8. DO WE REALLY NEED THE DIGITAL EURO: A SOLUTION TO WHAT PROBLEM EXACTLY?

Fernando Navarrete
European Parliament

1. WHY ARE WE DISCUSSING SOMETHING CITIZENS ARE NOT ASKING FOR?

The international geopolitical order is in crisis, and so too is the monetary and financial order. Profound financial crises tend to generate far-reaching social, economic, and political consequences. Moreover, this crisis is not merely conjectural or temporary; it is deep and structural. One of its clearest expressions is the rise of alternative visions of money, as well as of trust in financial interactions and in financial institutions. Such a development should come as no surprise. The erosion of confidence has created fertile ground for these alternative narratives. Although some may present themselves as innovative, they are rooted in older ideas. Certain crypto-related visions, for example, attempt to reintroduce features of the "wildcat" banking era, now sustained by a technological superstructure that disguises winners and losers and lures people lost in disbelief. What we are witnessing, then, is not merely a technological phenomenon. It reflects a broader societal reassessment of trust in traditional financial actors, both public and private.

This is the broader context in which the first consideration of a Central Bank Digital Currency (CBDC) emerged in the central bank community at the end of the last decade[1]. New technology adoption was seen as a mean to regain public trust. The bottom line of the strategy seemed to be that if the challenger's vision is techno-driven, let us do the same to keep people's trust. If it were that simple… Contrary to this interpreta-

[1] Bank for International Settlements, Annual Economic Report 2018: Chapter V – Cryptocurrencies: Looking Beyond the Hype (Basel: BIS, 2018), 91-109.https://www.bis.org/publ/arpdf/ar2018e5.pdf

tion, in my opinion, the root cause that made more people susceptible to alternative narratives about money and finance was their negative assessment of the outcomes by the traditional monetary and financial order in terms of stability after the Great Financial Crisis. If this is the case, a better-founded strategy should focus on providing better policy outcomes within the framework of fiat money and the traditional financial order. We are not confronting only a technological problem; it is fundamentally a political one. Technology may play a supportive role, but it is just a mean, and more likely than not, not the critical one. Institutional improvements and better outcomes should clearly be part of a balanced, coherent, comprehensive and successful response. From this general framework, it is worth noting that the existing Digital Euro proposal[2] is just one specific element of a broader set of policy responses that together are supposed to make the financial system fit for purpose for the digital age and restore citizens' trust by virtue of delivering better results.

The aim of this paper is to carefully assess the necessity, proportionality, and strategic coherence of the Digital Euro project within this broader framework.To do so,, the method will be to dissect, with all its pros and cons, the estimated contribution of its potential issuance on a wide range of specific sub-problems it is intended to address. It will also explore potential alternative policy options for each of these specific problems. This methodological approach is relevant because the alternative to a Digital Euro proposal is not the *status quo* (doing nothing), it should be the best alternative solution we can conceive for each identified problem. This is the test any policy proposal should pass before being adopted, and so will this paper try to do. For economists, this is the opportunity-cost concept. For others, just not prejudging the result by arbitrarily lowering the test bar[3].

This paper is my personal contribution toward helping establish a rational common ground to assess the proposal, taking into account the current geopolitical context that differs significantly from the one in which the Commission's initiative was originally formulated. Systemic skepticism about the proposal is the only way to achieve a fair assessment. Of course, as rapporteur for the European Parliament for the *Single Currency Package*[4], I have to take position on the different debates presented here but it is my intention to keep all, but the last section, as free as possible of a predetermined posi-

[2] European Commission. Proposal for a Regulation of the European Parliament and of the Council on the Establishment of the Digital Euro. COM(2023) 369 final, July 28, 2023. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52023PC0369.

[3] As rapporteur for the European Parliament for the Single Currency Package (which entails both legal tender of euro banknotes and coins and digital euro proposal), my initial engagement with the dossier was through the European Commission impact assessment (European Commission, Commission Staff Working Document: Impact Assessment Report Accompanying the Documents Proposal for a Regulation on the Establishment of the Digital Euro, SWD(2023) 233 final, July 28, 2023, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52023SC0233.), which, in my view, neither set the adequate test bar nor follow adequate methodological foundations.

[4] European Commission, Single Currency Package (Brussels, July 28, 2023). https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3836.

tion. Judgemental statements are inevitable but will be explicitly marked as such and the final section will outline what I consider to be a better way forward for the future of the European digital payments ecosystem based on interoperable, private-led, and commercial bank money-based innovative solutions underpinned by resilient central bank-led infrastructures and standards.

Section 2 will cover some basic concepts and fundamental risks around CBDCs. Section 3 benchmarks the Digital Euro against the best policy alternatives available for each the problems it is intended to solve. In section 4 some specific risks and vulnerabilities associated to the current Digital Euro proposal are assessed. Section 5 covers what the rest of the world is doing regarding CBDCs; and finally in section 6 I put together a proposal for an optimal response for Europe in the area of payments in the digital age.

2. WHAT IS REALLY A CBDC? INHERENT CHARACTERISTICS AND RISKS OF THE DIFFERENT TYPES OF MONEYS.

2.1. RETAIL VS. WHOLESALE CBDCS: A CRUCIAL DISTINCTION.

In the world of central bank digital currencies, a fundamental distinction should be made between wholesale and retail ones. The former are intended to increase the efficiency of wholesale payments between financial intermediaries also facilitating instant settlement via the central bank balance sheet. Improvements in this domain are deemed essential to increase the efficiency of the international financial system to deal with international transactions or to potentially reduce the settlement risks associated to the "cash leg" of securities' trading in the capital markets. So far, I have not found any reasonable argument that should prevent any central bank, and specifically the European Central Bank (ECB), to press ahead with the exploration of wholesale CBDC initiatives. These endeavours should be done in a cooperative manner with other central banks to ensure the different solutions are interoperable globally so that the promise of seamless international payments is fulfilled.

Wholesale CBDCs have the potential to transform many aspects of people's economic life: remittances by migrants or to students abroad, business to business (B2B) transactions related to international trade, securities post-trading efficiency, among others. Moreover, a potential bonus is to strengthen financial collaboration worldwide preventing the risk of financial fragmentation that could worsen the global economy in conjunction with current trade and geo-political tensions. In sum, no inherent risks are associated with them, the upside is clear and there is no need for complex institutional or legal shake-up as their development falls naturally within the traditional remit of central banks to provide back end payment infrastructures.

But the proposed Digital Euro is a different animal. It is a retail CBDC project. The current Commission proposal for a Digital Euro stems from the ECB technical work

that officially started in 2020[5]. In brief, the Digital Euro proposal establishes a new form of digital money issued by the ECB that represents a direct liability to its balance sheet (like cash) accessible directly by citizens via digital wallets provided by Payment Service Providers (PSP).

Before considering the potential introduction of a digital euro, cash was the only central bank liability accessible by citizens on a daily basis. The inherent physical inconvenience of cash in terms of bulkiness, transportation costs, safety and the lack of explicit yield, left the brunt of the store of value function of money to so called "commercial bank money" in the form of bank accounts deposited in mostly private commercial banks. In addition, the modern digital nature of these bank accounts also made them the backbone of citizens' digital payments (mobilised through various means of payment like credit cards, direct debits and others) at the point of sale (physical store), for on-line payments (like in e-commerce) or for remote peer to peer transactions. The modern development of the financial system is rooted into this functional division between the different types of money. It determines the stable deposit base (particularly in times of no financial stress) that commercial banks could tap and rely for their corresponding credit activity and liquidity risk management.

2.2. EXPLAINING THE INTRINSIC FINANCIAL INSTABILITY RISKS ASSOCIATED TO RETAIL CBDCS AND CONCERNS ABOUT CITIZENS' PRIVACY

The intended design characteristics of the Digital Euro are such to maximize its convenience as a means of payment for electronic transactions while, at the same time, trying to limit its usage as store of value. In order to attain this difficult and unnatural equilibrium it is proposed to yield no interest (like cash) and, crucially, holding limits are to be established for each natural person holding it (i.e. how many Digital euros each natural person can hold at any time). These are considered key safeguards for maintaining financial stability as the inherent characteristics of any unrestricted retail CBDC makes it also a good means to store of value given, on the one hand, its unique risk profile (central bank direct liability) and, on the other, its convenience to mobilize thanks to its digital nature. Crucially, this is exacerbated in times of financial stress. This is the crux of the matter: retail CBDCs are inherently destabilizing for the current banking ecosystem based on a wide stable deposit base, underpinning long term lending by banks. If the deposit base is eroded (either structurally or in times of financial stress), so will be the capacity of banks to lend, especially long-term credit to individuals and corporations. These effects would be especially pronounced in Member States with less liquid, less well-capitalized or less diversified banking sectors, thereby exacerbating financial fragmentation and uneven resilience across the euro area.

[5] European Central Bank, Report on a Digital Euro (Frankfurt am Main: ECB, October 2020), https://www.ecb.europa.eu/pub/pdf/other/Report_on_a_digital_euro~4d7268b458.en.pdf.

To prevent this dangerous characteristic, the current Digital Euro proposal imposes untested, unproven and somewhat arbitrary exogenous limitations in the form of how many digital euros any citizen can hold at any point in time. How well these limits will fare in times of financial stress is a key question nobody has an answer to, because humanity has never been here before and this will be a regime change for which no past data are really meaningful. And this is not just a technical question on how to calibrate the holding limit; it is essentially a political question: will these holding limits be in place precisely when, in times of crisis, they might be binding for a large portion of the population seeking for a safe refuge for their savings? The most honest answer on my part is, I do not know for certain, but we should be prepared for the worst. In a crisis, public and political pressure could mount to increase the limits, weakening the safeguards, precisely when they are needed the most.

Once the Digital Euro is issued, it becomes harder to politically resist adjustments that would make it more attractive —and more destabilizing- in times of financial stress. This could also be no good for the political and institutional fabric of the EU: this politicization of monetary instruments creates new risks to central bank independence. Is the ECB ready, capable and even politically legitimized to fare that pressure, precisely in times of financial stress? Regardless of the result of this potential institutional clash, it will do no good to the long-term sustainability of ECB independence, which is essential to keep price and economic stability.

For some pundits of CBDCs the inherent destabilizing potential of retail CBDC is why they favour them. They envisage a new financial order with none or very limited bank deposits as most of the citizens' liquidity will be held directly at the central bank, with credit being mostly intermediated by non-bank (fund-type) financial intermediaries.[6] This paper is not the place to analyse the theoretical merits and demerits of this "alternative world" for finance in the proposed steady state as Nobel laureates Douglas Diamond and Philip H. Dybvig already did so[7]. What no one of their proponents has ever made explicit, are the economic and societal costs associated to the "mother of all financial crisis" they are trying to engineer to make room for a "new beginning" [8]. I am personally not eager to be part of the transitional generation and I presume that is very much the case for the vast majority of EU citizens.

In any event, it is worth noting that the Digital Euro as currently proposed is supposed not to serve this cathartic function as it includes explicitly the existence of individual holding limits as key financial stability safeguards. But the question remains whether these measures will be enough to fully suppress its inherent destabilizing na-

[6] Miguel Ángel Fernández Ordóñez, El futuro de la banca: Dinero seguro y desregulación del sistema financiero (Madrid: Fundación Ramón Areces, 2018), 1–2.

[7] Douglas W. Diamond and Philip H. Dybvig, "Bank Runs, Deposit Insurance, and Liquidity," Journal of Political Economy 91, no. 3 (1983): 401–419, https://doi.org/10.1086/261155. Diamond, Douglas W. 2022. "Financial Intermediation and Financial Crises." Nobel Prize Lecture, Stockholm University, December 8, 2022. https://www.nobelprize.org/prizes/economic-sciences/2022/diamond/lecture/

[8] Garicano, Luis. 2024. "Do We Need Banks? The Digital Euro's Bizarre Design." Silicon Continent, November 27, 2024. https://www.siliconcontinent.com/p/do-we-need-banks

ture, particularly in times of financial stress (not necessarily linked to the existence of the Digital Euro itself). Unintended consequences are sometimes the only thing that is left of well-intended policies.

The other consubstantial problem with retail CBDCs is their reduced privacy compared to cash. This characteristic is shared by almost all digital payment methods. But crucially for some citizens, in the case of CBDCs, users do not voluntarily choose which provider to trust, it is necessarily the public authorities. Public consultations consistently demonstrate that privacy is the foremost concern among EU citizens when considering a digital currency[9]. Many people fear that the ECB or public authorities in general could monitor transactions, even indirectly, undermining individual autonomy or an erosion of civil liberties. Cash provides a level of non-traceability and anonymity that a centrally managed ledger cannot match —even with pseudo-anonymization techniques. Every digital transaction leaves a metadata trail that, if accessed by authorities (let alone malicious actors), could reveal sensitive information about individuals' habits, associations, and beliefs. The mere perception of surveillance can erode trust in the monetary system, undermining voluntary adoption and potentially driving privacy- sensitive consumers back to informal or unregulated payment channels.

Of course, this trait can be modulated depending on the specific design and technical solutions underpinning the Digital Euro. But ignoring or disregarding this issue as purely technical would be a fatal mistake. Remember that the broader issue at stake is that of public trust in the monetary and financial order. If concerns for their privacy fuel distrust in central banks or public institutions by some citizens, then the Digital Euro would be a net negative contribution for the ultimate objective the Digital Euro is supposedly trying to achieve. Unfortunately, some mismanagement of the project so far and the failure to confront the inherent limitations and risks of retail CBDCs openly are fuelling this narrative in the population, thus self-defeating the ultimate purpose. Trust, once lost, is extraordinarily difficult to restore. This challenge is not merely technical; it is deeply political. Data retention periods, access protocols, and oversight mechanisms are societal choices that require robust democratic debate and transparent legislative mandates. The highest privacy standards are what citizens are demanding from the authorities.

3. WHAT ARE WE TRYING TO SOLVE WITH A DIGITAL EURO?

Is the digital euro really trying to solve any real demand from EU citizens regarding their payments? Is it trying to mitigate any meaningful risk for the EU economy as a whole? Or, alternatively, is it just trying to solve the anxiety of some central banks about their "business model" or role in society? Introducing the central bank's *seigniorage* income into the discussions inevitably cast a large shadow that, maybe, thee Digital Euro

[9] European Central Bank, Eurosystem Report on the Public Consultation on a Digital Euro (Frankfurt am Main: ECB, April 2021), 10, https://www.ecb.europa.eu/pub/pdf/other/Eurosystem_report_on_the_public_consultation_on_a_digital_euro~539fa8cd8d.en.pdf.

is more shaped to solve ECB's perceived own problems rather than those of citizens after a careful assessment of market failures. As president Lagarde has repeatedly said, "*a central bank is not intended for profit purposes. If it was, it would defeat the mandate that we have, which is price stability. If it were driven by profit, it would impair our capacity to deliver on our mandate*"[10]. I do hope this principle also stands for the Digital Euro.

In any event, the origin of the central bank community's studies that led to the concept of a retail CBDC can be traced back to Meta's announcement in 2019 of a global multicurrency stable coin, known as *Libra*[11] . *Libra* was an unsuccessful initiative that never went beyond conceptual phase. The main perceived risk by central banks about the issuance of a multicurrency stablecoin by a BigTech company with billions of clients in its platform ecosystem was that of "currency substitution". This risk was more acute in jurisdictions where their own currency had historically failed to provide a stable economic environment (price, financial and exchange rate stability). Despite the "natural hedge" provided by the Euro Area comparative stability and the explicit failure of the *Libra* project itself, the ECB provided a formal response to the perceived threat, setting in motion an investigation phase for a potential Digital Euro.[12] The idea was to explore under which economic and/or institutional conditions it should be appropriate to issue a Digital Euro and what should be its main characteristics.

It is important to stress that initially the project was not focused on an unconditional issuance of a Digital Euro but to explore the conditions under which the best possible answer would be its issuance. How and why that intellectually open approximation has morphed into an unconditional push for the issuance of a Digital Euro despite a rapid changing environment and with shifting arguments to fit any potential audience is something others are due to explain. In any event, the truth of the matter is that current arguments used by the ECB to justify the potential issuance of a Digital Euro have expanded well beyond the initial narrative and include, among others:

i) A perceived imbalance between central bank money and commercial bank money due to the secular declining trend in the use of cash by citizens that might lead to a loss of the monetary anchor; [13, 14]

[10] European Central Bank. Monetary Dialogue with Christine Lagarde, President of the European Central Bank (Pursuant to Article 284(3) TFEU), Brussels, Thursday, 20 March 2025. Frankfurt am Main: European Central Bank, 2025. https://www.ecb.europa.eu/pub/pdf/annex/ecb.sp250320_annex1.en.pdf.

[11] Libra Association, Introducing Libra: A Simple Global Currency and Financial Infrastructure That Can Empower Billions of People (Geneva: Libra Association, June 18, 2019), https://www.diem.com/en-us/updates/introducing-libra/

[12] European Central Bank, "Eurosystem Launches Digital Euro Project," press release, July 14, 2021, https://www.ecb.europa.eu/press/pr/date/2021/html/ecb.pr210714~d99198ea23.en.html.

[13] Fabio Panetta, "Central Bank Digital Currencies: A Monetary Anchor for Digital Innovation," speech, Elcano Royal Institute, Madrid, November 5, 2021, European Central Bank, https://www.ecb.europa.eu/press/key/date/2021/html/ecb.sp211105~08781cb638.en.html

[14] Lane, Philip R. 2025. "The Digital Euro: Maintaining the Autonomy of the Monetary System." Speech at the University College Cork Economics Society Conference, March 20, 2025. European Central Bank. https://www.ecb.europa.eu/press/key/date/2025/html/ecb.sp250320_1~41c9459722.en.html.

ii) digital sovereignty and strategic autonomy in payments to reduce over-dependencies with non EU-based providers;[15]
iii) the risk of monetary substitution due to non-euro-denominated stablecoins: safeguarding the domestic role of the euro and strengthening its international role[16]

The emphasis placed on each argument has varied significantly along the 5-year gestation process of the project. The underlying narrative evolved from a defensive posture (*stop Libra*) to a more proactive ambition (*reshape Europe's role in digital finance*). This shifting/reactive pattern suggests that the project lacks a stable foundational rationale. This overextension weakens the clarity of the project and inflates expectations. The more problems it tries to solve, the less credible each solution becomes. A policy tool that aims to solve too many issues often solves none effectively. The digital euro is presented as a Swiss Army knife, but lacks precision for any specific problem and, as already discussed, entail profound inherent risks in terms of financial instability and privacy that, at best, could only be partially mitigated. Before designing a solution, policymakers must clarify: what exactly the problem is; whether it truly requires a public response; and whether that answer must take the form of a retail CBDC.

Some of the problems identified may have some validity and, to be clear from the onset, I do believe the risks associated to overdependence of non-EU actors in the digital payments area are real now and should be addressed through an optimal risk management strategy. But for this we do not necessarily need to issue a Digital Euro as currently designed if innovative, European, pan-European in scale, commercial bank money-based solutions are promptly made available for EU citizens for their on-line, in-store and peer to peer payments. The rest of this chapter is aimed at analyzing each of the arguments used to justify the potential issuance of a Digital Euro and whether it is the optimal solution to each.

i. A perceived imbalance between central bank and commercial bank money: the declining use of cash and the risks to the monetary anchor.

Before the advent of the concept of a retail CBDC, it was a widely accepted fact that private actors, through commercial bank money, would drive innovations associated with new characteristics of money that will make payments more convenient to customers. This has led for more than half a century to a trend of a declining relative preva-

[15] Piero Cipollone, "The Role of the Digital Euro in Digital Payments and Finance," European Central Bank, February 28, 2025, https://www.ecb.europa.eu/press/inter/date/2025/html/ecb.in250228~7c25c90e4d.en.html

[16] European Central Bank, Stablecoins: Implications for Monetary Policy, Financial Stability, Market Infrastructure and Payments, and Banking Supervision in the Euro Area, Occasional Paper No. 247 (Frankfurt am Main: European Central Bank, September 2020), 21, https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op247~fe3df92991.en.pdf.

lence of cash, both as a means of payments and as a store of value. Is this a problem? And if so, why now and why only in the Euro Area?

The secular decline in the use of cash across the euro area has raised concerns by the ECB about the future balance between central bank and commercial bank money[17]. In its view, the progressive reduction in the use of cash *vis a vis* commercial bank money risks eroding the public's trust in the currency itself. This argument hinges on the assumption that the unicity of money (the notion that all euros are fundamentally equivalent) is basically achieved thanks to the possibility to withdraw at par (1 euro for 1 euro) the commercial bank money deposited in a bank account into central bank issued banknotes. According to this argument, the reduction in the use of central bank money by citizens (currently only cash), if left unaddressed, is seen by the ECB as potentially undermining its role as the ultimate anchor of the monetary and financial system.[18]

The ECB argues that a digital euro would help preserve this monetary anchor by offering a public digital means of payment accessible to all, thereby sustaining trust in the currency and in the central bank itself [19]. A stronger version of the argument highlights that there is some sort of a sweet spot equilibrium or a "tipping point" between commercial and central bank money and we may risk trespassing it with unknown but dangerous consequences. And so the argument goes, we need a Digital Euro to restore the balance. How real is this risk and does the Digital Euro satisfactorily solve this problem if it really exists?

First, no one is proposing to ban the use of cash, neither for payments nor as a store of value, quite the contrary. If some citizens may feel compelled to physically "touch" their money in the form of central bank physical money to keep trust in the unicity of money they may continue to do so. So there is no logical connection between the decline in the use of cash for paying transactions from their potential use as store of value in some contingencies. Second, the unicity of money is not only underpinned by the capacity to convert commercial bank money into cash at par. On the contrary, it is fundamentally based on the capacity of every citizen to move their deposits at par from one bank to another. This is ensured because the transfer can be settled through the central bank balance sheet using bank reserves. As the Assistant Governor of the Reserve Bank of Australia put it[20]:

> *"A key feature of our monetary arrangements is that bank deposits are interchangeable with one another and central bank money, on a dollar-for-dollar basis (this is the*

[17] Lane, Philip R. 2025. "The Digital Euro: Maintaining the Autonomy of the Monetary System." Speech at the University College Cork Economics Society Conference, March 20, 2025. European Central Bank. https://www.ecb.europa.eu/press/key/date/2025/html/ecb.sp250320_1~41c9459722.en.html.

[18] Panetta, *Central Bank Digital Currencies.*

[19] Panetta, Central Bank Digital Currencies.

[20] Brad Jones, "Financial Innovation and the Future of CBDC in Australia," speech at the Intersekt Conference, Melbourne, September 18, 2024, Reserve Bank of Australia, https://www.rba.gov.au/speeches/2024/sp-ag-2024-09-18.html

'singleness' concept). This spares households and merchants from wasting resources in repricing the credit risk of different issuers – a lesson learned the hard way from the chaotic 'wildcat' free-banking era in the United States. It has been suggested that if physical cash was no longer available to the public, a retail CBDC may be needed to ensure private money retained its value because it would still be interchangeable at par with central bank money. However, most central banks have no plans to eradicate physical cash. And central banks already support the singleness of money in various ways, including by settling banks' net payment claims 'at par' in central bank money"

And this is not a Digital Euro or even a wholesale CBDC, this is what already exists now. Reserves at the central bank guarantee not just interbank settlement or the unicity of money, also the capacity of the public monetary authority to steer monetary policy. This is explicitly recognized by the analysis of other advanced central banks when justifying the abandonment of further retail CBDC studies. And in this dimension Europe is not different to the rest of the advanced economies in the world[21] It is therefore legitimate to ask: why is the euro area the only major jurisdiction responding in such an untested and far-reaching manner?Third, the decline in the use of central bank money in the form of cash has been mostly demand driven. That is to say that the main driver for the increased role of commercial bank money has been changes in people's preferences and the emergence of new innovative features associated to commercial bank money (particularly its digital form and the associated convenience advantage as a means of payment in many cases, lower costs, etc.). A private ecosystem of innovative payment service providers, infrastructure developers, technical standards, etc. have emerged in recent decades. Should the central bank push back to reverse, stop or moderate this trend? From a principles' perspective in a competitive market economy it is hard to argue that the public sector should try to push back if private actors develop something that is favoured by consumers. Of course, this is not to say that public money should not improve, it is simply to state that preserving the current *status quo* is not by itself a legitimate reason to develop a Digital Euro. For such a drastic public intervention to be warranted it has to be proven beyond any reasonable doubt that the current or foreseen reduction in the use of cash may create fundamental problems to the overall economy loss of monetary anchor, currency substitution, etc. Is this the case?

A first key consideration as already discussed, is that there is no empirical or strong theoretical evidence showing that there is any "optimum" level of commercial *versus* central bank money in terms of social welfare. In fact, we can learn from the experience of other countries that are further ahead in the adoption of digital means of payment (in the EU the use of cash is still around 50%[22] of transactions, while in Sweden it went

[21] Reserve Bank of Australia and Australian Treasury, Central Bank Digital Currency and the Future of Digital Money in Australia (Canberra: RBA and Treasury, 2023), 13, https://www.rba.gov.au/publications/consultations/2023/cbdc-digital-money/pdf/cbdc-digital-money.pdf

[22] European Central Bank, Study on the Payment Attitudes of Consumers in the Euro Area 2024 (Frankfurt am Main: European Central Bank, 2024), https://www.ecb.europa.eu/stats/ecb_surveys/space/html/ecb.space2024~19d46f0f17.en.html.

as low as very near "single digit" before naturally bouncing back) is that there is no monetary regime change due to a reduction in the use of cash even at very low levels of cash usage. And there is also empirical evidence that the effective use of cash, if left freely to the willingness of citizens, does not converge to zero as it offers some useful characteristics the population favours in some circumstances of their daily lives.[23]

A second important aspect concerns that this is by no means a European-specific problem. All advanced economies are facing similar challenges related to the increased use of digital means of payments. They have all explicitly considered the potential use of CBDC and none of them has made a retail CBDC the backbone of their retail payments strategy (except China for reasons of increasing governmental oversight of citizens' daily life that can and will never apply to the EU). If anything, more and more central banks in the world are seeing the wholesale CBDC and the provision of infrastructure as the core of their response (see section 5 for a more detailed discussion). In any event, if the ECB is seeing something that nobody else in the world is seeing in relation to a supposedly "optimal ratio" between commercial and central bank money, it would serve the general good if they could make that explicit and also explain why others have crossed it years ago and nothing catastrophic apparently happened there.

In light of the above, while the ECB presents the Digital Euro as a necessary evolution to preserve public access to central bank money, the assumption that such access must be maintained in a digital form to uphold the monetary anchor is neither empirically nor theoretically substantiated. Therefore, given the intrinsic risks associated to any retail CBDC (essentially, financial stability and privacy concerns) and the impossibility to hedge against them completely through proven safeguards, the Digital Euro should not be considered the optimal policy response based solely on this argument.

ii. Digital sovereignty and strategic autonomy in payments: reducing reliance on non-European providers and increasing resilience.

The Digital Euro discussion is also framed within the broader context of the European Union's pursuit of an open strategic autonomy and a digital sovereignty. In the field of payments, the EU remains structurally dependent on non-European players, particularly US-based international card schemes. Even without resorting to a potential weaponization of this dependency, this over-reliance has long-term implications not only for competition and innovation, but also for Europe's capacity to enforce its regulatory preferences and protect its autonomy in a more fragile geopolitical context.

As already mentioned, this is, in my opinion, a real risk. While international card schemes as of today have no incentive to voluntarily cease operating and serving the EU market, the real risk is them being politically forced to do so. The probability of such tail risks may remain low, but it is no longer negligible. As such, taking effective actions

[23] Sveriges Riksbank, Payments Report 2025 (Stockholm: Sveriges Riksbank, 2025), https://www.riksbank.se/en-gb/payments–cash/payments-in-sweden/payments-report-2025/.

to reduce Europe's over-dependence on non EU-based payment providers is politically and strategically sensible.

However, the root of the EU's vulnerability is not the absence of a central bank digital currency, but the continued fragmentation of the European payments landscape.. Therefore, it is imperative to create an ecosystem conducive to pan-European actors in digital payments. In this regard, payments sovereignty is less about the issuer of money than about who governs the infrastructure, controls the data, and defines the user experience. In fact, international card schemes are private enterprises that mobilize commercial bank money. The challenge of platform and scheme dependences lie not in the lack of a CBDC, but in the lack of competitive, interoperable European alternatives at scale to international card schemes. Visa and Mastercard did not achieve dominance because they are forms of central bank money, but precisely on the opposite: because they operate global networks with high reliability, speed, user-friendliness, and global merchant acceptance. For the first time in several decades this market structure could be challenged globally as many jurisdictions beyond the EU are perceiving similar geopolitical risks at the same time.

The ECB presents the digital euro as a foundational infrastructure that could contribute to Europe's monetary and technological autonomy. However, the strategic case for a CBDC in this regard is far from conclusive. Achieving autonomy does not necessarily require the introduction of a new form of money in the form of a CBDC. Rather, it may be more effectively pursued through a combination of regulatory clarity, support for European payment initiatives, and the promotion of interoperability and scale in private-sector solutions based on commercial bank money. Fortunately, now this is not just wishful thinking. Several private -originally national- digital payment solutions are now coalescing through cooperation and interoperability arrangements with the explicit aim of achieving a pan-European scale[24]. Their shared goal is to build a pan-European ecosystem of interoperable, instant mobile payments that preserve the user experience citizens are already accustomed to in their national contexts. This movement reflects a new level of private-sector alignment that was not present in earlier attempts at integration. While the absence of such coordination hampered initiatives like EPI in 2017, today's progress—enabled by the maturity of infrastructures like TIPS and the development of SEPA Instant—marks a turning point. The commitment underscores the collective readiness to build a common payments infrastructure grounded in local trust, European standards, and private innovation[25]. The private sector has shown that, under the right conditions, it can deliver tangible progress toward strategic goals.

[24] BTW Media. European Mobile Payment Systems Achieve Cross-Border Interoperability. March 5, 2024. https://btw.media/fintech/european-mobile-payment-systems-achieve-cross-border-interoperability/
BNP Paribas. Wero: A New European Instant Payment Solution. Accessed April 30, 2025. https://group.bnpparibas/en/news/wero-a-new-european-instant-payment-solution

[25] Bizum, Bizum y las principales soluciones de pago europeas celebran el Día de Europa reafirmando su compromiso con un ecosistema digital interoperable, May 2025. https://bizum.com/es/notas/bizum-y-las-principales-soluciones-de-pago-europeas-celebran-el-dia-de-europa-reafirmando-su-compromiso-con-un-ecosistema-digital-interoperable/

These are not just plans; they are already delivering on the ground integrating several national digital payment solutions into transnational solutions. In addition, their plans to fully achieve a pan-European scale could go even faster than the roll out plans of the Digital Euro. According to current estimates by the ECB itself, the Digital Euro can only be delivered on the ground after at least two and a half year of development and testing after approval of the relevant legislative proposals[26].

How should we measure success on the part of the private sector in addressing this excessive external dependency? The objective should not necessarily be to displace current foreign providers in normal times, but to increase competition through relevant European actors ready to fill the gap if geopolitical risk ever materialized and foreign providers cease to serve our market. We do not need champions but contenders able to fill the void if needed. Of course, if market forces lead these new entrants to be dominant by displacing current incumbents, so be it. This should not be the policy target in itself but, in my view, it should also not be prevented *ex ante* from a competition standpoint.

Beyond overreliance on non-European providers, resilience also has a physical dimension. The case for the Digital Euro, particularly for its offline functionality, includes its potential in increasing payments resilience in case of physical risks like floods, outages, etc. Although cash has demonstrated many times its usefulness in some of these contingencies, to provide more payment alternatives robust to them might be a desirable feature.

The offline functionality in the current Digital Euro proposal offers *a priori* enhanced privacy characteristics *vis a vis* the "full fledged" on-line digital euro. In addition, it may operate mainly as a "pre-paid" wallet. Furthermore, given that the intrinsic characteristics of the offline Digital Euro makes it a closer digital version of a banknote it might be advisable that the same national transaction limits that currently apply to cash in many EU countries, should also apply to it.

Given that private payment providers are not prioritizing offline solutions, this is a niche where public intervention might be justified—provided the design remains simple, inclusive, and supportive of the broader payment ecosystem.

However, resilience and strategic autonomy are not only about reducing dependencies or about withstanding shocks; they also depend on the capacity to innovate in the medium/longer-term. The fundamental advantage of private solutions based on commercial bank money is not just avoiding the inherent unmitigated risks of retail CBDCs, but also fostering the long-term incentives to sustained innovation. Retail CBDCs like the Digital Euro face structural disadvantages in this regard. Public institutions like

[26] Piero Cipollone, Introductory Statement at the Committee on Economic and Monetary Affairs of the European Parliament (ECON), European Central Bank, April 8, 2025, exchange of views following introductory remarks at 16:33:40, https://www.ecb.europa.eu/press/key/date/2025/html/ecb.sp250408~40820747ef.en.html https://multimedia.europarl.europa.eu/en/webstreaming/committee-on-economic-and-monetary-affairs-ordinary-meeting_20250408-1430-COMMITTEE-ECON

the ECB lack commercial incentives, agility, and market-facing experience to iterate product design or scale across borders at the speed of innovation. A digital euro, with its design constraints (such as holding limits and the "waterfall" and "reverse waterfall features"[27] that multiply technical complexity and points of failure), is unlikely to match the usability, agility, product quality or appeal of private sector solutions based on commercial bank money. By contrast, private firms innovate at rapid cycles, adjust to user behavior in real time, and could scale globally. The ECB, in contrast, is constrained by institutional procedures, political oversight, and a non-commercial mandate. These differences are not just in degree — they are structural and insormountable.

In light of these considerations, Europe would arguably achieve more strategic autonomy by fostering scalable, interoperable private-sector solutions, coupled with appropriate regulation. Thus, while the ECB correctly diagnoses a problem, the solution may lie more in policy and coordination than in digital currency issuance.

Finally, while the digital euro's offline functionality offers some resilience-enhancing features—such as enhanced privacy and crisis usability—it remains unclear whether the marginal benefits justify the unmitigated financial stability risks and development costs. A rigorous cost-benefit analysis is essential, including an estimation of citizens' willingness to pay for such attributes, in order to assess whether the offline digital euro should be pursued as a complementary instrument rather than the cornerstone of Europe's payments strategy.

iii. The risk of monetary substitution due to non-euro-denominated stablecoins: safeguarding the domestic role of the euro and strengthening its international role.

Safeguarding the domestic role of the euro

A further justification invoked by the ECB concerns the proliferation of crypto-assets and, more specifically, the emergence of stablecoins— digital tokens that seek to maintain a stable value, often pegged to foreign currencies such as the US dollar. The ECB has expressed concern that, if left unchecked, these instruments could gain traction within the euro area, leading to partial monetary substitution in digital environments, particularly in cross-border contexts or within closed digital ecosystems.

The reality is that stablecoins today serve mainly as interface platforms between the crypto-world and the traditional fiat money financial system. Their value do not come from being widely accepted as a means of payment, but rather from the fact that they can be exchanged for fiat money without excessive volatility in their prices. There is

[27] "Waterfall" and "reverse waterfall" are the processes through which a digital euro account is automatically credited or debited against a traditional, commercial bank money-payment account, in order to keep the limits while allowing transactions of higher amounts. So, if more digital euros come to a holder beyond the holding limit, the excess is automatically transformed into commercial bank money and transferred to the associated traditional payment account. Conversely, if a transaction requires more digital euros they can be automatically taken from the associated traditional payment account.

also no indication they are particularly well prepared to serve as a full-scale means of payment as the failed *Libra* project attests. Beyond scant anecdotal evidence, the use of stablecoins as means of payment, (especially in monetary areas different to those of the fiat currency they are pegged to) is extremely rare. As EU citizens will continue to have most of their income and wealth denominated in euros, using dollar denominated (and pegged) stable coins as means of payments would mean for EU citizens to constantly assume, manage and hedge the volatility of foreign exchange risk on a regular basis. Are there really incentives for a significant proportion of the EU population to engage in such financial risks in their daily lives in order to enjoy the potential additional conveniences of paying with a stablecoin? As a niche market, maybe; on a general scale, does not seem likely and definitely no way if the ECB delivers on its mandate of price and financial stability.

Does this mean that the EU should do nothing about stablecoins? Of course not. But the optimal response should lie in robust regulatory oversight — such as that currently provided by the Markets in Crypto-Assets (MiCA) Regulation[28] and its future improvements—. These regulatory mechanisms offer a targeted and proportionate response. By contrast, introducing a Digital Euro to counter a highly speculative threat, risks being both premature and overreaching.

All in all, the Digital Euro (optimized as means of payment) is neither necessary nor sufficient to neutralize the risk of monetary substitution (that fundamentally stems from the unit of account and store of value functions of money). A strong regulatory regime is a more direct, proven and flexible tool.

Promoting the international role of the euro

The ECB has positioned the Digital Euro as a potential lever to reinforce the international role of the euro.[29] Despite being the world's second most used currency, the euro remains significantly behind the US dollar in terms of global reserves, invoicing in global trade and commodities, and the denomination of financial instruments. A retail CBDC, particularly if designed with cross-border (beyond the EU) functionality in mind could theoretically enhance the attractiveness of the euro in international retail payments by offering a secure, efficient, and technologically advanced alternative.

However, the extent to which a retail CBDC can alter the global monetary hierarchy is extremely limited. Retail payments are not the main driver of international capital flows. The internationalisation of a currency is driven primarily by the depth and liquidity of its capital markets, the credibility of its institutions, the size of its economy, and

[28] European Parliament and Council of the European Union, Regulation (EU) 2023/1114 on Markets in Crypto-Assets, OJ L 150, June 9, 2023, 40–205, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R1114.

[29] European Central Bank, "The Euro as a Global Currency: A Payments Perspective," in Economic Bulletin, Issue 2/2024, Focus Box 7 (Frankfurt am Main: European Central Bank, 2024), https://www.ecb.europa.eu/press/economic-bulletin/focus/2024/html/ecb.ebbox202402_07~4279fee463.en.html.

therefore the global demand for assets denominated in that currency. While the Digital Euro could play a complementary role in reinforcing the euro's appeal, it is unlikely to act as a transformative factor in the absence of broader structural reforms, including progress towards a Savings and Investments Union[30] and the development of a deep market for EU safe assets, among other structural changes.

Against this backdrop, it is worth recalling that a wholesale CBDC that might help the EU to become the first global capital market to have instant settlement in securities transactions has far more transformative effects in terms of EU capital markets attractiveness, and therefore on the international role of the euro.

Ultimately, while the Digital Euro may serve as a symbol, it is not a credible instrument for fundamentally shifting the balance of monetary power at the global level. The strategic case remains aspirational rather than operational, and risks inflating expectations that the instrument, by design, cannot meet.

While the Digital Euro may hardly contribute to substantially increase the international role of the euro at the aggregate level, a very important related risk is that of promoting currency substitution in smaller border countries, either in EU outside the Euro Area countries or in the EU "neighbourhood countries". Because here proximity matters. According to the current proposal for an agreed full-scale adoption of the Digital Euro by the population of a third country, central bank to central bank agreements are necessary which is a *sui generis* form of tacit consent for potential currency substitution. These agreements are also considered part of the safeguards designed to mitigate the inherent risks of the Digital Euro.

However, it is worth noting that all travellers entering the Euro Area may have access to a Digital Euro wallet in principle for their payments while staying in the Euro Area. But nothing can prevent them to keep or recharge their wallets afterwards back at home and use them on a regular basis for their on-line, peer to peer and in-shop payments. As most EU currencies are pegged to the Euro they would not be incurring in large foreign exchange risks (contrary as we have seen when discussing the risk of monetary substitution because of non-euro denominated stablecoins). And this is in normal times. The risk of facilitating currency substitution in stress times in these countries for anyone that has ever visited the Euro Area is much larger and practically easier that it is possible now with Euro bank notes. This potential unintended consequence is completely unaddressed in the current Digital Euro proposal. Is the EU internal political fabric or our neighbourhood policy ready to resist the political tensions this phenomenon of unwanted (from the perspective of the non-Euro Area countries authorities) eurization of their populations. Let us be clear, euro adoption is a target for many countries but it has to be achieved in a consensual and planned way, not by imposing facts on the ground. If not, political tension may mount to very high levels; in my view, too high a cost for a promise of easier payments.

[30] European Commission, Savings and Investments Union: A Strategy to Foster Citizens' Wealth and Economic Competitiveness in the EU, COM(2025) 124 final (Brussels, March 19, 2025).

Taken together, while the overall impact of the Digital Euro on cross-border usage of the common currency is likely to be limited, however, on bordering countries not having adopted the euro, the potential risk of incentivizing unwanted eurization cannot be dismissed. The consequence would be to promote financial and political instability along the euro area borders.

Is the Digital Euro the best policy response?

To sum up, the arguments reviewed in this section reveal a striking disconnect between the challenges identified by the ECB and the European Commission and the capacity of a Digital Euro to effectively address them. While some concerns might have some validity, the digital euro appears to be a misaligned or insufficient response in each case. Either the problems are overstated, can be addressed more directly through regulatory or structural measures, or entail unintended consequences that outweigh the proposed benefits. Rather than acting as a targeted remedy, the Digital Euro risks becoming a solution in search of a problem—overburdened with expectations and structurally constrained by design trade-offs stemming from its very nature as a retail CBDC.

4. OTHER RISKS AND DEFICIENCIES ASSOCIATED TO THE CURRENT DIGITAL EURO PROPOSAL.

Once we have analysed the inherent risks of any retail CBDC and also the merits and limitations of the main arguments used to support the Digital Euro, in this section, we will outline other risks, deficiencies and limitations that are linked to the specific proposal for a Digital Euro put forward by the European Commission.

The current proposal for a Digital Euro introduces structural risks and far-reaching policy implications that extend well beyond monetary policy. It raises critical concerns related to democratic legitimacy, market dynamics, the structure of financial intermediation, consumer protection, and long-term innovation capacity.

The current EU Commission proposal largely sidesteps vital considerations for the Digital Euro, such as cybersecurity, the competitive and supervisory landscape of digital payments, and the broader structure of financial intermediation. A retail CBDC is not merely an extension of the ECB's existing toolbox. It fundamentally reorders how money is created, distributed, and used in day-to-day transactions, structurally affecting financial intermediaries. As such, it deserves to be analysed as a distinct policy domain rather than shoe-horned into a monetary-policy framework alone. It is a first-order financial policy instrument.

Indeed, the real-world implications of a Digital Euro extend far beyond monetary policy transmission. The ECB would inevitably assume or delegate unprecedented responsibilities at the consumer level like fraud detection, cyber-incident response, con-

sumer compensation for damages, and managing the infrastructure of a scheme, it has designed. Traditionally, the public sector has set the standards for consumer protection against fraud and customers' data protection, and then the regulated private sector intermediaries, using their capillarity and "know your customer" (KYC), design their own products and set up the necessary countermeasures depending on the risk assessment and perceived vulnerabilities. All this in the understanding that if the measures they put in place fail to meet the standards set by legislators and regulators these intermediaries should be liable. No arrangement is perfect but at least there is an alignment between agency and responsibility. But for the Digital Euro the scheme is totally different. Due to the lack of capillarity and KYC on the part of the Eurosystem the current proposal delegates this task to private third parties which have not designed the platform or the scheme (rulebook) nor can apply their own bespoke safeguards in the platform to prevent systemic frauds as they do not operate it (they may operate "in" it). In the end, there would be a complete misalignment between agency to effectively prevent fraud and potential liabilities, all with EU citizens in the middle.

In addition, the Digital Euro could disincentive further investments by private payment providers or even disintermediate them altogether. If a central bank mandated infrastructure and scheme is imposed to merchants through the legal tender status of the Digital Euro, the natural consequence is that private sector actors will scale back their investments to achieve a pan-European scale and will be locked in to this platform and scheme for future developments. This could lead to market distortions that reduce competition, concentrate operational and systemic risks, and ultimately undermine the resilience and innovation potential of the broader payments ecosystem. These risks are compounded by the centralization of retail payments through a single public ledger, which may marginalize payment service providers, ranging from traditional banks to challenger fintechs, and reduce the diversity of actors in the marketplace. Such concentration could limit consumer choice and amplify systemic vulnerabilities.

Although we have already addressed the question of innovation, highlighting that the private sector is better positioned to respond swiftly in a changing environment and therefore enhance resilience, it is worth reiterating that any public intervention must be justified by a clear market failure that private actors are unable to resolve. Given the thriving development of Fintech wallets, instant payment infrastructure, and token based solutions, it is not evident that such a justification currently exists. This is particularly true in the current European context, where the payments ecosystem is actively tackling the challenge of overcoming fragmentation and achieving true pan European reach through interoperability, competition, and innovation. By contrast, the Digital Euro proposal appears to rely on a centralized approach that risks overlooking the market-led progress already underway. Moreover, it positions the ECB as both a major retail payment operator and a supervisor of the same industry—an institutional duality that raises questions about potential conflicts of interest that might lead to deterring private innovation and distorting regulatory neutrality. Such a configuration challenges basic principles of institutional balance and risks undermining trust in both market governance and central bank impartiality.

Equally pressing are the long- term governance and maintenance questions that the current legislative draft leaves open. Essential decisions—such as the authority responsible for rolling out software updates, the entity charged with compensating users in the event of system outages, and the bodies empowered to define minimum cyber- resilience standards—remain largely undefined. Furthermore, the division of roles between the ECB, national central banks (NCBs), and private intermediaries lacks clear legal anchoring. Without a binding governance framework detailing funding mechanisms, upgrade cycles, and redress procedures, the Digital Euro risks operational fragmentation, inconsistent service levels across member states, and an inability to respond swiftly to emerging threats.

From the very beginning, innovation in payments has gone hand in hand with access to credit facilities. Traditional credit cards, buy now and pay later offerings, and whatever may come next have all paired payment functionality with credit provision. All of this is out of the question for the Digital Euro, which is strictly restricted to debit functionality given its nature as a central bank liability. So what is really the role of the Digital Euro as a support for innovation? It may very well become a structural limitation. Once payment service providers lock-in to the Digital Euro infrastructure and standards, which necessarily reflect the constraints of a central bank liability, the scope for innovation narrows dramatically. This should not come as a surprise. The ultimate reason why cash has not been the foundation for innovation in payments lies not only in its physical nature but also in its central bank liability status. Tying the future of European payment innovation to the Digital Euro means accepting a serious risk of accelerated obsolescence.

Also, the very nature of the Digital Euro as a central bank liability and the necessity of the ECB to keep the "unicity of the euro" (in fact, it is one of the alleged reasons for launching it) implies that a strong "no programmability clause" has to be incorporated to the design. While conditional payments would still be possible, fully programmable money would no. This would practically mean, for example, that a public subsidy targeted to a particular subset of the population for a particular use (house rental payments, energy costs, etc.) would never enjoy a built-in anti-fraud design through programmable money if paid and used through the Digital Euro. How can the Digital Euro be a credible source of innovation if its very nature precludes one of the most obvious innovation for the future of digital payments: programmability.

Taken together, these risks, ranging from privacy concerns and financial stability to market disruption, suggest that the proposed Digital Euro would extend well beyond the ECB's traditional remit. This naturally brings into focus the question of the ECB's mandate and its democratic oversight. The Treaty on the Functioning of the European Union empowers the ECB to define and implement monetary policy and to ensure price stability—but it does not explicitly grant it the authority to build or operate consumer-facing digital payment infrastructures. It certainly does not empower it to design and execute a general-purpose financial policy without political legitimacy.

For precisely these reasons, the decision to issue a retail CBDC (not just to define its main characteristics) cannot rest within the Eurosystem alone. Legislative co-decision

by the European Parliament and Council is essential: only they can weigh the full spectrum of trade-offs—between privacy and traceability, innovation and stability, public provision and private competition—and endow the Digital Euro with the democratic legitimacy it demands. Far from being a dry, technocratic exercise, the design and issuance of a CBDC entails profound societal choices. Foundational questions about surveillance risk, data governance, and digital identity cannot be retrofitted after the fact; they must be baked into the legislation from day one and be carefully assessed at the time of issuance.

The issue of who bears the costs is also unresolved. Who pays all the costs of developing a new infrastructure, keeping new digital euro accounts, updating terminals, issuing wallets, etc.? The complex issue of compensation in traditional card schemes and its current heavy regulation is compounded with the fact that the current Digital Euro design creates additional complexity due to the existing "waterfall" and "reverse waterfall" mechanism that create up to two additional by-payments for each genuine transaction. As already mentioned this is because merchants will have a cero-holding limit and consumers may want to buy goods and services of higher value than the imposed holding limit. If it were not difficult enough to find a reasonable equilibrium to keep incentives and competition in the so-called 4 corner compensation model, the extra complexity of the Digital Euro leads to what we may call a 6 corner payment model. No international practical or theoretical experience exists on how to do this efficiently. The current proposal just ignores the problem (and the incentives) altogether. But the reality is that all costs have to be paid one way or another and the Digital Euro should not become a massive exercise of hidden subsidies without democratic oversight run by a dominant market player that also happens to be the supervisor/overseer of the other players. The end result: a nightmarish market structure for anyone caring about proper incentives and institutional balance.

As a matter of conclusion for this section, an excess of technocratic focus has so far overshadowed deeper policy and political considerations, including: (i) the optimal division of labour between public authorities and private actors in designing and delivering payment innovations; (ii) the long term risks of centralizing innovation and infrastructure in a public system; and (iii) the centrality of privacy to citizens' trust in the monetary system. To date, the ECB has driven the Digital Euro initiative with technical analyses and design leadership, while political and legislative scrutiny has lagged behind. Other EU institutions remain cautious partly because a clear, compelling narrative justifying the project is still missing. Without that political anchoring, the Digital Euro risks becoming a purely technical solution in search of a problem to solve.

Against this backdrop of significant risks, deficiencies, and democratic concerns surrounding the current Digital Euro proposal, it becomes essential to situate the European debate within a broader international context. Understanding how other jurisdictions—facing similar technological, economic, and geopolitical challenges—are approaching the question of retail CBDCs provides valuable perspective. In the following section, I will examine the global landscape of digital currency initiatives, exploring

why most advanced economies have so far refrained from committing to launch a retail CBDC.

5. COMPARATIVE LENS: WHY ARE WE THE ONLY ONES DOING THIS?

Understanding how other major jurisdictions approach CBDCs offers critical perspective on whether Europe's trajectory shows global best practices or whether it risks strategic isolation.

5.1. GLOBAL LANDSCAPE: WHERE OTHER JURISDICTIONS STAND?

Most advanced economies have explored the potential of CBDCs but remain markedly cautious about their retail deployment. As already pointed out, in Australia its central bank and the Treasury jointly decided in 2024 to stop investing resources into a potential retail CBDC issuance and decided to concentrate efforts to study the potential of a wholesale CBDC for Australia[31]. In the United States, the Federal Reserve in the past years had limited its efforts to wholesale applications, primarily focusing on interbank settlement; more recently, in 2025, the US administration has completely abandoned any retail CBDC work[32]. Similarly, the United Kingdom continues to conduct extensive consultations, emphasizing principles such as privacy protection and competitive neutrality and has explicitly indicated that no issuance decision is imminent[33].

Other jurisdictions adopt a comparably measured approach. Canada and Japan are actively engaged in research and limited pilot programs, yet retail issuance remains a low policy priority. Brazil offers a hybrid model. On the one hand, the Central Bank of Brazil developed and operates with success PIX an instant payment solution based on commercial bank money. On the other hand, there is the Drex project, wherein they are exploring how to tokenize commercial bank money with distributed ledger technology and infrastructural support from the central bank —a model that maintains the private sector's primary role in payments innovation. India has initiated pilot testing of a retail CBDC (e--R) structured around a two-tier distribution model: the Reserve Bank of India issues digital tokens to commercial banks, which then distribute them to users. This design prioritizes token-based functionality, offline capabilities, and seamless integration with the already successful Unified Payments Interface (UPI) system based on instant payments for commercial bank money accounts. Their objective: to

[31] Poner de nuevo la referencia al estudio conjunto

[32] Strengthening American Leadership in Digital Financial Technology," Executive Order, The White House, January 23, 2025, https://www.whitehouse.gov/presidential-actions/2025/01/strengthening-american-leadership-in-digital-financial-technology/.

[33] Bank of England. "Progress Update: The Digital Pound and the Payments Landscape." February 2025. https://www.bankofengland.co.uk/report/2025/digital-pound-progress-update

reduce cash dependency, improve financial inclusion without undermining financial intermediation.

The only major economy to have moved decisively toward a retail CBDC similar in concept to the Digital Euro is China with its e-CNY. However, this project must be contextualized within China's distinct political and economic environment, characterized by strong state control over financial and data infrastructures — a framework fundamentally incompatible with the European Union's founding values of privacy, decentralization, competition and individual rights.

5.2. NO RETAIL CBDC IN SIGHT ELSEWHERE: WHY?

The absence of fully operational retail CBDCs in other leading economies does not reflect a lack of technical capability. Rather, it evidences a collective caution rooted in sober assessments of the systemic implications. Across jurisdictions, central banks consistently cite concerns over potential risks to financial stability, insufficient consumer demand, and uncertain cost-benefit outcomes as key reasons for abandonment, postponement or non-issuance.

Importantly, other monetary authorities appear to recognize the essential role of private-sector actors in the highly dynamic payments ecosystems. Initiatives to enhance real-time payments, digital wallets, and tokenized bank money typically prioritize leveraging competitive market dynamics rather than replacing them with public-sector alternatives. This reflects a broader strategic judgment: that robust, interoperable, and inclusive payment infrastructures can evolve organically without necessitating radical disruptions to existing financial intermediation models that might compromise investments and innovation in the long run.

5.3. LEADERSHIP OR STRATEGIC OVERREACH?

In evaluating the global landscape, an important distinction must be drawn between genuine leadership and strategic overreach. Leadership in payments innovation demands clear articulation of public purpose, careful calibration of systemic risks, and alignment with societal needs. What no jurisdiction (except the EU) has even conceived so far is to go directly from legislation to full deployment without carefully designing small scale pilot projects to detect unforeseen problems in such a disruptive decision. Haste risks mistaking technological capability for need, and institutional anxiety for strategic prudence.

The European Union's early and assertive pursuit of a retail CBDC could certainly position it as a pioneer. Yet without compelling market-driven demand, a fully developed risk mitigation framework, or broad-based societal consensus, such leadership risks becoming performative rather than substantive and counterproductive. Acting in isolation, especially in a domain as sensitive as payments and financial stability, may

weaken and isolate the EU rather than strengthen Europe's global position —binding it to a technological path others have consciously decided to avoid after careful inspection.

Having considered the comparative global landscape it becomes clear that alternative pathways deserve serious consideration. In the following section, I will outline an alternative proposal that preserves the euro's integrity and while promoting autonomy, innovation, competition, and scalability in digital payments across the European Union.

6. A POSSIBLE WAY FORWARD

Some of the challenges identified in the debate around the digital euro, like the overreliance on non-European providers are real and deserving of policy attention. The ECB and the European Commission have made significant contributions in bringing these issues to the forefront. As Europe seeks to strengthen its strategic autonomy and modernize its payments ecosystem, a coherent and future-oriented approach is required—one that balances resilience, sovereignty, innovation, and democratic legitimacy. This section outlines a vision for the future of digital payments in the euro area based on three core pillars: (1) a competitive, innovative, interoperable private-sector payment infrastructure mobilizing commercial bank money, (2) a targeted and privacy-preserving offline digital euro for resilience and inclusion, and (3) a wholesale CBDC to support financial market integration and international competitiveness. These components, aligned with the respective comparative advantages of public and private actors, should, in my opinion, be our European "Plan A". It offers a more proportionate and effective path forward than a full-scale, general purpose retail CBDC with all its risks and inherent limitations as it is currently proposed by the European Commission.

Unfortunately, the current legislative portraits the Digital Euro as Europe's *Wunderwaffe* in the area of payments instead of focusing on leveraging in all the investments (public and private) already made into the EU instant payments infrastructure and help the payments ecosystem to really deliver to achieve a pan-European scale finalising the era of national fragmentation. Admittedly, this route is less fanciful than creating a new form of money but the risk-reward proposition is much clearer.

The original legislative proposal by the European Commission dates back to 2023, a moment when the geopolitical landscape was markedly different, the digital payment industry had yet to demonstrate coordinated initiative, and the urgency for strategic autonomy in payments had not fully crystallized. Today, Europe faces a more volatile global context and heightened cyber risks. It is therefore imperative that any policy solution adopted by legislators reflects and integrates these evolving realities. By building on existing capabilities and promoting real public-private collaboration, the EU can enhance its payment ecosystem in a manner that preserves institutional balance and supports innovation. Recent developments demonstrate the potential of this path.

As outlined above, relevant actors within the European digital payments' industry have taken important steps towards interoperability and coordination, aiming to devel-

op a unified European solution with cross-border reach. Cooperation between different private initiatives highlight the dynamism and diversity of national initiatives that have gained traction in their respective markets and are now willing to reach pan-European scale[34]. While the lack of coordination and scale hindered earlier efforts—most notably the European Payments Initiative's initial struggles around 2017—today's landscape is markedly different. The availability of real-time settlement infrastructure, the maturation of SEPA Instant, a more supportive regulatory environment, and a shared geopolitical awareness have created stronger incentives and greater alignment across stakeholders. These initiatives illustrate that, with the right incentives and regulatory support, the private sector is increasingly capable of delivering pan-European solutions that address sovereignty and resilience concerns.

Despite this progress, the current Digital Euro proposal represents a relatively drastic shift from the traditional role of central banks in retail payments (i.e. facilitative role) towards the creation of a comprehensive solution that competes with, rather than complement, private initiatives, especially in standard use cases. This leap has taken place without fully exhausting intermediate policy options such as regulatory sandboxes, coordinated market initiatives, or harmonization of national schemes through common standards. It has also been justified in part by a narrative that the private sector has failed to deliver pan-European solutions over the past two decades. However, this view overlooks the fact that the preconditions for success—particularly regulatory alignment and real-time settlement infrastructure—only began to partially materialize with the launch of TIPS in late 2018 and the progressive rollout of SEPA Instant. Institutional incentives and political momentum at the European level were likewise insufficient until very recently to foster genuine cross-border coordination. These contextual factors are crucial to understanding why a pan-European solution did not emerge earlier, and why such a solution is more feasible today.

To fully support this evolving ecosystem and ensure it scales effectively across borders, the European Commission, together with the European Parliament and the Council, have a critical role to play—not as direct service providers, but as facilitators of convergence. Drawing on their longstanding role in shaping the internal market, our focus should be on enabling innovation through the promotion of interoperability, ensuring consistent regulatory frameworks across Member States, and supporting adoption through targeted incentives and proper regulation and supervision. In this context, the use of public funds should aim to address coordination failures, foster trust, and accelerate market integration, rather than replace or crowd-out private actors already active in the payments space —while remaining grounded in principles of cost-effectiveness.

In this context, the ECB's role should evolve toward that of a neutral enabler. Its key role should concentrate: (i) on supporting the development of technical stand-

[34] BTW Media. European Mobile Payment Systems Achieve Cross-Border Interoperability. March 5, 2024. https://btw.media/fintech/european-mobile-payment-systems-achieve-cross-border-interoperability/
BNP Paribas. Wero: A New European Instant Payment Solution. Accessed April 30, 2025. https://group.bnpparibas/en/news/wero-a-new-european-instant-payment-solution

ards —where the ECB should act as a leading standard-setter in collaboration with the private sector but refraining to design or develop consumer facing schemes— and, (ii) ensuring the availability of robust infrastructure (such as TIPS), and promoting interoperability among payment systems. This role aligns better with the ECB's institutional mandate and longstanding experience in managing critical financial infrastructure. It allows the Eurosystem to contribute to strategic objectives without assuming functions traditionally held by market actors. None of this implies the ECB should retreat from the digital payments equation; rather, it highlights where its involvement can be most effective—providing foundational infrastructure, ensuring trust, and enabling innovation through collaboration rather than substitution.

Within this collaborative framework, a much-streamlined offline Digital Euro could still provide targeted public value with limited risk to financial stability, citizens' privacy or long-term innovation. ECB´s role on a purely pre-paid (no waterfall) offline digital euro could serve as a complement to cash as a central bank money usable in digital environments. It might also enhance the overall resilience of the payments system. By enabling payments without internet connectivity and protecting user privacy to a degree comparable to physical cash, the offline digital euro addresses unique use cases that the private sector is not currently prioritizing. Moreover, its value becomes even more apparent under conditions of stress—such as cyber incidents, infrastructure failures, or geopolitical disruptions—that could impair online payment systems. Beyond resilience, the offline functionality might contribute to inclusion: if designed with simplicity in mind—through the use of familiar tools such as prepaid cards and secure elements embedded in widely available smartphones—it can bridge gaps for individuals without stable internet access or those with limited digital literacy. Furthermore, by embedding strong privacy guarantees, it could address important public concerns around surveillance and control, thereby reinforcing trust in the monetary system[35]. Importantly, this form of CBDC might not disrupt financial intermediation or market dynamics, as it would operate with clearly defined usage limits and a scope restricted to specific, complementary use cases.

Additionally, wholesale CBDC in Europe can deliver substantial benefits in terms of settlement efficiency, market integration, and strategic autonomy. By enabling T+0 settlement in financial markets, a wholesale CBDC could help reduce counterparty and operational risks, improve liquidity management, and support the development of the Savings and Investment Union. Pilot projects conducted by national central banks—such as those in France and Germany—demonstrate the feasibility of this development. As such, scarce technical resources currently devoted to the Digital Euro should be redirected to this priority.

The ECB's leadership has helped raise awareness of strategic dependencies and

[35] In turn, transaction limits (maximum value transaction limits) currently applicable by Member States should also apply to the offline functionality if these are lower than the general holding limit in order to duly protect the same general interests that justified the limits in the case of cash (e.g. preventing anti-money laundering and terrorism financing or tax evasion)

the need for action. The next step is to channel this momentum towards a model of public-private complementarity, where each actor plays to its strengths. The future of European payments does not lie in institutional overreach or market substitution. This is a call to shape Europe's payment future through shared responsibility, smart coordination, and principled ambition.

Taken together, this approach rests on three mutually reinforcing pillars: (1) a private-sector-led, pan-European payments solution based on commercial bank money and harmonized standards, with the ECB playing a central role in defining the common technical standards that ensure interoperability and resilience across the system; (2) a potentially purpose-driven offline digital euro that acts as a resilient, inclusive, and privacy-respecting complement to cash, with strong potential to address accessibility and continuity-of-service needs across the euro area; and (3) a wholesale CBDC that supports financial market integration and strengthens the euro's international standing. This architecture is not only more aligned with the subsidiarity and proportionality principles of EU law, but also more responsive to user needs and technological developments. This would be all the current Digital Euro proposal is not: avoids the financial stability risks, addresses citizens' privacy concerns with a built-in solution, and incentivizes private investments and long-term innovation in the area of payments. This should be the basis of "Plan A" for the future of Europe's digital payments.

But what if the EU digital payments industry, despite their renewed efforts, fails to provide citizens with a pan-European digital payment solution? We definitely need a contingency plan because our over-reliance and fragmentation in the area of payments is a critical vulnerability and success on the part of the different private sector initiatives -although promising- should not be taken for granted. We might need a "Plan B".

How can we operationalize this lexicographic order in the EU response to the challenges in the area of digital payments? First and foremost, ensuring that the procedure for the eventual issuance decision for a Digital Euro duly incorporates the opinion of the co-legislators and among the precedence conditions to be satisfied is that no private solution with pan-European scale covering the standard use cases is already available in the market at the potential issuance moment. Is the current Digital Euro proposal a basis for such Plan B? If no better alternative is finally achievable, then the several risks and flaws in the current Digital Euro proposal, that we have already discussed, should be mitigated as much as possible:

- Financial stability safeguards need to be not just technically sound but politically resilient.
- The highest levels of privacy safeguarded.
- All the associated costs related to the operation of the new platform and scheme and the custody of the new Digital Euro accounts have to be recovered with no hidden subsidies.
- There should be structural separation of the oversight functions of the Eurosystem over the payments area and its management of the Digital Euro platform.
- The parties liable for consumer protection should be able to implement preven-

tive anti-fraud measures without undue restrictions derived from the technical design of the Digital Euro platform.

- Prior to issuance and testing, pilot projects in all member states should be carried out to detect unintended effects and duly calibrate risks.

Let us hope "Plan B" is finally not needed. This will be a sign that the EU is a thriving economic area where competition and innovation by the payment ecosystem is on the driving seat delivering solutions to the real needs of EU citizens. And with our idiosyncratic market fragmentation and over dependencies solved once and for all, let us enjoy the strategic patience to develop a dynamic, innovative and fit for purpose digital payment ecosystem that will help us promote stability and innovation to the whole economy.