Executive summary

Different jurisdictions have

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1 Introduction

Central bank digital currencies (CBDCs), a digital equivalent of cash, are increasingly gaining traction. At least 114 jurisdictions, representing 95 percent of global GDP, are at some stage of developing a CBDC[1]. In 11 countries, CBDCs are now a reality and operate in parallel to their physical equivalent. But it is not necessarily easy for the consumer to understand the di er-ence between a euro in coin or note form and a digital euro.

A good starting point in identify the bene ts of CBDCs is to understand the problem that cannot be solved through the increasing range of digital payment options provided by the private sector, and which therefore requires the state's intervention. is is important in explaining why the taxpayer might be asked to nance the creation of a CBDC.

Central bank digital currencies do have added value, but this is not the same for every country

We argue that CBDCs do have added value, but this is not the same for every country. In countries with high levels of nancial exclusion and where there is a lack of modern and reli-able digital payment systems, a CBDC can facilitate access to payments for many people. But in countries with ample payment solutions and where nancial exclusion is a second-order problem, the justi cation is di erent. Central banks worry that as nance becomes increas-ingly digitalised, two things might happen: rst physical cash, the anchor of any nancial system, will be displaced, and second, private currencies will become popular. Both could reduce the monopoly of sovereign money. Central banks fear this would compromise their ability to maintain monetary and nancial stability.

CBDCs will have a dual purpose, just like their physical equivalent: for retail purposes, typically by consumers and small businesses to make daily payments, representing a small part of total payments; and for wholesale (ie bulk) purposes by banks and other nancial institutions, either domestically or cross border. In the euro area, most e orts to date have focused on how to develop a retail CBDC. Only recently[2] has there been also an attempt to advance thinking on the wholesale aspects as well.

On the retail side, the arguments for a digital euro put forward by the European Central Bank revolve around the speed of digitalisation of nance and the notion of strategic auton-omy. e prospect of nance becoming predominantly and eventually even exclusively digital threatens the existence of sovereign money and compromises the role of its guardian, the central bank. e ECB also argues that a big part of all payments is managed by foreign play-ers, who collect sensitive information about EU citizens. A pan-European payment method that is very close to cash would help reduce this vulnerability. It would also help homogenise payments in the euro area and, given easier access, may help promote the international role of the euro.

However, these reasons, understandable as they might be, do not make a compelling case for a retail digital euro, at least for now. ere is no imminent threat that digitalisation will undermine the role of the physical euro. And there are easier ways, like through regulation, to promote the creation of a uniformly-accepted digital instant payment method in the EU, without having the taxpayer nance a CBDC. Meanwhile, Europe's vulnerability arising from foreign players being present in the payment sphere is a very delicate argument. Does the EU want to create European payment players at the expense of competition?

Finally, the euro has acquired a very stable international role, second to, and quite far from, the dollar. At best, a digital equivalent can only expand the euro's international appeal at the margins. Other factors that pertain to a more integrated and well-governed European economy would advance more signi cantly its international acceptability. ere are also several technical choices, including limits on the amount of digital euros that any citizen can

1 See the Atlantic Council central bank digital currency tracker: https://www.atlanticcouncil.org/cbdctracker/.

2 See European Central Bank press release of 28 April 2003, 'Eurosystem to explore new technologies for wholesale central bank money settlement', https://www.ecb.europa.eu/press/pr/date/2023/html/ecb.pr230428~6a59f44e41.en.html.

hold, or the fact that these deposits will not be remunerated, that also prevent the greater international use of the euro. In addition, the Eurosystem has a very fast and e cient retail payment system and can still nd e ciency gains within the current system. All these make the case for a digital euro even less attractive.

However, the EU and the global nancial system can really bene t from developing wholesale CBDCs for making payments outside the euro area. is can generate e ciency gains for all payments made outside the EU. In our view, the creation of CBDCs globally has the potential of revolutionising cross-border payments. For now, one reason why the dollar is the currency of choice globally is because it o ers the infrastructure via which any two parties can settle a transaction. Any two countries that have CBDCs will have in principle the ability to settle transactions between them, bypassing the current dollar-based system.

Before this could happen however, there would have to be a commonly agreed global standard on how to design and use CBDCs. is is a signi cant barrier as it requires mutual recognition of legal systems and agreement on economic and technical design issues (BIS, 2022). Global governance will be a major obstacle to this revolution and the euro area and the United States would have to consider carefully how their economic standing globally would be a ected.

For example, current sanctions on Russia mean that countries that want to continue economic relations with Russia cannot do so in dollars or euros. Mutually accepted CBDCs between any two countries could allow them to continue trading and therefore bypass sanctions. is reduces the need for the dollar infrastructure in international settlements and, importantly, raises the threshold for returning to the dollar when the option presents itself in the future. International nancial fragmentation encourages the development of CBDCs and may be part of the explanation for their rapid advancement in the past few years.

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Figure 1: Taxonomy of money

S ce: Ada ed f C ae *et al* (2018).

Central banks have become interested in the idea of CBDCs for three main reasons:

1. **The emergence of cryptocurrencies.** e Bitcoin revolution has provided means of payment that are privately issued and managed. If private money were to become successful, especially if it is in principle available to everyone globally, it could displace publicly issued money (cash) and at money that is issued by nancial institutions but monitored and guaranteed in part by public authorities. e existence of private money reduces the money base that central banks control, and therefore reduces their ability to control in ation and

3 The case for a retail CBDC

Currently, a consumer (payer) who wants to make a payment instructs their bank to make a transfer to the payee's account. e transaction involves an amount moving from one bank to the other and is settled by the central bank. With CBDCs, however, both the payer and the payee will have accounts directly at the central bank. ere will be no commercial banks involved[4]. Both the payment and the settlement will happen via the central bank directly. Furthermore, CBDCs could use new technology, such as distributed ledger technology (DLT), which is being explored.

e motive for deploying a retail CBDC depends crucially on how the three factors we have described in section 2 have impacted a particular jurisdiction. Are cryptocurrencies a threat to traditional forms of payment and possibly a source of nancial instability? Is physical cash redundant, therefore, threatening to de-anchor trust in the monetary system? Are there e ciency gains to be had in payments both for retailers and in wholesale?

3.1 Cryptocurrencies are not taking over payments

e emergence of cryptocurrencies has democratised payments and nancial services in that it has provided easier access by removing intermediaries. However, cryptocurrencies have also proved to be very bad means of payment or store of value because their price has been very volatile (Demertzis and Martins, 2023).

In practice, the fear that cryptocurrencies could displace sovereign money has so far proved unfounded. Nevertheless, the experience is not the same around the world, and of course things might change in the future.

Despite its increasing size, the crypto market still represents a small fraction of the total nancial system. According to the ECB, the value of all crypto assets represented less than 1 percent of total global nancial assets by April 2022 (Panetta, 2022a). ey also represent a small component of the total value of payments. e *Global Payments Report* (FIS, 2023) noted that cryptocurrencies are used much more for investment purposes than as a means of payment (77 percent compared to 18 percent, according to their survey), and that the value of e-commerce payments using crypto represented 0.19 percent of global e-commerce value in 2022.

However, in Africa, Asia and Latin America, cryptocurrencies are increasingly playing a more active role. An index compiled by Chainalysis (2022) tried to capture a broad picture of crypto-currency adoption by scoring countries on a variety of measures. It ranks only two high-income countries – the US and the United Kingdom – among the top 20 crypto adopters in 2022 (Table 1).

Table 1: 2022 Global Crypto Adoption Index

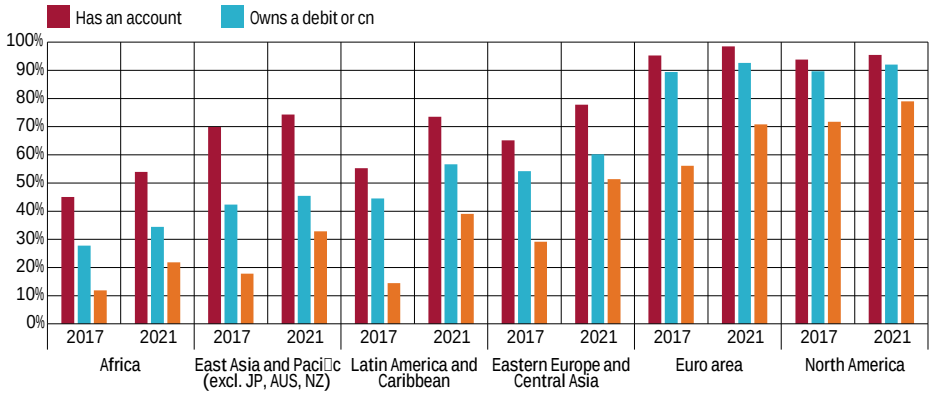
that the demand for physical cash will continue to decline. It is much more di cult to assess whether it will disappear completely or, like in Sweden, stabilise at a low level[7]. Part of the answer will depend on how well CBDCs, as the closest digital equivalent to cash, can take over the role of cash in providing an anchor for the system. Choices in the design of the CBDC will determine how close to cash CBDCs can be. Privacy and anonymity, the thresholds for consumer holdings of CBDCs and whether it will be remunerated or not will be relevant in this regard.

3.3 Financial exclusion and the introduction of retail CBDCs

Perhaps the most compelling argument for introducing retail CBDCs is that it will increase nancial inclusion. It is therefore not surprising that countries where a substantial part of the population is excluded from nancial services were the rst to introduce their national currencies in digital form.

Nigeria's eNaira, for example, was launched at the end of 2021, with the aims of increasing remittances, fostering cross-border trade, improving nancial inclusion, enabling the government to make welfare payments more easily and making monetary policy more e ective[8]. Providing the local population with access to digital payments and through them facilitating cross-border transactions in the form of remittances is particularly important, given the relevance of remittances as a source of income for the country. Figure 3 shows the level of nancial inclusion worldwide.

Figure 3: Financial inclusion, three metrics



S ce: B ege ba ed he G ba Fi de Da aba e 2021. N e : JP = Ja a , AUS = A a ia, NZ = Ne Zea a d.

Advanced economies such as euro-area countries, the US and Canada have very high levels of nancial inclusion. is is not the case for African countries or some Caribbean countries, where CBDCs are already being introduced. However, a CBDC by itself is not enough to reduce nancial exclusion. For CBDCs to be adopted widely there needs to be broad access to internet connection, consumers need to have mobile phones and merchants need to have invested in the equipment to accept payments in CBDCs. Figure 4 shows that while a large proportion of the African population has access to a mobile phone, access to the internet by contrast is not as widespread (50 percent), which de nes the limits of success that the introduction of a digital currency can have.

7 According to FIS (2023), the value of cash transactions in Sweden was 8 percent of the total value of point-of-sale transactions.

8 See State House, Abuja press release of 25 October 2021, 'At O cial Launch of eNaira, President Buhari Says Digital Currency will Boost Nigeria's GDP by $29 bn in 10yrs', https://statehouse.gov.ng/news/at-o cial-launch-of-enaira-president-buhari-says-digital-currency-will-boost-nigerias-gdp-by-29-bn-in-10yrs/.

Figure 4: Digital infrastructure and penetration

S ce: B ege ba ed he G ba Fi de Da aba e 2021.

It is worth noting that even if there is digital access, it is not immediately the case that the introduction of CBDCs is the only or even the easiest way to improve nancial inclusion, as shown by India and Brazil. O cially launched in 2016, Uni ed Payments Interface (UPI)[9] is an Indian instant payment system widely adopted in the country. Given its huge success, it is seeking agreements with other countries to enable its acceptance abroad[10].

e Central Bank of Brazil meanwhile launched a platform for real-time digital payments called PIX which has proved an enormous success. Since the launch, the number of registered

Table 2: CBDCs in circulation

December 2022 values	Nigerian eNaira	Bahamian Sand Dollar	Chinese e-CNY
CBDC in circulation	3 billion eNaira	303,785 Sand dollars	13.61 billion eCNY
% of total currency in circulation	0.01%	0.17%	0.13%

S ce: B ege ba ed Ce a Ba f Nige ia, Ce a Ba f The Baha a a d Pe e' Ba f Chi a.

ere are major problems to overcome. For the Sand Dollar, the CBDC of the Bahamas, introduced in October 2020, at least two issues might contribute to its small uptake[13]. First, the public confuses the Sand Dollar with privately issued cryptocurrencies that are not immediately trusted. After the scandal around FTX, which was based in the Bahamas, the public grew very sceptical about any digital currency. Second, the Sand Dollar is not readily accepted everywhere. Merchants do not all have the right equipment to accept it (a reason also given for the eNaira), even though they incur no cost for having the equipment.

is raises interesting questions about how to increase public acceptability. Historical incidents show that legal tender laws are not su cient to guarantee the acceptability of a new currency (Lotz and Rocheteau, 2002). In a two-sided market, acceptability comes not only in the form of consumer take-up, but also from merchants who must invest in the necessary equipment. is has been shown to be an obstacle. Zamora-Pérez *et al* (2022) found that providing the status of legal tender is not always the right means of increasing the popularity of a currency, as the cost of building the infrastructure necessary for a currency's adoption must be addressed. However, Brazil's PIX payment system shows that mandatory participation of certain private players may be enough to create su cient network e ects, necessary for such markets to pick up. Similarly, Chinese public authorities are beginning to pay civil servants salaries in e-yuan[14].

An important reason for low uptake is the lack of trust in the underlying currency. e digital representation of a currency is not su cient to generate trust. It may allow for easier access but that can only help marginally. is is shown to be an important explanatory factor in the poor adoption of the eNaira in Nigeria[15]. An interesting experiment is taking place in Zimbabwe, where authorities have issued a gold-backed token[16] as a way of improving the trust in the local currency, the Zim dollar. Pegging the currency to a trusted asset is one way of trying to improve its stability and reputation. But it can also prove to be very expensive and

example shows that when digital infrastructure is available, there are other solutions to nancial inclusion. e key is nding e ective ways of creating network e ects.

e welfare implications of introducing retail CBDCs remain very understudied. Piazzesi and Schneider (2022) suggested that the emergence of digital currencies could distort the level of competitiveness in payment systems. is is of relevance in jurisdictions, such as the euro area, where there are plenty of other available private payment alternatives. CBDCs have the potential to prevent useful innovation in private markets, therefore, reducing aggregate welfare. On the other hand, Williamson (2022) took a di erent view. Competing with private means of payment, CBDCs will attract safe assets (deposits). is, he argued, is a way of managing safe assets in a better, more welfare-enhancing way compared to how private banks deal with this stock. CBDCs could in theory be a way of bypassing the imperfections of partial deposit guaranteed systems.

However, CBDCs are not the only way of guaranteeing deposits in full. Regulatory adjustments could do this instantly. Importantly, a regime that shifts deposits from private banks to the central bank will necessarily change the face of retail banking, an action that should not be done lightly. is has never been the motive behind introducing CBDCs and should not be dealt with as a mere unforeseen consequence.

ere remain operational risks of introducing a retail CBDC. How will deposit holders retrieve them from private banks and place them at the central bank? Can this happen all at once, or will it trigger a run on the banks? ere are also issues of cyber security and no system can be completely secure. How does technology and the regulation that applies to it ensure nancial stability? Finally, there is overwhelming evidence that consumers worry about privacy and anonymity (ECB, 5 (si.S (,(all)al s)2 p5 (eA3is)1Widence hilce of 3 (c)1 ()2 (s))TJ0.9 (g)-1y a

prove more e cient and secure for domestic interbank transfers[18].

However, it is in cross-border and cross-currency transactions that DLT could provide sizeable gains. ese transactions are subject to ine ciencies related to the current correspondent banking architecture (Hebert *et al*, 2023). International payment systems have not kept up with the scale of cross-border nancial ows in an increasingly open world. e systems used are costly, slow and complex, which means that many participants from emerging markets and the developing world have been left with no access to the global nancial system. In an increasingly interconnected world, the need to improve cross-border payments has been established as a priority by the G20, with the Financial Stability Board leading in coordination of e orts[19].

BIS (2021) provided a avour of the potential gains from new ways of making cross-border payments. Table 3 summarises the results of such comparisons. A transaction that currently takes three to ve days could be completed in less than 10 seconds. Cost savings could also be signi cant, but their magnitude would vary between banks and regions. For example, average costs for overseas transactions amount to 2 percent in Europe, while in Latin America such costs amount to as much as 7 percent. New payment solutions being explored could reduce this cost to as low as 1 percent. Savings would come from removing the network of correspondent banks in the chain of transactions and putting in place instead direct corridors that allow central banks to communicate.

Table 3: E□ciency gains from DLT compared to the current payment system

	Current payment system	New technologies for payments
Transaction time	3 – 5 days	2 – 10 seconds
Costs	<2% – >7%	As low as 1%
Accessibility	Via corresponding banks	Peer-to-peer

S ce: B ege ba ed BIS (2021).

Such e ciency gains were achieved in a pilot project called mBridges (BIS, 2022), in which the following central banks participated: the Hong Kong Monetary Authority, the Bank of ailand, the Central Bank of the United Arab Emirates, the People's Bank of China, and the BIS Innovation Hub Hong Kong Centre. Using DLT, the project established a multi-CBDC platform via which market participants could make cross-border peer-to-peer payments directly using central bank money. Along with e ciency and cost gains, the project demonstrated an ability to reduce settlement risk and allow for the use of local currencies for international payments, a move away from having to rely on international tradable currencies like the dollar and the euro. e pilot showed though that several complex choices would have to be made.

4.2 From a dollar-centric system to bilateral settlements

e international nancial system has long relied on the dollar, which has meant having to rely on the dollar settlement system. Figure 5 describes the current system of economic exchange between any two countries. A company in country A, the payer, instructs its bank to make a payment; the bank then contacts its correspondent bank. e latter will engage with the correspondent bank in country B, which nalises the cycle by contacting the payee's bank and crediting the due amount to the receiver's account.

18 See European Central Bank press release of 28 April 2023, 'Eurosystem to explore new technologies for wholesale central bank money settlement', https://www.ecb.europa.eu/press/pr/date/2023/html/ecb.pr230428~6a59f44e41.en.html and https://www.newyorkfed.org/aboutthefed/nyic/facilitating-wholesale-digital-asset-settlement.

19 See Financial Stability Board press release of 13 October 2020, 'FSB delivers a roadmap to enhance cross-border payments', https://www.fsb.org/2020/10/fsb-delivers-a-roadmap-to-enhance-cross-border-payments/.

1.1.

currency. ird, the payer's bank would have a foreign currency account at the foreign central bank and would pay with this.

e rst method is closest to what happens today; the dedicated corridors between central banks will allow the settlement of any transaction. e mBridge pilot showed that the third method is the most e cient because it involves the fewest steps between the two transacting parties.

An important issue that DLT solves is interoperability. e current system does not allow for interoperability because communication needs to happen through secure messages. If countries use di erent systems, they run the risk of not being able to communicate between themselves. Blockchain[20] technology has provided solutions that allow communication between parties via corridors. But before such dedicated corridors are created, a number of choices need to be made on technical, legal (and governance) and economic issues.

For the system to function, established rules to provide legal certainty are needed. Would current rules for holding foreign securities be su cient for wholesale CBDCs, or would a new legal framework be needed? Global coordination on this issue would be preferable and indeed necessary for wholesale CBDCs to challenge the current ways of settling international transactions. Arguably, the governance of wholesale CBDCs will be the most important obstacle to their uptake.

Wholesale CBDCs have the potential to change the current dollar-based system into one that is more diverse

But bilateral recognition of legal systems would also be su cient for any two central banks to settle transactions between them. Wholesale CBDCs then have the potential to change the current dollar-based system into one that is more diverse. It is not immediately obvious why two countries that trade in dollars would prefer to trade in their own currencies. However, if one of them was sanctioned by the US, for example, then the dollar would no longer be available to them. A settlement system that is operational between any two central banks would guarantee the continuity of economic activity. While an alternative settlement system by itself does not automatically reduce the appeal of the dollar as the currency of choice, it does reduce the threshold for using other currencies. Many countries that are thinking about strengthening their resilience will no doubt examine the geopolitical importance of ensuring functioning settlement system. It is no coincidence that so many central banks, including China's, are eager to develop a digital equivalent of their currency. It is not di cult to imagine CBDCs being weaponised for geopolitical reasons, as central bank reserves have been since Russia's invasion of Ukraine[21].

However, many issues remain. On the governance side, choices will have to be made on issues including data privacy, preserving anonymity, monetary sovereignty and con ict settlement. e mBridges pilot showed that the most e cient payment method would be for foreign companies to have accounts at the domestic central bank if they trade domestically. What would that mean for monetary sovereignty? How would potential con icts be resolved? Equally, economic issues would also have to be decided. How would countries deal with counterparty risk? Would the domestic central bank agree to carry that risk on behalf of foreign institutions?

20 Blockchain is a form of DLT in which all transactions are recorded and organised in linked digital blocks. For more details on DLT and blockchain see Demertzis and Martins (2023).

21 See Maria Demertzis, 'Central Bank digital currencies as weapons of nance', Bruegel, 14 December 2022, https://www.bruegel.org/comment/central-bank-digital-currencies-weapons- nance.

5 A digital euro: design options and its future

5.1 The ECB's thinking so far

e Eurosystem is considering the introduction of the digital euro for retail use. e digital euro project is at time of writing in the investigation phase, which will come to an end in October 2023 at which point the ECB will decide on the next steps[22]. ree progress reports have been issued so far (Box 1).

e rst progress report, published in September 2022, focused on the functionalities and limits for users. It concluded that the consumer should be able to pay with digital euros online and o ine, and that the digital euro should mimic cash-like features as much as possible. While privacy is to be ensured, the digital will not be fully anonymous because of worries about money laundering. Also, it should be used exclusively for payments and not as a form of investment.

is choice also re ects nancial stability considerations, and particularly the prevention of excessive migration of bank deposits to the central bank, which could disrupt the current nancial system. To this end, individual holdings should be limited to between €3000 and €4000 (Panetta, 2022b).

Box 1: The ECB's thinking on the retail digital euro

- **Target users:** Primarily euro-area residents (individuals, merchants and governments). Possible extension of access to non-residents.
- **Intended as:** means of payment and not form of investment (avoid excessive migration of bank deposits to the central bank). It will not be remunerated.
- **Availability:** both online and o ine solutions envisaged.
- **Limits:** €1 trillion to 1.5 trillion total, meaning around €3000 to €4000 digital euro per capita. Limits apply to individuals, who can have only one account. Merchants would not have digital-euro holdings but would accept payments in digital euros.
- **Privacy:** the digital euro should replicate as much as possible cash-like features, but no full anonymity. Possibly, greater privacy for low-value low-risk payments.
- **Issue and settlement:** responsibility of the Eurosystem; digital euro is direct liability of the central bank (convertible one to one with the euro).
- **Onboarding, distribution and services:** responsibility of banks and other payment service providers (supervised nancial intermediaries). ese would perform the regular onboarding procedures (eg anti-money laundering checks) and can develop consumer-oriented services beyond the core mandatory functionalities.
- **Access and use:** via existing apps provided by the PSPs or via an Eurosystem app. Payments done using technology such as contactless or QR code.

e second progress report, issued in December 2022, focused on de ning the settlement and distribution roles and ensuring an easy conversion between digital euros and cash/private money. e Eurosystem intends to retain full control over the issuance/redemption and settlement of digital euros, but has not decided on the technology to use – traditional, DLT or a combination of both. e distribution and direct interaction with end users would be the responsibility of banks and other payment service providers. ey would develop the interfaces and services – such as wallets – and perform regular anti-money laundering checks. e third progress report (April 2023) clari ed that payments would be done using technology already familiar to most European citizens, for example, contactless or QR codes, through either the existing apps of intermediaries or a Eurosystem app, depending on the user's preference.

22 See

e April 2023 report also discussed the possibility of access for non-euro area residents. e primary focus of the initial releases of the digital euro however will be for euro-area residents only (individuals, merchants and governments), even though access to non-residents could be possible if they have an account in the euro area. Access for residents of the European Economic Area and selected third countries could be envisaged in later releases of the digital euro. A last important point made in this report is that the digital euro will not be programmable money. is means that the ECB would not determine or interfere with where, when and for which purpose the digital euro is used.

Early in the second half of 2023, the Eurosystem will present the overall thinking on how to design a digital euro. Box 1 summarises its thinking so far.

e ECB will also investigate cross-currency functionalities as a way of improving the transparency and e ciency of cross-border payments (as endorsed by the G20). is functionality could be implemented by ensuring interoperability between the digital euro and other CBDCs or by relying on a common infrastructure that could host multiple CBDCs.

5.2 Other advanced economies' approaches to CBDCs

Several countries are more advanced than the euro area in this process and have decided not to issue a retail CBDC in the foreseeable future. is is mainly because they do not see CBDCs as o ering added value in terms of payment options or to their citizens. is is the situation in Canada[23], Denmark (Danmarks Nationalbank, 2022), Japan[24], Sweden (Swedish Government, 2023) and Switzerland[25]. In the United Kingdom, the Chair of the House of Lords Economic

wholesale payments. But the Eurosystem cannot a ord to be left out of this debate. Moreover, as the ECB has invested in understanding the workings of CBDCs, it is well placed to contribute to setting the global standard and helping promote global coordination. As a standard-setter, the EU could exert in uence as societies adapt to an increasingly digitalised nancial ecosystem. As an active participant and contributor to the debate, the EU should aim to protect its global interests.

When it comes to using a digital euro for retail purposes inside the euro area, we do not see a compelling case for issuance at this stage. ere are many issues to clarify, and a digital euro might bring signi cant changes to the nancial system that need to be considered carefully.

P i ac a i

In response to the public's concerns about privacy, the ECB has been very clear about protecting consumer data when using the digital euro. However, privacy is not the same as anonymity and the ECB is also clear that transacting in digital euros will not be anonymous. is makes the digital euro only an imperfect substitute for cash. As 42 percent (Figure 3) of the value of all transactions in the euro area in 2022 was in cash, there is still a great deal of anonymity in the way that payments are made currently. As one of the motivations for launching CBDCs was the need to provide a digital equivalent of cash, this is a clear shortcoming.

Ca h a he a ch f he fi a cia e

Would the elimination of cash in the future destabilise the system? It is often argued that cash is the anchor of trust in the nancial system. In a world of at money, deposits are only partly guaranteed. For the consumer, the only other money guaranteed in full by the sovereign is cash. Being able to revert to cash at any time is what provides trust in the system. Can a CBDC that is also guaranteed in full provide the equivalent anchor to the system? e answer to this is important and citizens will need to be assured that digital money is at the very least not programmable (ie money with built-in rules that impose restrictions on how it is used). Also, it is di cult to see how digital cash can provide the anchor to the system if consumers are allowed to have only limited holdings of CBDCs (see below).

Li i ed h di g

If the amount of digital euros allowed per person is small, as is currently the intention (between €3000 and €4000 per person), then the digital euro risks never taking o . Why would the euro-area consumer opt to have one more account, this time at the central bank, if it is only of limited use? e amount allowed would need to be at least equal to the amount in deposits that is currently guaranteed (€100,000) for the consumer to have a motive to switch. Moreover, the consumer has ample payment alternatives in the euro area. If the worry is that payment alternatives are country-speci c, then imposed coordination (like the IBAN system for bank deposits) would provide an adequate solution. Regulation therefore can achieve the same result with much less e ort.

If on the other hand, the ECB were to allow unlimited amounts of digital euros to be held in the form of deposits, that could potentially be a game changer. Having all deposits guaranteed by the state is an attractive proposition for the consumer. But for her to switch, she would still need to see interest paid on these deposit accounts, or she would be left worse o . But interest-bearing deposits at the central bank would transform the roles of both the central banks and nancial intermediaries. Commercial banks, which are currently mainly funded by deposits, would have to nd alternative operating models. What would be the cost to the system of providing such a guarantee? Or would the amount of money in circulation necessarily have to decrease? e ECB and other central banks have not justi ed their interest in CBDCs as a way of altering the nancial system. Rather, their thinking focuses on imposing as small a distortion as possible. With that in mind, digital euro holdings would remain very small.

E ea a egic a

Last, the ECB also uses the argument of strategic autonomy to justify its interest in the project. What is the risk in current European payment systems that requires intervention? An ECB report on open strategic autonomy from a central banking perspective (ECB, 2023) mentioned that "*non-European payment-related service providers handle around 70% of European card payment transactions*". A retail CBDC could address this concern though, as explained above, it might also distort competition and innovation in domestic payment systems. e strategic autonomy argument adds a layer of protectionism that would need to be very carefully justi ed economically and politically, or risk going against the EU's own principles. De-risking is a much better argument: asking the question of how a digital equivalent of the sovereign currency can prepare society for what cannot be controlled (eg a system that is potentially

methods, the ECB is uniquely positioned to help create the global standard, and in the process to help protect the EU's global strategic interests.

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