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Copenhagen Economics study on the impact of a digital euro on financial stability and consumer welfare

Accompanying note

The banking industry supports the objective of increased European strategic autonomy in payments and sees that new forms of digital currencies and payment methods will be needed to support the multi-faceted digitalisation of the economy. We envision a future digital economy where Europe has a strong, resilient, innovative, and competitive payments and digital assets ecosystem, with enhanced European strategic autonomy. A digital euro - if appropriately designed and calibrated - could be one of the new tools to meet users' evolving payment needs.

Differently from a wholesale CBDC – which as a concept was introduced in the eurozone already in 1999 – a retail CBDC is a much more complex endeavour. It introduces a new concept, it interacts with private electronic payment means, and it requires an in-depth exercise to balance different impacts on the economy as a whole and financial intermediation in particular.

There are three areas of possible impacts that should be counterbalanced from the start:

a) the risk of displacement of bank deposits, with the potential consequences of a massive adoption of the digital euro: increase of funding costs, reduction of credit for the economy, especially long-term financing that is backed with stable deposits, potential inability to replace the lost deposits from the market especially in times of stress;

b) the investment and recurring costs of implementation of such a complex and large-scale project, with a consequent reduction of innovation capacity and therefore of competitiveness for banks;

c) the overlap with existing payment means and the possibly fundamental alteration of the retail banking model, with a consequent erosion of related revenue streams that may affect the profitability of banks, which is vital for their resilience.

As the digital euro project has now entered the preparation phase, the EBF considers it vital to pursue a constructive dialogue between the co-legislators, the ECB and the banks, to find together the balance that will ensure the success of the digital euro, along with the introduction of robust mitigating measures for all the above risks.

a) Effects on financial stability

The introduction of a CBDC can affect financial stability, i.e. the ability of the overall financial system to weather shocks and provide critical financial services, also in periods of stress. The study of Copenhagen Economics examines the impact of the digital euro on financial stability considering four different holding limits. **With the holding limit at 3,000, the study found that the digital euro can lead to an outflow of up to 739 billion euro of bank deposits in the euro area. This corresponds to a loss of 10% of the total household deposit base and 3% of the total bank liabilities. With a holding limit of 500 euros, the loss of deposits could be limited to 139 billion euro, still an important number but a decrease of 81%**

compared to a 3,000 euro holding limit. Clearly, if the limit is set lower, the loss of deposits will be further limited and the impact less damaging.

Furthermore, the impact is diverse across banks. For highly impacted banks, these figures could rise to 20% of the deposit base or 9% of total bank liabilities. Across the smaller banks in the sample, deposit outflows amount to 7% of total liabilities, more than twice the aggregate outflow across all banks (3%). For the latter, it is important to do a **separate deep-dive analysis of tail risks** (**i.e. the impact on small banks** with greater dependence on deposits and less access to wholesale funding), **and analyse the geographical regions** where there may be a greater concentration of institutions in this situation.

Given the long-term perspective of a digital euro, **its effect on financial stability should be measured against periods of stress in the financial system.** Here, it is found that the digital euro could exacerbate deposit runs, and this might especially hit smaller banks for two reasons: their customers tend to have lower levels of deposits, leading to a larger share of deposits being withdrawn; and they are more dependent on retail deposit funding.

Moreover, banks facing a potential depositor shift would at the same time face increasing costs of replacing the lost deposits, while the potential magnitude of the shift –10% of the depositor base – could itself create stress in the markets.

The study points out that **reducing access to credit could also hinder achieving other national or EU-wide public policy objectives that rely heavily on the financial intermediation role of banks** (e.g. the green transition) and concludes that **considering a range of scenarios of stress in the financial system is the only way to make a complete assessment of the risks of the digital euro for financial stability.** As a departure point for such a scenario, the study finds that a full utilisation of the digital euro could increase a bank's incremental lending costs by 300 basis points for each euro that needs to be refinanced by alternative funding sources. These additional costs of funding would correspond to an average decrease in banks' net interest income of 7% on an aggregate euro-area level and a corresponding decrease of 13% for the small banks in the sample. The magnitude of the impact on financial stability can be even higher, if the financial environment develops unfavourably, or to the extent that individual banks are unable to obtain funding at this rate.

b) Cost of infrastructure for the implementation of a digital euro

With several aspects still to be finalised (including the technological architecture), the exercise to estimate the set-up and running costs that intermediaries will be asked to bear is at its early stage. Banks are referring to past experiences of large-scale projects in payments, such as SEPA and TARGET.

Even though the ECB made clear that it would bear its own costs, a huge cost would still be borne by banks and other PSPs. Adopting the detailed user journeys designed by the ECB will require investments on front-end, processing and recording of transactions, KYC procedures, integration with their own mobile apps as well as with the one provided by the Eurosystem, integration of a new and dedicated settlement approach, just to name a few.

A project of this magnitude is bound to absorb a sizeable amount of resources both in IT and payments departments of banks, this way freezing innovative projects for a number of years, on top of the already important investment that other regulations will impose (i.e. Instant Payment Regulation, PSR, DORA). It

would be important to better understand how the ECB and the co-legislators expect the digital euro to become a "platform for innovation", as no details in this sense have been released so far. Foreseeing opportunities to leverage the digital euro as a basis for offering innovative and value-added services is a necessary pre-requisite for its sustainability.

Further, commercial banks have invested in building and maintaining an infrastructure that allows them to interact with households. This includes implementing procedures to prevent fraud, money laundering and a whole array of Know-Your-Customer rules. There is an open question of whether the digital euro will be built on a system where central banks make the best use of commercial bank solutions, or the ECB intends to build a parallel technical infrastructure from scratch. **The final choice needs to be based on a thorough assessment of the cost of the different alternatives, accompanied by the anticipated sources of funding to implement them.** In any case, as an initial approach and as long as the digital euro is focusing on existing use cases, **leveraging as much as possible on existing instant payments infrastructure and existing payment processes and components should be a fundamental consideration** by the ECB when reflecting on the digital euro infrastructure.

c) Impact on electronic payments business

The digital euro is intended as a complement to cash and to private electronic payments. However, there are no estimates so far as to the share of the payments market that would come from transactions currently made in cash and from electronic payments.

Furthermore, the use cases currently prioritised for the digital euro are covered by existing solutions, questioning the added value vis-a-vis a costly implementation that will affect all market participants, including consumers. In addition, imposing zero or low fees for the use of the digital euro would crowd out existing payment means, including those that at this stage are not considered "comparable", such as credit transfers. **The impact on banks' business models should be quantified, in terms of margin erosion.**

A first exercise in that respect has been conducted by Mediobanca Research[1], which estimated the digital euro impact to NII (deposit outflow), revenues (card payments, bank transfers and current accounts) and costs under three scenarios (mild, moderate and adverse). The findings showed substantial effects that need to be counterbalanced.

It is important to acknowledge, that offering digital euro services free of charge does not necessarily improve consumer welfare in the medium-long term. If the fee is below overall costs to banks and other PSPs, it will crowd out existing payment means, hinder private innovation and ultimately, the consumers will pay for lack of cost recovery, in terms of high taxpayer spending for the functioning of the payment

[1] Mediobanca Securities, 12 October 2023 - RegObs Special Report- - d€ asteroid: from theory to the real thing. The result of this analysis leads to the highest impact coming from NII, followed by fee damage in the middle and a lower impact from costs. The Mediobanca report estimates (under the current state of play) the impact from the digital euro rollout to banking revenues – on card payments, transfers and current accounts – between 2.5 and 6.5% of profits (depending on the three adoption scenarios) from margin squeeze/substitution of today's services, representing a higher impact than NII in the mild scenario, with lower countermeasures available to banks.

systems in comparison to the current situation. Allowing room to – at least partially - offset the losses by enabling the design and remunerated provision of additional services by digital euro distributors, and imposing an amount limit per transaction could be examples of ways to counterbalance.

Way forward

EBF welcomes the continuation of the structured dialogue with the market throughout the preparation phase and are open to give their best contribution in addressing the open points. A balanced approach is the challenge ahead.

As the preparation phase for the digital euro has started, it is of paramount importance to conduct **a comprehensive impact assessment on infrastructure and the payments/retail banking business models** to complement the study hereby offered on the potential impact on financial stability. This additional assessment is necessary for the co-legislators and the ECB to define: a) the limit on digital euro holdings per individual, as well as other relevant limits; b) the impact on existing payments market and the implementation of appropriate countermeasures, including infrastructure related aspects; c) the overall suitability of the compensation model, of which the inter-PSP fee is an important part but does not cover the articulated business model for the distribution of the digital euro. The EBF would be prepared to contribute in defining the methodology of such analysis to be conducted by the ECB.

The digital euro will create additional launch and recurring costs for commercial banks, other PSPs, and merchants, in general related to a possible shift from bank deposits, the adaptation of infrastructure for its implementation and distribution, and the overlap with existing payment means. It is also important to remember that **any impact of the digital euro will occur in an environment of multiple challenges**, while at the same time banks will be expected to finance a big part of strategic European objectives, such as the green and digital transitions, strategic infrastructure, etc. To overcome these challenges, a deeper and more constructive partnership between public and private actors is necessary for the next phases of the project.