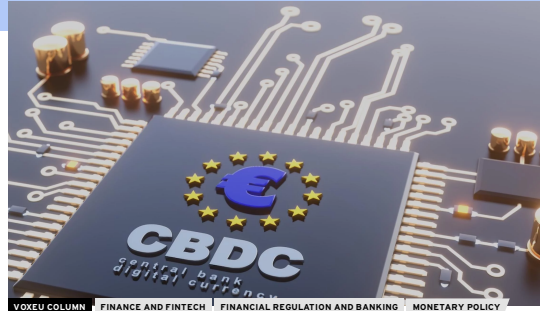


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The digital euro after the investigation phase: Demystifying fears about bank disintermediation

Ulrich Bindseil, Piero Cipollone, Jürgen Schaaf / 19 Feb 2024

On 18 October 2023, following the conclusion of its “investigation phase”, the ECB’s Governing Council announced a specification of the functional scope and key features of a digital euro and also decided to proceed with the “preparation phase” of the project. This column focuses on the debate around the impact of a digital euro on bank funding since the announcement of the likely design features and the European Commission published its draft regulation on a digital euro. The authors argue that earlier concerns should be reassessed now that they have been effectively addressed by design choices which need to be incorporated into the analysis.

AUTHORS



Ulrich Bindseil



Piero Cipollone



Jürgen Schaaf

Central banks explained early on and in great detail the reasons why they are working on central bank digital currencies (CBDCs) (e.g. ECB 2020). Despite strong support by consumer organisations (BEUC 2023) and merchants (EuroCommerce 2023), and an overall positive reception by academic economists (e.g. Brunnermeier and Landau 2022), there are still critical voices. Some doubt the usefulness of CBDCs (e.g. Waller 2021, Bofinger 2022, Financial Times 2023; The Economist 2023), while others worry about their potential negative side effects and risks (e.g. bank disintermediation). Central bankers have taken these concerns seriously¹ and have not only explained further the rationale for CBDCs but also addressed them through CBDC design choices (ECB 2023c). In this column, we focus on the debate around the impact of a digital euro on bank funding since the ECB announced the likely design features and the European Commission published its draft regulation on a digital euro. We argue that earlier concerns should be reassessed now that they have been effectively addressed by design choices which need to be incorporated into the analysis.

Key design features of a digital euro as of October 2023

On 18 October 2023, following the conclusion of the investigation phase of the digital euro project, the ECB’s Governing Council announced a specification of the functional scope and key features of a digital euro (see ECB 2023c, which aggregates and completes the findings from ECB 2022a, 2022b, 2023a and 2023b). The Governing Council also decided to proceed with the “preparation phase” of the project. The preparation phase focuses on additional experiments, selecting service providers, prototyping, and aligning with the ongoing efforts of relevant European co-legislators preparing the legal framework for a digital euro (Cipollone 2023). The actual decision on whether to issue a digital euro will be taken at a later stage, but not before the legal framework is in place and all functional features have been specified.

Based on ECB (2023c) and European Commission (2023), one can expect the digital euro’s features to include pan-European reach, legal tender status, and a high level

of privacy. A digital euro would combine all the features of a modern digital payment solution, offering convenience and safety to its users. Just like cash in the physical world, a digital euro would allow citizens to pay with central bank money in the digital world. It would fill the gap left by the absence of a European electronic payment solution that is available and accepted free of charge throughout Europe, thereby strengthening the monetary sovereignty and resilience of the currency union (Schaaf and Bindseil 2023).

To avoid an increase in the footprint of the central bank and preserve the economic function of commercial banks, individual digital euro holdings would be limited.² Merchants would be able to receive and process digital euro, but not hold them. Moreover, digital euro holdings would not accrue interest. Last but not least, users would be able to seamlessly link their digital euro account to a payment account with their bank, enabling a 'reverse waterfall' mechanism. This eliminates the need to pre-fund the digital euro account for online payments, as any shortfall would be covered instantly from the linked commercial bank account, provided it has sufficient funds available.³

Earlier concerns have been addressed by the design blueprint

In the debate about CBDCs, questions concerning their necessity and the risk to bank funding were at the centre of the discussion from the outset. It is now widely accepted that a pan-European digital retail payment instrument is needed to secure Europe's strategic autonomy and to lead the monetary union into the digital age in an integrated manner. The continued availability of both central bank money and commercial bank money to citizens anchors the monetary system (as private money is in essence defined by a promise of convertibility into central bank money) and preserves the established competition between the two forms of money for the benefit of citizens.⁴

The debate about the risk of bank disintermediation has evolved differently. In theory, CBDCs could affect financial institutions, as depositors might choose to move money from commercial bank deposits into CBDCs. This could in turn reduce the ability of the traditional banking system to provide credit. However, central banks (Sveriges Riksbank 2017, ECB 2020, Bank of England 2020) and other public institutions (BIS 2020, CPMI 2018, Mancini-Griffoli et al. 2018) have analysed the issue in an objective way to prepare for and find ways to tackle such risks, including through modelling and granular empirical research (Adalid et al. 2022, Meller and Soons 2023). The possible implications for monetary policy implementation and central bank liquidity provision have also been studied in detail (Bindseil 2020, Caccia et al. 2024).

Banking associations, bank-sponsored think tanks, roundtables (Thomadakis et al. 2023), and scholars (Bofinger and Haas 2023) have published multiple studies and analyses emphasising the risks of bank disintermediation in the context of the potential issuance of CBDCs in general and of a digital euro in particular. But these analyses – including the most recent bank-sponsored studies (Næss-Schmidt et al. 2023, Tenner et al. 2023) – disregard the predictable effects of the intended design of a digital euro. The combination of the reverse waterfall, a holding limit, and no remuneration will strongly reduce incentives to keep money in a digital euro wallet. Users would rely on digital euro as means of payments rather than of investment – particularly in view of the tendency of money holders to consolidate their liquidity pool. Moreover, banks could always offer higher remuneration to retain deposits (Cipollone 2024).

The digital euro is designed to act as the next level in the development of cash as a means of payment – stepping in to compensate for the declining role of paper money. Moreover, the decision to exclude merchants (and any other firms) from storing digital euro and to require them to transfer any digital euro position instantly to their bank account will help protect the corporate deposit base of the banking system.

Revisiting the main concerns

Critics continue to argue that demand for a digital euro would be so high that there would be a large flow of deposits from banks to the ECB. Such an outflow could be problematic in three ways.

First, it is argued that, if a *single* bank is in trouble, it would be very easy to withdraw funds deposited with that bank and move them to the deposit facility offered by the central bank (Kumhof and Noone 2018). However, it is already the case today that retail customers can transfer deposits to another private bank with a single click or tap, sometimes even in real time, or they can invest in a money market fund or government bond. Moreover, there is no limit on such transfers, while holdings of digital euro would be subject to limits.

Second, critics say that, in an acute *economy-wide banking crisis*, a digital euro could lead to accelerated bank runs, which could exacerbate the crisis (EBF 2021, Angeloni 2023a). This is, however, not very plausible, for the following reasons:

- If a limit is applied to digital euro holdings, the ability of customers to withdraw *unlimited* amounts of cash, would be much more relevant from the perspective of banks. Indeed, the disadvantage of cash as a short-term store of value because of safety concerns would be relatively unimportant at such an order of magnitude.

- Even in severe banking crises, many banks are still considered safe (particularly as central banks act as a system-wide lender of last resort). For example, in 2008, during the great financial crisis, but also in the recent US regional banks crisis, such banks benefited from inflows.
- In recent decades, bank runs have generally not been triggered by large numbers of retail customers withdrawing small deposits, but by incidents in the wholesale market⁵ or the withdrawal of very large individual amounts above the thresholds covered by deposit guarantee schemes.⁶

Third, the attractiveness of safe central bank money could lead to *banks losing deposits as a source of refinancing in the long term*. This could put a strain on lending to companies and private households. According to the Association of German Banks, substantial quantities of central bank money could be withdrawn from the banking system, which would restrict the ability of commercial banks to refinance against customer deposits (Tenner et al. 2023). However, the combination of a holding limit, zero remuneration, the reverse waterfall, and the absence of corporate holdings of digital euro would imply rather low overall levels of digital euro holdings.

Analysis must include banknotes

What matters is the total amount of central bank money in circulation (Cipollone 2024). Focusing on digital euro alone ignores banknotes in circulation, which would be misleading as both are identical in how they affect the financial accounts of the economy. Banks experienced elevated demand for euro banknotes during the period of financial stress and low interest rates, but they never raised this as an issue. Between 2007 and 2021, euro banknotes in circulation increased from €628 billion to €1,572 billion, an increase of almost one trillion euros, which is far more than can be expected to be issued in the form of digital euro, given the current blueprint.

The declining use of banknotes for daily transactions will eventually also reduce the structural demand for banknotes. By definition, the purpose of a 'store of value' is that it should eventually be spent. Therefore, the store of value function also relies on the ease at which money can ultimately be spent, so the decline in the use of banknotes also risks reducing their attractiveness as a store of value in the long term.

Indeed, in 2023 the value of euro banknotes in circulation declined for the first time in nominal terms since 2002, by around €5 billion. Even though only 20% of the demand for banknotes can be attributed to domestic payment functions⁷ and this trend reversal is probably mainly a reflection of higher interest rates, the digitalisation of payments is also a factor.

Digitalisation in general, even when factoring in the issuance of a digital euro as outlined in ECB (2023c), may well lead to lower real growth in central bank money in circulation than in the past, or even to a decline. From this perspective, the persistent complaints regarding future volumes of digital euro in studies sponsored by the banking system are not looking at the right variable (which is central bank money in circulation) and outdated (by ignoring the digital euro blueprint).

Conclusion

As the ECB progresses in developing a digital euro, it will continue to refine design choices, address potential risks, and optimise benefits. The investigation phase of the project has yielded innovative design features that would contain the circulation of digital euro while offering benefits to users. The concerns regarding bank funding have thus been taken seriously. Moreover, the eventual holding limits will be calibrated on the basis of a comprehensive analysis considering all relevant factors (Cipollone 2024).

What really matters for banks in this context is the total volume of central bank money in circulation. Amid the declining use of banknotes, it is likely that nominal growth in banknotes in circulation will diminish or even turn negative. This suggests a possible scenario of a decline of central bank money in circulation relative to GDP. It is often overlooked that the introduction of CBDCs by central banks is a reaction to the declining role of paper money in payments.

Moreover, new players, like stablecoins, e-money institutions and other narrow bank constructs, some sponsored by BigTech companies with huge customer bases, do not care about banks and their role in the economy and pose a greater risk to bank funding than CBDCs. Non-banks have no obvious incentive to limit the use of their stablecoins or the services they offer (Panetta 2023), and the use of stablecoins could become significant. This would hold particularly true if it was accepted that central bank money does not follow digitalisation but stays exclusively in paper form. It seems important that such firms should not be allowed to hold significant customer funds on the balance sheet of the central bank (Bindseil and Senner 2024). It would be absurd for central banks to limit holdings of CBDCs while allowing unlimited deposits with the central bank from non-bank payment service providers issuing what might be called a 'synthetic CBDC' (i.e. a stablecoin backed by central bank deposits).

Banks are barking up the wrong tree when they rely on studies that overlook the outlined design features of the digital euro: in doing so, they ignore the many other

challenges they need to address to ensure stable funding through deposits. Banks have to offer attractive products and services to incentivise customers to hold their deposits at banks rather than migrate to new and powerful private competitors. And the digital euro is also a unique opportunity for banks, as it will allow them to launch new and innovative products, address new use cases, and extend their scope beyond domestic markets.

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Footnotes

1. Some more radical economists have indeed advocated CBDCs to disintermediate the banking system and have suggested combining the introduction of CBDCs with a prohibition on banks issuing sight deposits. These economists argue that this would improve financial stability, as it would prevent bank runs and, by implication, banking crises. At the same time, it would save taxpayers' money, as banks would no longer need to be rescued and more seigniorage income would be earned by the central banks and passed on to government (Huber 2017, Dyson et al. 2016). Central banks and legislators (at least in the EU) have not endorsed these views but instead defended the role of banks and have designed CBDCs accordingly.

2. While the limit will be set based on further in-depth analysis before a possible issuance of a digital euro, an order of magnitude of €3,000 per resident has been mentioned (Bindseil et al. 2021).

3. The envisaged offline function of the digital euro would require sufficient prefunding. Moreover, a holding limit and zero remuneration would still apply.

4. As the European Banking Federation (EBF) states: "The banking industry supports a long-term vision of European strategic autonomy in payments and sees that new forms of digital currencies and payment methods will be needed to support the multi-faceted digitalisation of the economy. We envision a future digital economy where Europe has a strong, resilient, innovative and competitive payments and digital asset ecosystem, with enhanced European strategic autonomy" (EBF 2023).

5. Deutsche Bank cut a €67 million trading line to a mid-sized bank, IKB Deutsche Industriebank, on 27 July 2007, during the subprime crisis. IKB's then CEO, Stefan Ortseifen, told a court that Deutsche Bank's decision to cut credit lines had caused immeasurable reputational damage to IKB, crimping its ability to function normally in turbulent markets. Deutsche Bank denied the allegations. IKB became a high-profile casualty of the credit crisis and required several bailouts.

6. For example, the run on Silicon Valley Bank (SVB) in March 2023 started amid rumours about its solvency. According to the Californian supervisory authority, on 9 March alone customers tried to withdraw \$42 billion – a quarter of the bank's total deposits. Individual deposits in the US are guaranteed up to \$250,000. However, more than 90% of SVB's customers had deposits that were significantly higher.

7. Cash used as a means of payment in the euro area accounts for around 20% of the value of euro banknotes in circulation, while the majority of cash holdings relate to its store-of-value function and its use abroad (Zamora-Pérez 2021).

AUTHORS



Ulrich Bindseil
Director General of
Market Infrastructures
and Payments,
European Central Bank



Piero Cipollone
Member of the
Executive Board,
European Central Bank



Jürgen Schaaf
Advisor to the Senior
Management of Market
Infrastructure and
Payments, European
Central Bank

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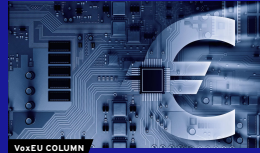


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