



Towards a digital euro: a step further into the digital area?



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ABSTRACT

In October 2020, the Eurosystem central banks published their report on a digital euro. The analyses focus on an electronic form of central bank money that is available for all citizens and companies to make their daily payments. This article aims to discuss the possible future scenarios in which a digital euro would be a viable option to achieve the central banks objectives (fostering price stability, encouraging financial stability, and guaranteeing safe and efficient payment systems) and elaborates on the guiding principles set out by the Eurosystem central banks.



1. Introduction

Digitalisation continues to significantly disrupt processes across all industries. Focus has been increasingly put on the improvement of customer experience, often driven by advanced artificial intelligence models. Furthermore, the strategies for dealing with the corona pandemic related restrictions further accelerated the digitalisation well-beyond online shopping. For example, notary deeds are being signed via videocall and art performances are being streamed.

The retail payments industry does not form an exception. We have been spoilt over the last decade while incumbents and challengers have disrupted business models and processes. Moreover, there is a lot of experiments going on, including in the context of the internet-of-things. In the near future, cars may be able to make micropayments for road taxes or mileage-based insurance.

At the same time, the Eurosystem Central Banks identified a series of future scenarios where digital artefacts could be detrimental to their ability to achieve central bank objectives, including guaranteeing financial stability, price stability and safe payment infrastructures.

An interesting example of such a future scenario is the emergence of dominant and widely adopted non-euro denominated digital currencies. There would be no guarantee regarding intermediation for European financial institutions and these currencies may fall out-of-scope for European supervisors. What impact would the introduction of a Diem or foreign CBDC have on the European economy, on the financial stability or even on our sovereignty?

In this context, the Eurosystem decided to explore the appropriateness and feasibility of issuing a retail central bank digital currency, i.e. a digital euro. The article explores the future scenarios for which a digital euro could be a solution and identifies design options along with challenges. The article concludes with an outlook.

2. The Eurosystem explores a digital euro as a central bank liability with access for the general public.

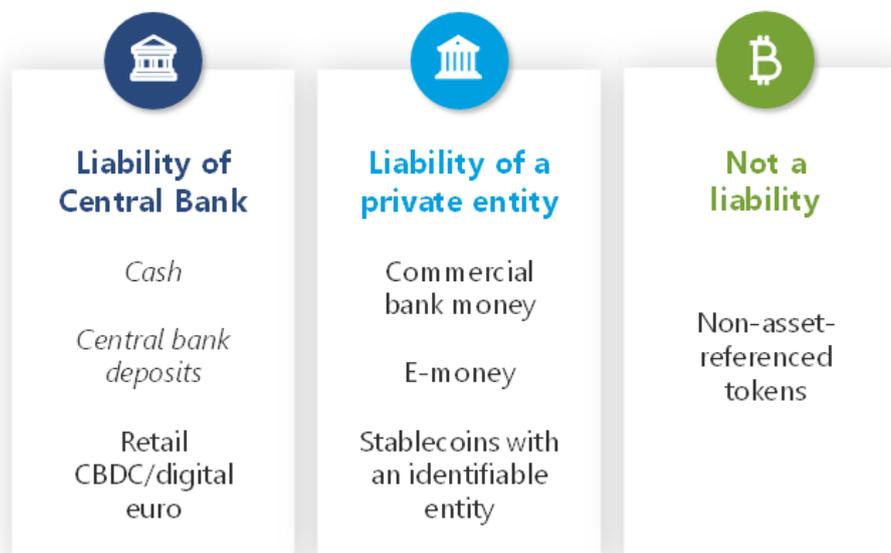
A digital euro is envisioned to be a fast, easy and secure instrument for retail payments. Retail payments are typically everyday transactions between consumers, businesses and public authorities, including paying for goods or services, paying salaries or paying taxes. Transactions between financial institutions – i.e. wholesale payments – are considered out-of-scope for the current exploratory analyses.

Box: coexistence of different types of money

The Eurosystem Central Banks issue two types of liabilities on themselves for use as money. Individuals and corporations have access to banknotes, whereas credit and other financial institutions may have access to deposit accounts with the central banks. A potential digital euro would complement the types of money that represent a liability of the Central Bank, i.e. retail users would have a direct claim on the Central Bank.

But the Central Bank is not the only issuer of money in the European economy. Commercial bank money – typically stored on deposit accounts and used for daily purchases – and e-money represent claims against supervised financial institutions. Certain forms of stablecoins could be classified as a liability of a private entity if there is an identifiable governance entity and a stablecoin unit represents a direct claim on the reserve.

Cryptocurrencies and crypto-assets are not always a claim on an entity and/or there is no identifiable governance entity. The Bitcoin is the prime example of this third category.





3. Rapid digitalization together with a declining use of cash are paving the way for new forms of central bank money supply.

Innovation and extensive digitization have been signalling large and important changes in the financial industry. Incumbents and challengers have focused on reducing frictions in the retail payments market, including in cross-border payments. Furthermore, both efficiency and convenience of payment solutions have been significantly improved, with instant payments gradually becoming the norm. New technologies like artificial intelligence and distributed ledger technology (DLT) are increasingly introduced in mainstream financial applications.

Recent studies on the payment attitudes of consumers in the euro area (SPACE) identified changes in consumer preferences regarding payment instruments. While cash remains the most used retail payment instrument across the euro area, its share has been continuously declining over the past years. Important variations between the different euro areas exist: in Belgium, about 60% of the transactions between individuals or at points-of-sale are settled with cash, which is in sharp contrast with the statistics for the Netherlands (only 30%). Restrictions in the context of the corona pandemic even further accelerated the switch to card payments, with a sharp increase in the usage of contactless payment features.

A marginalisation of the usage of cash could cut off individuals and businesses from the safest, most efficient and most inclusive form of money. A digital euro could assist in guaranteeing access to central bank money in an increasingly digitalised world. Furthermore, a digital euro is expected to foster competition in the (digital) retail payments market.

4. The digital euro as a payment instrument could support the objectives of the Eurosystem.

The digital euro may be seen as a viable option for the Eurosystem Central Banks to achieve their core objectives and to contribute to the broader economic policy objectives of the European Union. Central Banks are responsible for promoting efficient and safe payment systems as well as innovation in the payment market. Additionally, Central Banks are responsible for fostering price stability via monetary policy operations and for encouraging financial stability.

The October 2020 Report on a digital euro identifies a series of possible future scenarios in which the retail digital euro could be one of the solutions. In addition to supporting the continued digitalisation of the European economy, a digital euro could stimulate a further integration of the pan-European retail payments market. A digital euro could also act as a protective measure for the European monetary sovereignty in case non-euro denominated currencies i.e. foreign CBDCs are being widely adopted, e.g. to avoid a digital

dollarization. But it does not have to be reactive as it could also contribute to the effectiveness of the monetary policy of the Eurosystem central banks. Furthermore, a digital euro as a payment instrument could improve the resilience of the retail payments industry during extreme events, if it opts for sufficient technological diversification. Finally, a digital euro as a payment instrument could contribute to broader cost and ecological footprint efficiency objectives.

Policy discussions are still ongoing but the value of a digital euro as an attractive payment instrument in a digitalised economy is broadly recognised, without necessarily creating an attractive asset for investment purposes. Different options to limit the substitution of commercial bank money for central bank money could be envisaged, including offering tiered remuneration and imposing limits on digital euro holdings. The Eurosystem continues to research the impact of a digital euro on the financial stability in the euro zone.

A broad variety of design options for the digital euro could be considered, including the ability to support both offline and online transactions as well as the level of privacy. Specific transaction limits may be considered. For example, the amount that could be settled with an offline and/or bearer instrument may be capped, similar to the transaction limits applied on cash payments. Whereas appropriate attention is being paid for KYC, AML and CFT requirements related to larger payments.

The digital euro should take the form of an additional means of payment to cash and private payment instruments. Although it cannot be ruled out that it may partly replace them, the Eurosystem will continue to secure the access to cash, including for financial inclusion purpose. As established by the guiding principles a digital euro should offer convertibility at par with other forms of the euro, such as banknotes, central bank reserves and commercial bank deposits. Ensuring perfect substitution with other forms of money would require building a completely interoperable back-end and front-end system with private payment solutions, allowing money to be easily and instantaneously converted through account transfers, deposits/withdrawals, etc.

From this perspective, it is also expected that the digital euro would be granted the status of legal tender, similar to central bank liabilities, as it represents an essential attribute of money. Whereas the status of legal tender would further support its acceptance in daily transactions, the existence of a payment infrastructure at payment services users' side supporting the digital euro would be a prerequisite however; if not, the legislator might explore solutions to deal with cases where there is no payment infrastructure allowing digital euro transactions, for instance in remote areas. Other core features meant to support its acceptance as an additional means of payment and highlighted in the Report on a digital euro refer to usability, convenience, speed, cost efficiency and programmability.



5. The technical design of the digital euro should fit with the objectives defined by the Eurosystem and comply with the European regulations.

The system supporting the digital euro would consist of a back-end infrastructure, a set of intermediaries and a series of access solutions for the end-users. Both account- and token-based back-end infrastructures are being considered. In the former architecture type a central trusted authority identifies the transacting partners, whereas the latter architecture is based on the verification of the authenticity of a digital artefact. The Eurosystem supports an active engagement of the intermediaries as gateway to the system, and potentially as settlement agents for the end-user. Both hardware and software access solutions are being investigated.

Compliance with regulatory requirements should be ensured, similarly to other means of payment, notably data protection, KYC & AML-CFT¹ or cyber security. Although full anonymity is to be excluded due to money laundering or the financing of terrorism concerns – some KYC checks shall at least take place when on-boarding the user. The degree of transparency of the digital euro is still debated, reflecting intrinsic tensions between the potential role of the digital euro as a complement to cash – with anonymity as a key feature – and its nature as a digital payment – which are traceable per se. The diversity of options at stake reveals the existence of open-minded views on the design of the digital euro, with proposals ranging from partial anonymity where transactions would not convey the identity of the users although they would still be electronically traceable – possibly via a tiered system where partial anonymity would only apply to low-value transactions, to full transparency where the identity of the users would be available.

Addressing the users' needs while still complying with the regulation will be key to ensure that the digital euro is appropriately designed and remains attractive in the long term. In this respect, the preliminary results of the public consultation launched by the ECB in October 2020 showed that privacy of payments ranked highest among the requested features of a potential digital euro (41% of replies), followed by security (17%) and pan-European reach (10%). In case this initial analysis is confirmed, one could expect the digital euro to offer some anonymity features, for instance on low-value transactions carried out via a bearer instrument, as part of a hybrid solution with also digital euro accounts offered to the general public on top.

¹ Know-Your-Customer ; Anti-Money Laundering and Combating the Financing of Terrorism.



6. The private industry may play an important role in the procurement of the digital euro to the general public.

The digital euro should not aim at crowding out private payment solutions owing to the principle of market neutrality. It would offer a solution to market fragmentation in addition to existing or future payment services that may provide users with a wider range of functionalities, also beyond the borders of the euro area. In this respect, the Eurosystem will continue to support private initiatives aiming at improving the security, efficiency, integration and security of payments, such as the European Payments Initiative which was launched in July 2020 with the objective to create a unified pan-European payment solutions at the point of interaction.

Further to this, guiding principles specify the desirability of intermediation and support the development of front-end solutions by the private infrastructures. This set-up would allow for leveraging the extensive and well-established customer facing activities currently offered by financial intermediaries. Additionally, the private industry could develop and provide a series of ancillary services such as account management, resulting in the emergence of new business models based on the digital euro.

It will be key to identify the categories of intermediaries that may be granted an authorization to offer services related to the digital euro and determine the prudential requirements that shall apply to them, as soon as the legal environment of the digital euro as a means of payment has been clarified.

7. Outlook

The Eurosystem will officially decide whether to launch a digital euro project towards mid-2021, taking into account the outcome of the public consultation launched by the ECB in October 2020, whose final results will be released during Spring 2021, as well as the experiments that are being carried out by the Eurosystem on specific designs. In case the Eurosystem decided to launch such a project, an investigation phase would be initiated to identify viable products and quantify their cost. Should the need to issue digital euro arise, the Eurosystem would then enter into a realization phase. Whereas there are still many unanswered questions on central bank digital currencies, including on policy, legal or technical aspects, ongoing discussions in the Eurosystem will be key to the success of the digital euro and to ensure that its design fully satisfies the Eurosystem objectives, meets the users' needs and remains flexible to adapt to future technological evolutions.