

## Digital Euro: An assessment of the first two progress reports\*



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*The ECB's first two progress reports on the digital euro clarify the project teams' considerations. Some motivations for a digital euro remain vague, some fundamental tradeoffs receive limited attention. Most importantly, the reports lack an analysis of why digital euro holdings as stores of value are not desirable and whether strategies to limit such holdings cause collateral damage. Against that backdrop some of the design choices backed by the Governing Council appear premature.*

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\*This policy brief draws heavily on the paper for the European Parliament, "Digital Euro: An assessment of the first two progress reports," downloadable at [https://www.europarl.europa.eu/RegData/etudes/IDAN/2023/741510/IPOL\\_IDA\(2023\)741510\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2023/741510/IPOL_IDA(2023)741510_EN.pdf).

## First Report

The [first progress report](#) motivates the case for a digital euro and lays out foundational design options endorsed by the ECB Governing Council. It characterises a digital euro as an electronic means of payment for retail users in the euro area but remains vague on what this means in practice. In terms of transfer mechanisms, the report anticipates an online option, validated by a third party; and offline option, peer-to-peer validated; and possibly cash-like features to enable greater privacy for low-value transactions.

## Motivations

The report motivates the digital euro as an instrument to preserve the role of public money as anchor of the payment system in the digital age. But it does not explain why the trend decline in cash use for payment purposes endangers the anchor role of public money. Digitisation does not change the lender of last resort, bank regulation, or deposit insurance. Nor does it change interbank payment systems, in which banks settle by transferring central bank money (reserves). It does not, on its own, undermine the option to withdraw cash either, as long as the ECB ensures the availability of banknotes, as it intends to do. It is therefore unclear which specific risks the ECB foresees and how a digital euro would address them.

The report also motivates the digital euro as a contribution to Europe's strategic autonomy. It remains unclear whether the authors have in mind national security considerations, independence from expensive overseas service providers, or monetary sovereignty (defence against “dollarisation”). Sovereignty could best be strengthened by developing attractive payment solutions for the most mobile user groups, including businesses. Against that background, a digital euro for business clients might be more promising than some of the use cases the project focuses on (see below).

## Use Cases

The report proposes to target certain market segments because of their potential market size and the policy objectives “harmonisation of payment solutions” and “European strategic autonomy”. Rather than focusing on market size it would seem natural to focus on areas where private solutions fail. It is also unclear why the government's role should be to harmonise, and if there is such a role, why the government should play more than a coordinating role.

A more convincing economic motivation could start from a comparison of the social costs and benefits of single- and two-tier monetary architectures; it would have to argue that the digital euro could improve the efficiency of liquidity provision with all its consequences (e.g., Niepelt, 2022). These fundamental considerations should shape all subsequent deliberations concerning design and other choices.

## Privacy

The report emphasises the right to privacy but also makes clear, at least implicitly, that a digital euro will not offer much of it, because of anti-money laundering and counter financing of terrorism rules and in order to being able to enforce caps on per capita holdings (see below). The baseline scenario foresees a level of privacy similar to the one retail clients enjoy in the contemporaneous two-tier architecture.

The report also discusses models that offer more privacy for low-value payments between parties in close proximity. These plans depend on future legislation.

## Tools to Control Amounts in Circulation

The report notes that a digital euro held in large amounts could result in structural substitution of bank deposits and it emphasises that undesirable consequences of a digital euro should be minimised. From there, it jumps to the conclusion that structural substitution of bank deposits is undesirable. The report mentions two options to deal with the purported dangers of substitution, namely “limit- and remuneration-based tools in the design of a digital euro to curb its use as a form of investment”.

This raises several questions. First, why is structural substitution of bank deposits undesirable? Do we know that the status-quo two-tier monetary architecture is ideal? Clearly, some groups benefit from that architecture and risk averse central banks hesitate to change it. But taxpayers and other groups bear costs, which have led economists to question the net social benefits of fractionalisation (Knight et al., 1933; Fisher, 1935; Tobin, 1987; Chari and Phelan, 2014). From a macroeconomic perspective, key trade-offs concern, e.g., operating costs of banks and the central bank; costs and benefits of maturity mismatch and fractional reserve banking; collateral damage of fiscal and regulatory interventions to correct market failure in the banking sector; and the risk of grave monetary policy mistakes and damaging political pressure on the central bank.

Second, even if banks in their current structure are socially valuable, do they need deposit funding? The answer is not obvious. In principle, banks can intermediate between savers and investors without creating liquidity. Moreover, central banks could pass funds raised from CBDC issuance through to banks, replacing the deposits on the liability side of bank balance sheets by central bank loans. In this way they could fully insulate banks and their lending from CBDC issuance (Brunnermeier and Niepelt, 2019).

Third, how strongly would “limit- and remuneration based tools” such as a small cap on digital euro holdings or negative interest rates on digital euro balances in excess of some threshold reduce demand for digital euros? What would this imply for the objectives of the digital euro project? Depositors in the Eurozone currently benefit from extensive deposit insurance protection. If this protection is credible, why would depositors exchange a small part of their savings into digital euros?

Fourth, a cap on digital euro holdings would imply that savers who have reached the threshold but wish to hold a larger quantity of digital euros value a digital euro more highly than a bank deposit although officially, and in trades of unconstrained users, deposits and digital euros trade at par. Such shadow exchange rates different from one would create incentives to circumvent the cap and might unleash other destabilising forces. They would contradict the objective of providing a solid monetary anchor.

Finally, how does the objective to curb the digital euro’s use as a form of investment square with the Eurosystem’s cash strategy of ensuring the availability of banknotes as payment instruments *and store of value*? Why should physical forms of public money be acceptable stores of value but digital ones not? How would the lack of support for digital public money as store of value affect the credibility of the Eurosystem’s cash strategy?

It seems worthwhile to address these issues carefully. Current plans in the UK concerning a digital pound also foresee holding limits but higher than what the ECB communicates. Moreover, the UK plans foresee these limits “*during an introductory period at least*” (Bank of England and HM Treasury, 2023, p. 14).

## Competence

The report suggests that the exact parameters governing the circulation of digital euros could be set in the future, depending on circumstances. It remains unclear who would be in charge of setting them. It is not obvious that this should be the ECB (or the European System of Central Banks), whose core competences include monetary policy, foreign-exchange operations, reserves management, and the promotion of payment systems (art. 127 Treaty on the Functioning of the EU). In fact, some motivations and considerations discussed earlier (e.g., specific aspects of strategic autonomy, competition policy, or protection of bank business models) suggest that the issuance of CBDC transcends the domains of monetary and financial stability as well as payments. Responsibility for the introduction of CBDC and its implications for the national and international monetary architecture therefore should lie with parliaments, as the Bank of Canada or the Riksbank recognize and acknowledge.

## Second Report

The [second progress report](#) describes the anticipated division of tasks between the euro system and private intermediaries, the prospective settlement of digital euro transactions, and a “digital euro scheme”.

## Role of Intermediaries

The report envisions the Eurosystem to be responsible for customer onboarding, supervision, and settlement of digital euro transactions, while private intermediaries would be responsible for the distribution of digital euros, all other customer-facing activities, and the provision of devices and interfaces.

The report does not address incentive compatibility. If the digital euro were a threat to the business model of banks, why would banks fully engage with rather than try to subvert the public-private partnership model?

## Funding and Defunding

The report anticipates seamless conversion of cash and private money into digital euros, and vice versa. Liquidity in excess of a digital euro holding threshold would be pushed to linked private money accounts, and vice versa (“waterfall” and “reverse waterfall” model). The “waterfall functionality ... would allow users to make or receive payments in digital euro in excess of any holding limit set by the central bank to limit the amount in circulation”.

This arrangement appears complex and fragile. Suppose A holds 2,000 digital euros and 3,000 euros at a bank. She wants to transfer 5,000 digital euros to B. The bank of A has to provide the missing 3,000 digital euros. Does the bank have to hold them beforehand? Or will the Eurosystem supply the 3,000 digital euros immediately on demand? In the latter case, the quantity of base money as well as the money multiplier change. In the former case, banks need to engage in precautionary digital euro holdings. How much are they allowed to hold, do holding limits apply? If not, how does this affect the purported financial stability risks? Once B's account is credited the quantity of digital euros outstanding may or may not contract, depending on whether (i) B's initial digital euro holdings plus the transferred amount exceed the holding limit and (ii) the Eurosystem or B's bank acquires the excess digital euros. The quantity of base money as well as the money multiplier may again change.

The holding threshold would also apply when a user converts cash into digital money. When reaching the cap the user would partly be credited digital euros and partly private money. The user's bank would gain claims vis-à-vis the Eurosystem, the user lose some. This seems unnecessary even if one takes the financial stability concerns motivating the threshold model seriously.

The report suggests that the waterfall and reverse waterfall model could imply that digital euro balances on user accounts temporarily exceed the holding thresholds. It also suggests that such deviations should not occur for longer than a calendar day. This raises a couple of questions. First, how exactly does the waterfall and reverse waterfall model work; apparently, funding, transfer, and defunding do not occur in real time? Second, how can holding thresholds limit financial stability risks if they do not apply at all times?

## Distribution Model

The report anticipates a “digital euro scheme” with the aim to harmonise user experience across the euro area. It suggests that digital euros could be spent with “any merchant in the euro area” and should also be accessible to people who currently lack access to digital means of payment. But the report does not clarify whether this implies an obligation for merchants to accept digital euros; whether merchants would bear the costs of the technical infrastructure; and how much of an improvement this would constitute relative to the current arrangement in which merchants pay high fees to service providers but in principle have at least a choice.

## Issues not Addressed in the Reports

From a user, financial stability, and government finances perspectives it is key whether digital euro accounts carry interest. Monetary theory suggests that efficient liquidity provision requires low opportunity costs of holding money, i.e., a similar interest rate on money as on other safe assets (Friedman, 1969).

To understand the macroeconomic implications of a digital euro it is crucial how the Eurosystem would invest the funds acquired by issuing digital euros. Issuance proposals range from injection by transfer in the spirit of the Swiss “Vollgeld” initiative<sup>1</sup> to injection by open market operations exclusively in exchange for government bonds (Kumhof and Noone, 2021). Investment options range from loans to banks or main street to government securities and other financial instruments.

The introduction of digital euros would likely expand the Eurosystem's balance sheet. This could further increase political pressure on the Eurosystem and further reduce the ECB's effective independence. The political economy repercussions of a digital euro might be of a similar or larger magnitude than the macroeconomic ones. ■

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<sup>1</sup> See <https://www.vollgeld-initiative.ch/english/>.

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