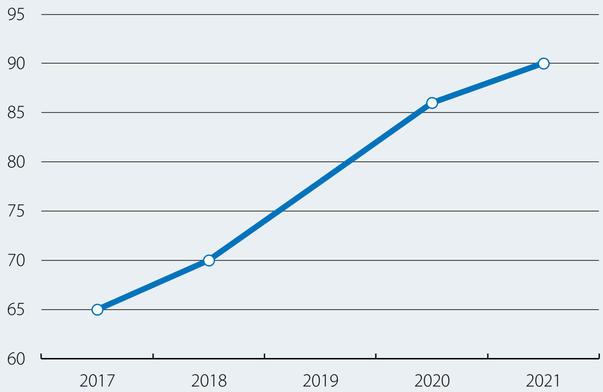
Central banks and digital currencies: a look at the future of cash

An increasing number of central banks are considering issuing their own digital currency (CBDC).[1] In 2021, according to a BIS survey, nine out of ten central banks were actively exploring CBDCs (see first chart). In addition, CBDC projects are at increasingly advanced stages of development, and 26% of central banks are already conducting pilot tests (in 2018, this figure stood at 8%).

Proportion of central banks with a digital currency (CBDC) project



Note: * Research project, proof of concept or pilot.
Source: CaixaBank Research, based on data from «BIS surveys on central bank digital currencies».

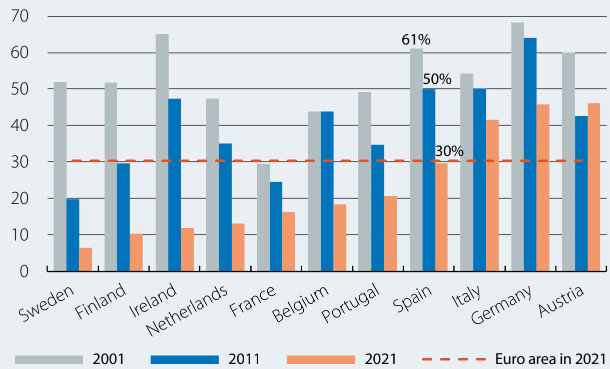
Why are central banks exploring the idea of issuing CBDCs?

Firstly, for central banks, issuing their own digital currency is seen as a way to preserve monetary sovereignty and financial stability. Specifically, the emergence of widely accepted digital currencies that are controlled by foreign countries or companies (such as the digital yuan in China or a private stablecoin with high adoption potential) would erode the central bank's ability to control the money supply and interest rates.[2]

Secondly, in some jurisdictions (such as the EU), issuing a CBDC as a payment instrument could help to boost autonomy in the payments industry – a strategic sector in which the key infrastructure is controlled by foreign suppliers.

Thirdly, with the digitalisation of the economy, the use of cash as a means of payment has been significantly reduced in favour of electronic payment solutions (see second chart). In the euro area, according to ECB data, in 2021 cash accounted for 30% of all retail payments (compared to 45% a decade earlier). Faced with this trend, which the pandemic has accelerated,[3] issuing a CBDC would be a way to ensure that citizens and businesses continue to have access to money issued by their central bank in the digital age.

*Proportion of retail payments made in cash **
(%)



Note: * Amount of cash withdrawals at ATMs, as a percentage of total cash withdrawals at ATMs and card payments registered on POS terminals.
Source: CaixaBank Research, based on data from the ECB.

Fourthly, in emerging economies, the interest in CBDCs is largely driven by the issue of financial inclusion-related motivations. In particular, CBDCs could be specifically designed to address some of the barriers to financial inclusion. For instance, they could incorporate interfaces designed specifically for the most underserved groups (smart cards, offline functionality), or they could facilitate domestic and cross-border interoperability with other payment methods (thus increasing payment options and reducing costs for users).

Finally, and especially in emerging economies, central banks believe that CBDCs could help to improve how international payments are processed, both in terms of efficiency and cost. Specifically, central banks believe CBDCs could alleviate some of the weaknesses in current payment systems, such as time constraints (CBDCs would be accessible 24/7) and long intermediation chains.

CBDCs in Europe: the arrival of the digital euro

In Europe, the ECB is also considering issuing a CBDC as a complement to cash, and envisages a possible launch in 2025-2026. In particular, the ECB is studying the benefits

1. Central Bank Digital Currency. This is money issued by the central bank, in digital form, denominated in a country's unit of account, which differs from other electronic means of payment (such as cards) because it represents a liability of the central bank rather than of a private institution.
2. See the article «The e-monetary policy of the new digital economy» in the Dossier of the MR10/2019.
3. According to an ECB study (2020), 41% of respondents said they had reduced the use of cash during the pandemic and most said they would continue to pay less in cash in the future.

and risks of issuing a digital euro, outlining basic elements of its design and assessing how it could be distributed to the general public and what use cases it could serve. Once the current research phase has been completed (October 2023), the ECB will decide whether to begin developing a digital euro.

Meanwhile, publications and speeches by members of the ECB's Executive Board provide some clues as to what it might look like. As with cash, the digital euro would represent a right to collect payment directly from the central bank (as opposed to commercial banks, as in the case of deposits). On the other hand, like deposits, it would be in digital form, thus allowing users to make payments in both physical and digital environments using smart devices (e.g. a wallet on a mobile phone or a smart card).

The ECB also envisages that authorised intermediaries (including banks) would be responsible for distributing and safeguarding their customers' digital euros. Also, in an initial launch phase, the ECB foresees four possible use cases for the digital euro. The first one (offline peer-to-peer payments) would be comparable to the exchange of cash, involving only the payer and the recipient of the money, without any third party validating the transaction (it is still unknown how this would work in practice). The other use cases proposed are comparable to those already covered by today's digital payment solutions: peer-to-peer online payments validated by a third party, e-commerce payments and payments at physical points of sale in retail establishments. In addition, depending on the final design, the digital euro could incorporate more advanced functionalities (such as programmability to make scheduled payments).

In addition, the ECB is exploring options to ensure a certain degree of privacy, in line with cash. In this regard, full user anonymity has been ruled out, since this would make it very difficult to prevent money laundering. However, a variable degree of traceability of transactions and users is being considered, depending on the design and use case. For example, in offline peer-to-peer payments or online transactions up to a certain threshold, it is proposed that transactions could be carried out without recording the parties' identities.

Finally, the ECB must also design the digital euro so as to minimise the risks to financial stability. By representing a right to collect payment from the ECB rather than from commercial banks, the digital euro will be a risk-free asset. This feature, together with its ability to be used in digital environments, would make it a good alternative to bank deposits for customer liquidity. In this regard, if competitor divert part of their income and operations from their bank deposits in favour of their digital euro wallet, this could have significant implications for the financial system. In particular, banks' ability to provide credit to the economy could be limited (because of higher financing costs and due to their reduced capacity to assess customer risk, given the loss of information on customer transactions). Moreover, at times of uncertainty, their could be a flight of deposits towards the digital euro, leading to episodes of financial instability. That said, the adoption of the digital euro and the magnitude of the transfer of deposits will depend on its usability as a means of payment (which use cases it covers, how it compares with current payment solutions, etc.) and its capacity as a store of value.

The ECB is aware of these risks and is seeking to prevent the digital euro from being used as an investment vehicle, in order to limit transfers from deposits and ensure the transmission of monetary policy. To this end, it has two tools at its disposal. On the one hand, it could offer a lower remuneration for the digital euro compared to that available to bank deposits. On the other hand, it could impose limits, both on the balances held in digital euros and on the convertibility of bank deposits to digital euros within a given period. According to the ECB, the final design of the digital euro is likely to include a combination of these tools.

In short, CBDCs are making headway in various parts of the world, including Europe. While there are still many aspects yet to be determined and its launch is by no means imminent, we can expect the digital euro project to materialise in the medium-term.

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