Policy", disintermediation could decrease production by decreasing credit supply.

7 The calibration of such model to the US economy suggests that the real effects could by sizable, increasing output by up to 19 basis points. See Chiu et al. (2023). "Bank Market Power and Central Bank Digital Currency: Theory and Quantitative Assessment".

does not operate under a commercial business model based on monetising payment data. Offering a well-designed public digital payment option, such central bank could lower the cost of protecting privacy for users, fostering their data integrity.[8]

Finally, recent empirical and experimental research highlights the value of resilience. Consumers may undervalue the importance of cash as a line of defense against outages and network disruptions or extreme events.[9] Such results, together with the experience of recent events in Europe, highlight that payment systems must work not only in normal conditions, but also when the ordinary infrastructure is under stress. Offline functionality in the digital euro would complement cash by providing an additional layer of preparedness.

The result would be an open infrastructure for digital public money to circulate seamlessly across the monetary area: a tool to preserve the role of public money in digital payments, with robust constraints to avoid becoming a destabilizing store of value.

I believe this design process is a great example of how, as I argued in the past,[10] the dialogue between academia and central banking is an important opportunity for cross-fertilization. Research identifies the relevant mechanisms and trade-offs. Central banks bring institutional experience and policy constraints. And the interaction between the two helps shape a project that is not an abstract CBDC, but a concrete European design.

I look forward to studying the next iterations of such dialogue. Research incorporating current design decisions – no remuneration, holding limits, synergies between public and private solutions, privacy-by-design – would be essential to think of how real world CBDCs, like the digital euro, will interact with old and new payment options, shaping the payments market of tomorrow.[11]

EUROPEAN INFRASTRUCTURE, LOCAL COMMUNITIES

I want to conclude by stressing again the nature of the digital euro as an open infrastructure. The Eurosystem is building our CBDC to provide Europe with a robust, public digital means of payment, relying on the strength and skill of intermediaries to make it a success.

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8 Research studying the economic implications of the lack of privacy in digital payments points to an externality from failure to protect one's data, as data collection increases firms' capacity to price-discriminate all consumers. Lowering the cost of protecting data while paying may get the private cost closer to the social cost, allowing consumers to internalize such externality. See Garrat and van Oordt, (2021). "Privacy as a Public Good: A Case for Electronic Cash".

9 For example, Alvarez, Argente, and Van Patten (2026), "On the Resilience of Payment Methods" show that information policies on the resilience value of cash impact the preparedness of users to withstand extreme natural events, mitigating disruption in their spending and consumption.

10 See Banca d'Italia (2024). "Regulator or Researcher Hat? The Interconnectedness Case". Speech by Chiara Scotti, Deputy Governor of Banca d'Italia at the EBA Policy Research Workshop.

11 For a framework to think of the potential interaction and fit in the ecosystem of CBDCs, tokenized deposits and stablecoins, see Banca d'Italia (2026). "Digital Money and the Architecture of Trust". Speech by Chiara Scotti, Deputy Governor of Banca d'Italia at the Banca d'Italia, ECB, EABCN, and CEPR Workshop on Digital Assets and Monetary Policy Transmission.

This infrastructure perspective also helps connect the European scale of the project with the needs of local communities. A common infrastructure is valuable not because it imposes uniformity, but because it allows different communities, firms, and intermediaries to develop solutions that fit their own circumstances while remaining interoperable across the euro area.

This brings me back to the place where we are meeting. The Dolomites remind us that infrastructure is never abstract. Roads, tunnels, rail links and digital connectivity matter because they shape the life of communities. They determine whether people can meet, trade, work and cooperate. They are especially important in mountain regions, where geography makes connection more difficult and more valuable.

The same is true for payments. Alpine economies are connected by geography, tourism, labor mobility and history. Often, the relevant economic community extends across national borders: neighbouring towns may belong to different member states but share the same practical challenges, from managing tourism flows to supporting local commerce and cooperation.

In such contexts, payment innovation can also serve local objectives. One can think, for example, of "buy local" arrangements or local payment applications designed to support local retailers and merchants, coordinate local demand, or help communities manage the economic effects of tourism and immigration. Economic theory suggests that such arrangements can, under certain conditions, help local retailers coordinate and increase local welfare.[12]

But their effectiveness depends on the infrastructure on which they rely. If local payment solutions remain fragmented across borders, providers and intermediaries, their potential is limited.

A unified, European retail payment infrastructure, such as the digital euro, could make it easier for such initiatives to operate across borders, including by allowing private intermediaries to integrate the digital euro into "buy local" apps.

This is why I think the local and the European dimensions of the digital euro are not in tension. They reinforce each other. A stronger common infrastructure can support more local innovation. A more integrated European payment space can make it easier for communities at the border – such as many Alpine communities – to cooperate in practice.

For such economies, the digital euro could be the financial equivalent of upgrading the road network and dismantling border posts. It would provide the infrastructure and connectivity needed for resilience, cross-border cooperation, and continental togetherness.

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12 "Buy local" arrangements may help monopolistically competitive sellers, like local retailers, coordinating on cooperative behavior, increasing local production and welfare. The benefit of such arrangements should be weighed against the costs of purchasing local, less-preferred goods when alternatives from external retailers would be available. See Mailath, Postlewaite and Samuelson (2016). "Buying Locally". We stress that the label of "local currency" attached from time to time to such schemes is misleading. They are cooperation arrangements that, as our example show, depend on a functioning currency and integrated payment system to work at scale.

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