

# Digital Euro

## Reviewing the progress to date and some open questions (May 2023)



*In this in-depth analysis, we summarise and explain the directions that the ECB has in mind for the digital euro, based on the ECB's progress reports and statements. We also highlight further questions that have so far received less explicit consideration, but may deserve the legislators' attention when the European Commission presents a proposal for ordinary legislative procedure. The analysis has been updated following the **third progress report** and now also entails a summary of **external expertise** commissioned by the ECON Committee.*

The increasing popularity of digital payments has led to a diminishing use of banknotes. At the same time, certain digital private sector projects aim to play a role that has so far been reserved for public money and the commercial bank money backed by it. These developments have motivated central banks around the world to consider the merits of central bank digital currencies.

**The ECB has also started considering a digital version of the euro** and published an initial [report](#) on 2 October 2020. In July 2021, its Governing Council has decided to launch an **investigation phase**. The ECB has kept the public informed about its investigations when it published a [first](#), a [second](#) and a [third progress report](#). The reports set out the **objectives of the project** and what the ECB calls “**foundational design options**” as endorsed by the ECB's Governing Council. Moreover, Fabio Panetta, the responsible member of the ECB's executive board, regularly and transparently reports to the Parliament's ECON Committee to share additional insight into the ECB's evolving thinking. His regular updates facilitate the **Parliament's scrutiny over the project** and recognise that there will be a **role for the Parliament as legislator** if and when a digital euro is implemented. In the meantime, the Commission has also [announced](#) a proposal for ordinary legislative procedure.

**This briefing reviews the content of the three progress reports by the ECB.** It particularly highlights **questions that remain open** at this point in time, and the importance they may have for the costs and benefits of the digital euro. It also summarises what the ECB and the Commission have said so far about the **legal basis** of the digital euro and the secondary legislation that should underpin it. Finally, after summarising the planned next steps, the briefing offers a **preliminary reflection on the role of the EU legislator**. In addition, the EGOV unit has commissioned, on behalf of the ECON Committee, briefings from a panel of selected external experts. **Box 1 offers an overview of the external expertise provided and links to the documents.**



**Box 1: External expertise on the digital euro**

[Ignazio ANGELONI](#) focuses on the main relevant aspects: market impact, implications for banks, design and technical issues, monetary policy, financial stability, the role of fintech and Big Techs, international dimensions, privacy, and financial inclusion. On each, **brief recommendations for the ECON Committee’s work** are offered. The concluding judgment is broadly positive on the preparatory work but **doubtful on the wisdom of eventually launching a digital euro**.

[Seraina GRÜNEWALD](#) assesses the digital euro from a legal perspective. She finds that whether or not to issue a digital euro is for the ECB to decide, while **the co-legislators’ role is to “recognise” the digital euro** and integrate it in the EU’s broader legal framework. She expresses concerns about low holding limits and remuneration for the digital euro and encourages a reflection about the remuneration of intermediaries.

[Christian HOFMANN](#) argues **in favour of the introduction of a digital euro** because of its benefits for the public’s store of value and cashless payment options. In his conclusions, he questions the ECB’s assumption that caps on digital euro holdings would be necessary in the interest of financial stability. He favours instead an approach that allows everyone **unlimited access to digital euros**.

[Cyril MONNET](#) finds a digital euro **socially desirable**. However, he fears that the envisaged design makes the **use case questionable** from consumers’ point of view, in part because it will offer less convenience than other, commercially provided, digital means of payment. His study lays out some desirable design features of a digital euro that can foster broad adoption.

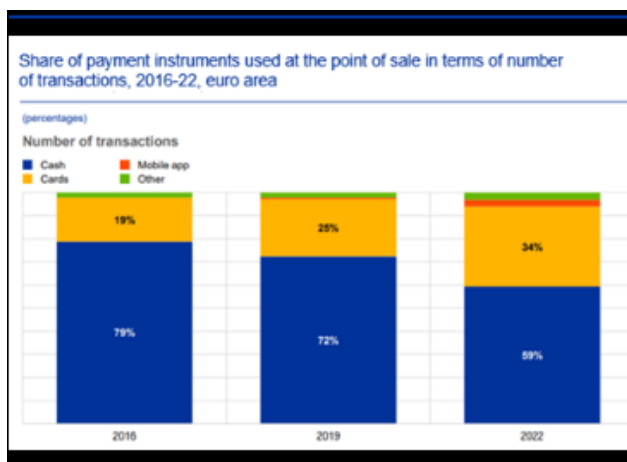
[Annelieke MOOIJ](#) considers that the ECB’s primary mandate allows the digital euro to be legal tender and remunerated. However, **the creation of a payment platform requires a mandate from the EU legislator**. Regarding data protection and fundamental rights, the **author recommends additional guidance in secondary legislation**, including determining supervision by the European Data Protection Supervisor.

[Dirk NIEPELT](#) considers that the two progress reports provide an **insightful overview** over some of the thinking underlying the digital euro project. Nevertheless, he concludes that **the reports remain vague** in some respects given the early stage of the project.

## ECB’s objectives

We understand that the ECB pursues the digital euro chiefly because of a **diminishing use of euro banknotes** in retail payments; see Figure 1. This is a trend that the ECB expects to continue; not least since e-commerce, which does not allow banknote payments, is likely to further gain importance. There is a wide range of ways to pay electronically in euro in physical shops and in e-commerce already, however, all existing electronic euro payment methods have in common that the payment takes the form of a transfer of a claim on commercial banks, i.e. **commercial bank euro**. Invariably, in euro electronic payments today, the merchant receives commercial bank euro from the customer rather than public euro issued by the ECB.

**Figure 1:** Diminishing use of cash



Source: ECB - Study on the payment attitudes of consumers in the euro area (SPACE)

The ECB is concerned that the willingness of the public to accept euro claims on banks as payment may depend on the ability to convert the claims into ECB-issued banknotes. However, this “anchor” role for commercial bank euro may get questioned at some point in the future if the public finds euro banknotes less useful and not widely accepted by merchants etc. anymore. Where this to happen, **the diminishing**

**role of euro banknotes might by eventually indirectly undermine the acceptance of commercial bank euro.** The hope is that a digital euro could assume or complement the “anchor” role of euro banknotes under such circumstances, allowing the public to convert commercial bank euro into a form of public euro other than banknotes. To this end, it may be important that the digital euro is widely accepted for retail payments. It should probably in the future achieve at least a comparable breadth of acceptance taken together with banknotes that banknotes alone achieve today.

The issuance of a digital euro also responds to the broader strive for **open strategic autonomy in Europe and for a stronger international role of the euro.** As other third-country jurisdictions enter the world of central bank digital currencies (CBDCs) and the private sector seeks to provide alternative payment solutions, including crypto assets and stable coins, the ECB is under pressure to respond to challenges that might disrupt the use of the common currency in the euro area as well as long-term threats to the EU’s payment ecosystem.

## Foundational design options

In the progress reports, the ECB discusses so-called “foundational design options” that its Governing Council has endorsed. In the following, we would like to take a closer look and see what conclusions can be drawn from these design options about

- how the digital euro would work,
- how it compares to cash and
- how it might interact with commercial bank euro.

### How paying with digital euro would work

The [ECB emphasises](#) that the **digital euro will be a direct claim against the Eurosystem.** The notion of a claim or liability in this context can first be understood as an accounting technical notion. The issued digital euro will, like banknotes do today, appear on the liability side of the central bank’s balance sheet. One may also understand the digital euro as the subject of a political “liability” of the ECB to maintain its value relative to the goods and services traded in the EU economy, i.e. to conduct monetary policy in a way that maintains price stability. However, as with banknotes, the digital euro “liability” cannot necessarily be understood as literally making the central banks liable to deliver anything concrete to the holder.

Another political “liability” of the ECB relates to the settlement of payments and public trust therein. To make payments in digital euro, the person paying needs to be able to demonstrate ownership in her or his digital euro and needs to be able to transfer the ownership with certainty to the person receiving the payment. In the case of banknotes, the ECB takes this responsibility by making them physically available through commercial banks and by ensuring that banknotes are reasonably easy to recognise and hard to falsify because of physical features. In the case of digital euro, **physical possession and physical safety features have to be substituted for by electronic means.**

On [29 September 2022](#), the ECB emphasised that **it still has to make the choice between a central or a distributed ledger.** At the same time, the ECB also emphasised it would like to retain “**full control**” **over the settlement of payments** since it finds it would be liable for any mistakes in this process. Settlement comprises ensuring first that a transfer can be executed and then actually recording the transfer in a ledger. There are two broad ways to do this:

First, there could be a **central ledger at the level of the ECB, which is basically a system of (central) bank accounts in which digital euro ownership is recorded** by the ECB as an account entry in favour of a digital euro holder. A payment implies reducing the credit in one person's account for the benefit of another person's account - not different from a transfer between two commercial bank accounts. There are **two sub-options** to this: first, **each digital euro user could have an account with the ECB** in her or his name, or at least named with an account number or identifier for this person. This sub-option could also be modified to ensure a degree of anonymity, allowing the person to hide her or his identity from the ECB and/or other persons involved in transactions. A second sub-option could be for the **ECB to run accounts in the name of intermediaries**, and the intermediaries in turn would record personal ownership of individuals in an additional set of accounts. The accounts of the intermediaries with the ECB would have to be segregated from any deposits owned by those intermediaries themselves, to reflect that the ultimate ownership of the digital euro in question is with the individual clients of the intermediaries.

Second, the **ledger that records ownership and transactions could also be "distributed"**. While in the case of a central ledger, users would rely on the book keeping of the ECB or of individual intermediaries to correctly reflect their ownership and payments, a "distributed" ledger would instead place faith in multiple entities recording ownership in different ledgers. In this case, correctness of ownership records would be evidenced by a consensus of many separate ledgers showing the same ownership and transactions. For some privately-issued crypto "currencies", such consensus mechanism has been preferred to the need to put faith into a central record keeping, not least for lack of a trustworthy central entity. There would need to be some form of an incentive for record keeping for the entities that do so de-centrally, which would come ultimately as a cost to users or taxpayers. The sum of digital euro outstanding would still have to match the entry on the liability side of the ECB balance sheet. Since the definitive settlement outcome is the consensus among different parties, it is not clear how the "full control" over settlement desired by the ECB - is assured.

### Privacy and how the digital euro compares to banknotes

The ECB [expressed a preference](#) that the **accounts of individual users should be "offered and operated" by intermediaries** rather than by the ECB itself. The ECB would not want to know the **identities of users** behind payments and balances. Consequently, responsibility for anti-money laundering and combatting terrorist financing should in the ECB's view reside with the intermediaries that open accounts for individuals and would thus in principle also be able and obliged to identify an individual user and to follow an individual's balances and transactions for anything suspicious in function of the legal requirements already applicable or to be specified for this context. In fact, [the ECB argued](#) to the ECON Committee that alleviations to the general anti-money laundering framework are needed to **give low-value digital euro payments more privacy** than payment in commercial bank euro.

The settlement of payments and the possibility of privacy are linked to the question **how close to the functionality of banknotes the digital euro can be**. In particular, banknotes allow to pay offline and without disclosing the identities of the parties. In the ECB's base scenario, as discussed above, each payment passes through an intermediary and is settled by the Eurosystem. For the users to immediately see that their payment has succeeded - useful for a newsagent to know before allowing the customer to leave the shop with a newspaper in hand - **an online connection to the intermediary and the central bank is necessary**.

This is different from banknotes where the users can easily evaluate the success of a payment without any internet connection. This online link to the intermediary and the central bank for each individual transaction has also **implications for privacy**. In principle, every payment is visible to the intermediary and the central bank, even if the central bank does not know the identity of the users. The intermediaries however do. On this basis, follow-on questions for privacy result. Should the intermediary know the identity of its immediate client or of both parties to the transaction (if they are not both clients of the same intermediary)? From an

anti-money laundering perspective, that might be useful. It may also be useful for the business of intermediaries to know more about where users spend money and maybe even what for; it might allow them to find ways to sell other services and products or earn money from marketing partnerships with other companies. Should the merchant receiving a payment be able to know the identity of the paying customer? That also might be useful from a marketing angle but possibly not what most users want or expect.

The ECB also **explores an offline model**, i.e. a model that works where there is not internet, for payments to complement the online model. This might involve secure devices that can be filled with digital euro like a wallet can be filled with banknotes. Such devices are still to be developed to be reasonably safe against manipulation. They would naturally allow additional privacy compared to the online model, since they could be set-up to allow anonymous payments and not to share information about individual payments with intermediaries and the central bank. While such a model comes close to the full functionality of banknotes, it comes with technological challenges. Moreover, the enhanced privacy in light of anti-money laundering concerns and the liability for any losses from manipulation probably require a particular regulatory framework. Accordingly, the ECB notes it notes that the **offline model will not be ready for use as soon as the online model** and even leave open if it will prove feasible or not.

Among the use cases of digital currencies, the possibility of “programming” money is often mentioned. The [ECB clarified](#) that **the digital euro would not be programmable**. “Programmed” money could for instance be limited in its validity or in what it can be used to pay for. It could enable government hand-outs that have to be spend within a certain timeframe or for certain products, say, to take macroeconomic measures to boost consumption or as targeted support for people in need. The ECB points out that the each euro has to be fungible; however a euro about to expire is clearly not as valuable as one with a longer validity. So, in theory the digital euro could be used as [helicopter money](#) if that was ever intended, but it would not be possible to direct such measure specifically towards, say, consumption spending. By contrast to programming money, in the ECB’s view, **conditional payments<sup>1</sup> should be possible**. This is *per se* nothing overly ground breaking, in the sense that commercial bank euro today already allows for it: a simple case is a standing order for monthly rent payments from a bank account. Going forward, more sophisticated conditional payments could be offered by banks and other intermediaries - and such developments would in principle be possible both in commercial bank accounts and in digital euro.

The [third](#) progress report categorises the functionalities of the digital euro into three groups, **core functionalities**, offered by all intermediaries, **optional functionalities**, that are like core functionalities integrated into a digital euro rule book, but for which intermediaries have an option to provide them to clients or not, and finally **value-added functionalities** that intermediaries could develop themselves for their own clients within certain limits of said rule book. As to the second category, the ECB mentions recurring payments, payments initiated by the recipient or preauthorised payments automatically triggered when the account holder make a purchase. As to value-added services, the ECB illustrates these could consist in payments triggered by the delivery of goods or services or joint payments for joint purchases by people splitting the bill.

Therefore, the digital euro will have **additional functionalities compared to banknotes**, but not necessarily compared to commercial bank euro since comparable services could be developed based on commercial bank accounts.

Under the heading “Delivery approach and form factor”, the third progress report discusses the **technical implementation of payments**, which will be the basis of the various functionalities and the user experience

---

<sup>1</sup> The ECB also uses the term „programmable payments“ here to contrast it with programmable money, the idea being that a pre-programmed behaviour is built into the user’s account, but not into the specific monetary instrument so that the instruments remain interchangeable or fungible.



they will provide. It appears that the ECB intends to rely on the devices that users already have, such as mobile phones, which will run applications provided by intermediaries or a basic application provided by central banks in order to use the digital euro. Each payment requires a data exchange between devices, at least containing information that identifies payer and recipient or their accounts and the amount. Additional information, for instance identifying the merchandise being paid for, could be sent along. The ECB envisages such information being sent as QR codes from screens to device cameras, or via wireless Near Field Communication over antennae in devices.

### How the digital euro interacts with commercial bank euro

Part of the endorsed foundational design options is that individuals, through the intermediary that is administering their account, will be able to convert euro in their commercial bank account into euro in their digital euro account and back, a process the ECB calls **funding and de-funding**. This could happen manually or, at the option of the user, automatically. The latter means that in function of the digital euro payments going in and out of the individual's account, the digital euro balance is automatically evacuated or replenished by transfers to and from a commercial bank account, possibly in function of minimum and maximum digital euro balances to be defined. This so-called **waterfall** feature would allow for a **seamless user experience**. Among potential digital euro users, the [third progress report](#) makes a distinction between consumers on the one hand, which can hold a positive digital euro balance, and governments and merchants on the other, which would have a zero holding limit. For the latter, any payments received and any payments made, say as a reimbursement, would accordingly be automatically pushed to or pulled from a commercial bank account. This distinction seems to preclude that very small merchants could operate solely with a digital euro account, foregoing the cost of an additional commercial bank account.

The ECB also addressed **risks that could result if a large share of deposits in commercial banks were converted into digital euro**. In fact, the digital euro is not only a potential anchor to commercial bank euro, but could also become a competitor since it potentially fulfils many of the same functions, allowing to make electronic payments and to store value. This requires careful consideration: **commercial banks use the balances of commercial bank euro - i.e. deposits - to fund loans to businesses and households**. If individuals replaced these balances on a large scale with digital euro, this channel for loans would be disturbed. The Euro area central banks also acquire assets when issuing digital euro, but the contribution to funding lending to households would be unclear.

The issue could be aggravated if ever concerns about the stability of commercial banks were to arise. Technically, **deposits could be quickly and with low transaction cost shifted into digital euro**; and in any case, more easily than into banknotes. The relative ease compares probably with the ease of shifting deposits from one bank to another; however, with a digital euro, deposits could be shifted into an ultimate safe haven outside the commercial banking system if stability concerns arise about the commercial banking system as a whole. At the same time, it is also fair to note that sound regulation and supervision of European banks, together with insurance for eligible deposits up to 100.000 euro considerably reduce the scope for such system-wide runs. In any case, the ECB wishes to build two mechanisms into the digital euro design that could counter such developments. One would impose a **limit on the amount** each end user would be able to hold, another would be a dis-incentive in the form of a **lower remuneration for larger holdings**, which indirectly also signals that the ECB is in principle open to paying interest for holdings of digital euro. The ECB emphasises that these mechanisms would be built into the digital euro, but that it wants to decide only later whether it will use them, and how.

## Some open questions beyond the foundational design options

The foundational design options that we have discussed in the previous section leave a number of aspects explicitly for a later policy decisions. This concerns for instance the decision between a centralised or decentralised ledger or the setting of a limit or of incentives against large individual balances. There are however also other questions that the design options at this point in our understanding do not address and that are worth consideration before a digital euro is implemented.

### Making sure the digital euro finds acceptance

In the previous section, we have discussed how the digital euro could compare to banknotes and digital payments in commercial bank euro. This largely determines what benefit it offers as a means of payment for end-users and merchants and whether it can replace banknotes and commercial bank euro in some transactions or can play a role as preferred payments means in new categories of transactions. **Next to the benefits it offers, the cost of using digital euro will also influence its acceptance.** The ECB [told the ECON Committee](#) that ideally, **all merchants across the euro area – both in physical stores and online – would accept the digital euro.** This cannot be taken for granted and the ECB has not elaborated so far on what it thinks this cost vs. benefits trade off would look like for merchants. On the ECB's [FAQ page](#), we can however read that *basic* functionalities - probably corresponding to the “core functionalities” mentioned in the [third progress report](#) - would be free for end users. Assuming the central banks carry their own costs of providing settlements, the **intermediaries need to find revenue sources to cover their costs.**

Such revenues could come from the merchants, from end user fees for functionalities that are not *basic*, or from cross-selling other services, say investment products, insurance contracts or the like. In this regard, the situation will be rather similar to that of bank accounts and card payments today. However, a key difference is that for those types of payments, there is an existing infrastructure available at intermediaries and merchants. Since neither banknotes nor commercial bank euro are supposed to be displaced by digital euro, any additional infrastructure for the digital euro would require additional investments over and above those in existing infra structures. Possibly, existing infrastructure at merchants and intermediaries can be reused. However, since an important part of the existing infrastructure is built around credit and debit card payments, the possibility of reuse may be limited, in particular, if the digital euro is supposed to constitute an alternative to card payments. **In any case, careful thought will need to be given to the incentives for merchants and intermediaries to make initial investments into a digital euro infrastructure while at the same time maintaining existing infrastructures for banknote and bank account euro payments. The incentives could be complemented, or even replaced, by legal obligations.** For instance, banks, and other potential intermediaries, could be obliged to provide certain digital euro services to citizens and merchants, like today, banks are obliged to open [basic bank accounts](#). Similarly, fees levied by payment providers to merchants could be capped by the legislator to prevent overcharging.

In this context, the ECB also [mentions](#) the **possible legal tender status of the digital euro.** [Article 128 \(1\) TFEU](#) lays down the legal tender status of euro banknotes; cf. also the discussion and references provided in the section below on the legal basis of a digital euro below. The legal tender status as it is framed today does not lead to ubiquitous acceptance by itself. In practice, merchants can - and do - at times contractually ensure that payments are made electronically rather than with banknotes. Creating a banknote-equivalent status for digital euro in legislation may nevertheless nudge merchants towards accepting it. The ECB has not made up its mind on legal tender status and is “thoroughly and carefully analysing this issue together with the European Commission.”

A related question is about the range of firms that could act as intermediaries for the digital euro. It is noteworthy that the ECB's progress reports consistently speak of supervised intermediaries, which would

offer the digital euro to end users. This language is in principle **open for these intermediaries to be supervised firms other than banks**, such as payment institutions and electronic money institutions. In the EU legal framework the activity of taking deposits from the general public is reserved for banks, but this does not stand in the way of supervised non-bank firms routing cash or commercial bank euro from individuals to the central bank and administering digital euro accounts for end-users. **The resulting wider range of intermediaries might support a competitive offering of services around the digital euro and could also facilitate financial inclusion of users without bank accounts.** To enable this ultimately, a further assessment is necessary if the supervised intermediary role for digital euro requires participant status in payment systems within the meaning of the Settlement Finality Directive.

This is probably the case if the intermediaries directly receive banknotes or commercial bank euro transfers from individuals in order to convert them to digital euro for their account. The alternative would be to put a commercial bank between the intermediary and the payment system, which may result in a less competitive offer from non-bank intermediaries. The directive would ensure that payments from the intermediary to the ECB can never be rolled back in case of the intermediary's insolvency. **Currently, banks and investment firms are subject to this directive, while regulated payment service providers and e-money institutions are not.** Accordingly, if the latter, or other supervised firms, are also to play the intermediary role, the scope of the directive may need to be revisited. Alternatives to secure funding and access to the ECB's reserves for payment institutions and electronic money institutions could be granting them the status of direct participants under the Payment Service Directive or relying on future ECB decisions to change its real-time payments settlement system TARGET 2.<sup>2</sup>

### Calibrating the digital euro design for the right impact on the financial system

**At a very high level, an open question also remains in terms of how the digital euro will change the overall landscape of finance, banking, payments and monetary policy.** Clearly, the ECB would like the digital euro to become a **complementary second anchor** for the euro area financial system. It is not looking for it to replace banknotes as the first anchor, let alone replace the whole ship (to stick to the metaphor) of commercial bank euro payments, bank deposits and loans. This would be **a sweet spot outcome in which probably not much would change** for monetary policy and money creation and credit intermediation by commercial banks. Some complexity may however rest in the precise calibration of the different features of the digital euro, trying to make sure that we actually land in this sweet spot.

**Other scenarios are in principle possible and the legislator, together with the ECB, may want to further consider them to decide if they should be safeguarded against and how.** First, the digital euro acceptance could fall below what is desirable for an effective anchor function for commercial bank euro. Second, the digital euro could be so attractive that it eventually largely displaces euro banknotes, or that it displaces commercial bank euro, or both.

### Ensuring the anchor function

The intended anchor function of the digital euro requires that citizens esteem the digital euro in similar ways as cash. However, to our knowledge, the **psychological attitudes towards digital central bank currencies are little researched.** Users may not find it easy to distinguish digital euro from commercial bank account euro.<sup>3</sup> Euro banknotes by contrast have particular visual and tactile features that distinguish them from plain

<sup>2</sup> The ECB has recently set up an ad hoc market contact group to feed into its exploratory work on new technologies for central bank money settlement of wholesale financial transactions, potentially facilitating the interaction between TARGET and DLT platforms.

<sup>3</sup> The "focus groups" that the ECB has used in the process so far offer some clues about this psychology as Mr Panetta [informed](#) the ECON Committee (our emphasis in bold): "Our focus groups also confirmed what I called "rational inattention" during our exchange in November.



paper. It is quite possible that the physical nature of banknotes creates an affection, which makes the idea of being able to convert commercial bank euro into euro banknotes attractive for citizens.

If the physical nature and appearance of euro banknotes contributes to their anchor function, careful analysis is necessary what features of a digital euro could play a comparable role. The fact that it is a direct liability of the Eurosystem would come to mind as one such feature. However, as discussed above, this comes down, on the one hand, to an accounting technical notion, and on the other hand, to a range of political liabilities or commitments that also exist in the case of banknotes. The question remains if this feature should and could be complemented by other aspects of the digital user experience that distinguish the digital euro from commercial bank euro. **What could a digital user experience look like that ensures a banknote-equivalent affection by the public?**<sup>4</sup> And how would it interact with the branding and design of the digital euro applications provided by private-sector intermediaries? Given the high stakes for society in the monetary anchor function, in-depth analysis into these psychological aspects might be advised.

A further psychological aspect might relate to the **perceived ability of individuals to convert all of their commercial bank euro into euro banknotes**. It is of course hard to imagine how the financial system would fare if all individuals did so at the same time for all their commercial bank money. And it is also hard to conceive that they would ever have any reasons or would be physically able to do so. Nevertheless, there is no statutory limit on such conversion, and that fact might strengthen the monetary anchor function of euro banknotes. This may deserve consideration when devising possible statutory limits on digital euro holdings by individuals.

More generally, the acceptance and everyday use of the digital euro is also an important precondition for the monetary anchor function. The ability to convert commercial bank money into digital euro derives its value ultimately from the ability to use the digital euro for payments. As mentioned above, next to the legal tender role, it will be critical to ensure that investments by intermediaries and merchants take place and that the incentives are right for all parties. In this regard, it may be a problem that in normal times absent stress in the system, commercial bank euro will be considered equivalent and the necessary investments into the digital euro may not appear worthwhile. **If the legislator and the ECB consider the monetary anchor function however a key public good and the desired level of circulation does not emerge by itself, they may want to also give consideration to additional incentives that promote the use and the necessary investments.**

### Maintaining other forms of euro money

At the other end of the spectrum, scenarios are imaginable where banknote-like features and added convenience of digital euro actually accelerate the demise of euro banknotes. If this were to happen, the digital euro is arguably successful as a monetary anchor. Nevertheless, in this scenario, it may be necessary to consider whether the anchor function is as resilient under stress as that of tangible, no-holding-limit banknotes. Moreover, it appears from the discussion in the previous section that the functionalities of the digital euro in any case will be very close to those of commercial bank money. This means that the decision between digital euro and commercial bank euro for each individual (and within any eventual limit on digital euro holdings) may be chiefly about pricing and the remuneration of balances by interest payments). As to

---

**People tend not to pay attention to – or understand – the difference between the digital euro and the euros they already spend using private digital means of payment.** For the financial system to work smoothly, public money and commercial bank money are meant to be fully interchangeable yet distinguishable. People do not think twice about storing and using their money via private intermediaries because they know they can regularly go to the cash machine and withdraw banknotes without any problems. This provides tangible proof that their money in the bank is safe.”

<sup>4</sup> As an aside, the **seamless user experience** that would result from the automatic funding and de-funding discussed in the previous section may make the digital euro user experience **more difficult to distinguish** from the commercial bank euro user experience.

the pricing of payments, it is conceivable that an attractive digital euro largely displaces payments in commercial bank money for those that are able to use it. This does not have to mean that the digital euro also largely displaces commercial bank euro as a means to store value. A possible holdings limit aside, **commercial banks could attract people to convert digital euro into commercial bank euro deposits through more attractive interest rates for deposits** when compared to an eventual remuneration for digital euro holdings.

The combination of less revenues from payments with higher interest payments for deposits - or, alternatively, less deposits in commercial banks - will have an impact on commercial bank profitability. This will be a political topic, linked to the discussion above about the incentives and possible obligations for intermediaries related to making digital euro available. There may also be an impact on the transmission of monetary policy and the intermediation of deposits into loans for the economy. Higher remuneration for deposits may translate into more costly loans for businesses, for instance. On the one hand. On the other hand, the deposits that are not with commercial banks will be with the Eurosystem instead, which will also invest them into assets, which may be government bonds or loans to commercial banks. This will in tendency facilitate the funding of one or the other. **These changes in the financial system may be marginal if the use of digital euro remains limited, but they can become large and structural if the digital euro becomes a main means of payments and an important means to store value.**

## Legislation for the digital euro

The **European Commission has [indicated](#) that the legal basis for a proposal on the digital euro is [Article 133 TFEU](#)**, which allows the European Parliament and Council, as co-legislators, to “lay down the measures necessary for the use of the euro as the single currency” by means of ordinary legislative procedure. According to the Commission, Article 133 would then allow legislators to regulate some essential aspects, such as the rights and obligations of users as well as of providers of the digital euro (payment service providers, PSPs), instead of leaving this in the remit of the ECB.

The Commission has also identified **Article 133 TFEU as the basis to regulate the legal tender status of a digital euro**, as an “essential characteristic” by means of changes to the [Regulation on the introduction of the euro](#). For this reason, the Commission is currently [planning](#) to table a specific proposal on such legal tender of euro banknote and coins, accompanying the digital euro proposal, in spring 2022. While the concept of legal tender is currently enshrined in EU law, its meaning has not been fully regulated. The only formal interpretations are provided by a [2010 Recommendation on the scope and effects of legal tender of euro banknotes and coins](#) as well as a [2021 judgement from the Court of Justice of the EU \(CJEU\)](#), according to which the **status of legal tender would imply an obligation to accept the digital euro as a means of payment, at full face value as well as for the settlement of a euro-denominated debt**. Specific exceptions to the deriving obligations and rights could be envisaged in the context of a proposal regulating the legal tender status of a digital euro.

The provision of exemptions could respond to potential concerns by Member States on the grounds of legal differences with respect to contractual arrangements and broader questions on monetary acceptance. This could ultimately be interlinked with the preferences on the nature of the distribution mechanism as underpinning the obligation to accept a digital euro. The creation of exemptions to the mandatory acceptance of a digital euro could be assessed by co-legislators also in the context of **broader political issues, such as financial inclusion or the extra-territorial aspects** of the Regulation. In this context, the Commission already recognised in its [consultation](#) on the digital euro where that implementation aspects with regards to the adoption of the digital euro in other jurisdictions or adjustments to non-euro area CBDCs

would generally fall within the mandate of the ECB, e.g. in the form of defining funds under the Payment Services Directive.

This opens a broader question on regulating the international use of the digital euro. **Article 133 TFEU should only provide the foundation to legislate on euro area Member States, thus limiting the capacity of the Commission to hold the pen on the adoption and use by non-euro area Member States.** The ECB could overcome challenges by entering into agreements with non-euro area Member States to define the conditions and processes to use the digital euro. In 2021, the G7 also issued its [Public Policy Principles for the Use of Retail CBDCs](#) which could inform discussions on access by non-euro area residents. Principle 7 clarifies that “CBDCs should be designed to avoid risks of harm to the international monetary and financial system, including the monetary sovereignty and financial stability of other countries”. Therefore, co-legislators could thus reflect on how to ensure that monetary sovereignty and financial stability of non-euro area Member States could be preserved and safeguarded against the spill overs of a digital euro.

In its [report on a digital euro](#), the ECB laid out its assessment of the legal basis to underpin the framework for issuance. The ECB, while recognising that design choices and the purpose of the digital euro will determine the legal choice of Union law for issuance, outlined several options. Overall, **the ECB seems to indicate Article 127 (2) TFEU<sup>5</sup> as its preferred choice in case the digital euro were to be issued 1) as a monetary policy instrument, 2) distributed through accounts held within the Eurosystem, 3) issued as a settlement medium and processed by a specific infrastructure.<sup>6</sup>**

**Article 128 TFEU is instead seen by the ECB as the best legal basis for issuance of a digital euro as an equivalent to cash** by granting the “Eurosystem the amplest margin of discretion for the issuance of a digital euro with the status of legal tender”. The ECB has also indicated that “If the digital euro were to be treated as a banknote, then the Eurosystem’s exclusive competence under Article 128(1) of the TFEU to ‘authorise the issue of euro banknotes within the Union’, could be invoked to enable the issuance of a digital euro with the status of legal tender”.

The ECB’s report on the digital euro finally recognised that Article 133 TFEU would allow to adopt secondary law acts to specify the conditions for issuance of a digital euro recognised as a legal tender.

## Next steps

The **European Commission is planning to table a proposal on the digital euro as well as on the legal tender status of euro banknotes and coins during summer 2023.** After the publication of the proposal, co-legislators will be able to start formal discussions and negotiations. As part of its preparatory process, the Commission launched a targeted consultation on the digital euro in spring 2022 and held regular exchanges with industry with a view of informing its upcoming proposal.

Regarding the timing of the final legislation, it is worth keeping in mind that there will be European elections in June 2024. On their side, Member States have already started engaging ahead of the proposals. Throughout 2022 and the beginning of 2023, euro area finance ministers have discussed and coordinated their positions on the project in the Eurogroup. The most recent outcome of their discussion is a statement

<sup>5</sup> “The basic tasks to be carried out through the ESCB shall be:

- to define and implement the monetary policy of the Union,
- to conduct foreign-exchange operations consistent with the provisions of Article 219,
- to hold and manage the official foreign reserves of the Member States,
- to promote the smooth operation of payment systems.”

<sup>6</sup> It may be noted in this context that Article 17 of the ESCB statutes currently authorises the central banks to open accounts in order to conduct their operations; however, this provision refers only to accounts for banks, public entities and other market participants.

from 16 January 2023 (see Box 2). At the same time, national experts have also been engaging with the Commission to share their views in the inception phase of the proposal. Similarly, Fabio Panetta has regularly appeared in the ECON Committee to report on the progress made.

In **autumn 2023, the Governing Council of the ECB will decide whether to move to what it calls the “realisation phase” of the digital euro.** This “realisation phase” does not prejudge the decision on whether to finally launch the digital euro. The realisation phase will focus on the development and testing of “business arrangements necessary to eventually provide and distribute a digital euro, if and when decided”, as recently [indicated](#) by Fabio Panetta to Members of the ECON Committee. It will probably depend on the nature and extent of the testing whether the start of this phase does already require a specific legal basis.

**Figure 2:** Timeline for potential issuance of a digital euro



In the same remarks, Panetta also reiterated that **only upon agreement of a legislative framework by co-legislators, the ECB will then decide whether to launch its digital euro.**

## Box 2: Eurogroup statement on the digital euro project

On 16 January 2023, the Eurogroup issued a [statement](#) on the digital euro projects providing political guidance on some of its key features. The statement reiterates the need to take decisions on the “main features and design choices” of the digital euro at political level and particularly underlines the role of involving co-legislators in the definition of such elements.

The Eurogroup particularly highlighted that:

- The **digital euro should not replace cash** but rather be a complement, granting access to central bank money as payments are increasingly digitalised.
- **Safety, privacy, ease and convenience of use, wide accessibility** (also in terms of costs) are key element of the final design. Ministers also requested to assess the environmental implications of a digital euro.
- **Privacy is key to maintain trust and the design should address AML/CTF considerations, prevent tax evasion and ensure sanctions compliance.** Through a risk-based approach, there could be differentiations on the level of privacy depending on the risk of the transaction and citizen’s preferences.
- Ministers support having an **offline functionality, contributing to financial inclusion.**
- The digital euro should **safeguard financial stability.** In this respect, finance ministers float the idea of setting up **holding thresholds** and further have quantitative analysis on other potential constraints on the design of the digital euro. It also calls against threatening the independence of the ESCB and **preserving monetary transmission.**
- The digital euro should have a **pan-European nature and leverage public-private partnerships.** It should be built on a European infrastructure and have supervised intermediaries play a crucial role in the ecosystem.
- The digital euro should drive innovation in future payment solutions. Finance ministers underlined that it could be used to program payments and should be able to be convertible at par for other forms of the euro. However, the **“digital euro (...) cannot be a programmable money”.**
- The digital euro should focus on the euro area while being **interoperable with other CBDCs**, thus facilitating cross-currency and cross-border transactions. Risks associated with the use outside of the euro area should be mitigated.

## Preliminary reflection on the role of legislators

The decision to introduce the digital euro will either way be a potentially very impactful one. At this point, there are important uncertainties how the anchor function of euro banknotes will evolve in the future, and whether a digital euro can effectively replace or complement it. If the concerns about the anchor function of euro banknotes are justified, not introducing a digital euro may prove very costly. At the same time, introducing it is also a costly decision that will require investments and may entail hard-to-predict influence on the shape of our financial system. How the digital euro will be designed will drive its costs and benefits, and therefore design choices are equally very impactful decisions. **The potential impact means that these decisions involve wide-ranging political and technical design choices.**

The choice of a legal basis will be fundamental in defining the competences of the institutions involved as well as the role that co-legislators could play in defining the design of the digital euro. In his [appearance](#) on 23 January 2023 in the ECON Committee of the European Parliament, Fabio Panetta, the ECB’s Executive Board Member responsible for the project, has highlighted some of the areas where input from co-legislators will be needed: *“it will be for you, as co-legislators, to decide on the balance between privacy and other important public policy objectives like anti-money laundering, countering terrorism financing, preventing tax evasion or guaranteeing sanctions compliance”.* At the same time, one could expect co-legislators to closely scrutinise the interactions with broader financial services legislation to ensure that the current



framework supports the adoption and use of such a product. A number of pieces of legislation, including the Payment Service Directive, the Payment Account Directive, the Electronic Money Directive, Anti-Money Laundering legislation, and the Settlement Finality Directive, will be then under close scrutiny by co-legislators.

More generally, this briefing has set out the directions that the ECB has in mind for the digital euro at this point. It has also pointed out areas the ECB is still working on and about which the ECB thinks a decision should expressly and intentionally be left for a later stage. Moreover, this briefing has set out some open questions that have so far received less explicit consideration in the reports and statements of the ECB, but that are nevertheless of important and maybe worthy of the legislators' consideration. **In particular, the legislator may want to consider to what extent decisions regarding the issuance and the design of the digital euro could and should be framed by secondary legislation, while preserving the independence of the ECB regarding monetary policy.**

**Disclaimer and copyright.** The opinions expressed in this document are the sole responsibility of the authors and do not necessarily represent the official position of the European Parliament. Reproduction and translation for non-commercial purposes are authorised, provided the source is acknowledged and the European Parliament is given prior notice and sent a copy. © European Union, 2023.

Contact: [egov@ep.europa.eu](mailto:egov@ep.europa.eu)

This document is available on the internet at: [www.europarl.europa.eu/supporting-analyses](http://www.europarl.europa.eu/supporting-analyses)