Update on workstream on the methodology for the calibration of holding limits

11th ERPB technical session on digital euro

11 April 2024
1. What is this workstream about
Setting the background for the workstream

Holding limits are a **key design feature** that will be set close to **potential issuance**

This workstream is about developing a **methodological framework and models necessary to calibrate** the holding limit

Key question for feedback after this ERPB meeting: **Do we consider everything we need to?**
How the workstream is set up

**Multidisciplinary team:** Experts from relevant business areas of ECB and SSM with background in e.g., payments, monetary policy, financial stability, market operations and banking supervision

**Eurosyste...** ECB team will leverage on expertise from National Central Banks and National Competent Authorities

**Building on solid research:** Eurosyste... implications of CBDC extensively, which is groundwork for the workstream
Engaging with the market over the next year

One-year outlook

April ERPB
Factors and outlook on engagement

June expert session

Summer break

November ERPB (tbd)
Intermediate discussion considering feedback of ERPB

December/January expert session (tbd)

Spring 2025
One-year milestone session with ERPB

Data refinement with banks over the summer
Under which premises does the calibration take place
Holding limits and design features of digital euro

Holding limits per user will contribute together with other design choices to make the digital euro primarily a means of payment rather than a store of value.

- **Zero remuneration:** digital euro will not be remunerated, just like cash.

- **“Reverse waterfall” functionality:** people can link digital euro to a payment account, such that they do not need to hold large amounts of digital euro to be sure they can always make payments.

- **Zero holding limits for merchants:** merchants would not be able to hold digital euro, without constraining their ability to accept digital euro (“waterfall” functionality).
Draft legislation balances objectives for setting holding limits

Article 15.1 of the proposed digital euro Regulation lays down three objectives

- Enable natural and legal persons to access and use digital euro ("usability")
- Define and implement monetary policy ("monetary policy and its implementation")
- Contribute to the stability of the financial system ("financial stability and banking supervision")

which relate to the Eurosystem’s investigation phase findings:

- **Preserve freedom of access** to a public good such as central bank money and **ensure a ‘best in class’ user experience** when paying with digital euro
- Maintain financial and financing conditions **consistent with the monetary policy stance**
- Preserve a healthy **equilibrium between bank deposits and central bank money** in circulation (i.e., safeguard financial stability)
Which relevant factors could the calibration consider?*

* Initial views subject to revision based on ERPB technical session feedback and expertise/views leveraged from NCBs/NCAs
Framework will need to consider key factors that influence calibration of holding limits

The definition of the methodology for the calibration requires a complex economic assessment involving expertise from multiple areas

A. **Identify** the **key factors** that influence the calibration

B. Establish a coherent framework, taking those factors into account

C. Decide on the holding limit and its stability over time, while preserving the possibility of future revision if need be

At this stage we seek discussion and feedback on **A.** the key questions to be answered, relevant models and data.

Further into the preparation phase, we will detail out and engage with stakeholders on **B.**
First building block: Usability and ecosystem

• Public good nature of the digital euro and proportionality principle: restrictions should be necessary, appropriate and the least intrusive to maintain financial stability and support the effectiveness of monetary policy.

• Yet, it is important deepen the understanding of the practical implications of usability resulting from different holding limits.

Key identified questions and factors of the building block:

<table>
<thead>
<tr>
<th>Questions</th>
<th>Factors</th>
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<tbody>
<tr>
<td>Impact of speed of adoption on the calibration of holding limit</td>
<td>Adoption rate</td>
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<td>User preferences in terms of pre-funding over reverse waterfall</td>
<td>Preference to pre-fund, usage of reverse waterfall</td>
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<tr>
<td>Impact of slower-than-expected reverse waterfall on users’ preferences</td>
<td>Speed of reverse waterfall</td>
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<tr>
<td>Amount of pre-funding needed for digital euro payments (P2P, POS, e-commerce) if users follow a monthly top-up cycle</td>
<td>Ability to use pre-funding with a monthly cycle</td>
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Second building block: Monetary policy

- Look at range of effects the digital euro may have on the monetary policy stance, transmission and implementation.

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<td>Range of effects on the economy for alternative limits, cash &amp; digital</td>
<td>• Credit supply/bank lending</td>
</tr>
<tr>
<td>euro demand levels and different central bank responses</td>
<td>• Bank deposits / funding conditions</td>
</tr>
<tr>
<td></td>
<td>• Intermediation capacity (profitability and capital accumulation)</td>
</tr>
<tr>
<td>Range of effects on stance, implementation and central bank balance</td>
<td>• Money market conditions</td>
</tr>
<tr>
<td>balance sheet for alternative limits, cash &amp; digital euro demand levels</td>
<td>• Available modalities for Eurosystem balance sheet adjustment</td>
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<tr>
<td>and different central bank responses</td>
<td>• Collateral constraints</td>
</tr>
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<td>Potential impact of increased digitalisation on composition of monetary</td>
<td>Cash holdings dynamics</td>
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<td>aggregates (allocation of funds across cash, digital euro and bank</td>
<td></td>
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<td>deposits)</td>
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### Third building block: Financial stability

- Look at the range of effects of the digital euro on banks’ liquidity buffers and regulatory ratios (NSFR and LCR, incl. further metrics).

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<tr>
<td>Range of possible effects on bank deposits</td>
<td>Mapping of different limits and deposit outflows&lt;br&gt;Outflow of deposits&lt;br&gt;Inflow of deposits</td>
</tr>
<tr>
<td>Range of possible effects on funding</td>
<td>Funding composition&lt;br&gt;Funding costs&lt;br&gt;New income sources&lt;br&gt;Interest income</td>
</tr>
<tr>
<td>Range of possible effects on liquidity</td>
<td>Liquidity buffers/&lt;br&gt;Compliance with regulatory ratios (NSFR, LCR) etc.</td>
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<td>Range of distributional impact (of all outcomes)</td>
<td>Across individual banks&lt;br&gt;Across countries&lt;br&gt;Across business model</td>
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Third building block: SSM banking supervision

- Look at the range of effects of the digital euro on banks' business model sustainability, liquidity and funding management.

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<td>Range of impact on banks' business model sustainability, including on how this differs across individual banks and business models</td>
<td>Business model sustainability</td>
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<tr>
<td>Range of impact of deposit shift to the cost of funding and thus the Net Interest Income</td>
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<tr>
<td>Range of impact on liquidity buffers and funding mix (including during stressed conditions), including on how this differs across individual banks and business models and countries. Possibility of clustering banks into &quot;stylized funding models&quot; to have a holistic view across the SSM. Identification of the most important KPIs/indicators to consider. Identification of the level of deposit outflows at which the liquidity position of a SI would be impaired.</td>
<td>Liquidity buffers (LCR and further metrics)</td>
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<td>Collateral availability (incl. counterbalancing capacity)</td>
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<td>Funding mix (NSFR and further metrics)</td>
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<td>Interest rate risk in the banking book (IRRBB)</td>
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4 Feedback by the ERPB
For feedback by the ERPB by 24 May 2024

We specifically invite reflections on the key identified questions and factors outlined for the various building block (slides 11 to 14), including reasoning for any adjustments, additions, or deletions. You may also provide suggestions on suitable methodologies or data sources.
Invitation for dedicated expert sessions

ERPB bank and consumer associations will be invited to nominate up to five topical experts (e.g., treasury experts) from their constituents to join an expert session with ECB workstream staff following the deadline of the written procedure. Details will follow.

This composition reflects the objectives “useability” (consumers) and “financial stability and banking supervision” (banks) from Article 15.1 of the proposed regulation.
Thank you

Additional supporting materials:
• Updated digital euro FAQ
• Report: A stocktake on the digital euro
• ECB opinion on the EU Commission’s digital euro legislative proposal
• Digital euro one-pager
• Digital euro booklet
• Digital euro LinkedIn page