

Long-term implications of a digital euro on liquidity and funding costs in the German banking system

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The digital euro (D€) would establish an efficient addition to the European payment landscape. It is designed to boost autonomy, resilience and inclusion of the European payment sector. This study assesses its long-term implications and alleviates concerns regarding potential negative effects on liquidity and funding costs in the German banking system. Using a theoretical model calibrated to German banks, we find that the impact of a D€ on profitability and liquidity is contained, in particular with holding limits imposed as an important design feature.

The digital euro: Balancing Innovation and Long-term Implications

The European Central Bank (ECB) is exploring the introduction of a digital euro (D€) as a complement to cash, offering euro area residents a new form of central bank money. While the D€ is expected to enhance payment efficiency and strategic autonomy, it could influence banks' liquidity situation and profitability. By providing an alternative to traditional bank deposits, the D€ could lead to liquidity outflows from banks, potentially affecting funding costs. To mitigate possible risks, the European Commission has proposed allowing the ECB to impose holding limits on the D€ as a store of value.

Our study contributes to this debate by analysing the long-term implications of a D€ for the German banking system. Specifically, we examine how banks might adjust their liquidity buffers and funding structures in response to deposit outflows into a D€. This analysis is based on an optimisation approach, which evaluates various refinancing options (i.e. retail vs. wholesale funding) to determine the optimal funding mix under different market conditions. Using a theoretical model, we simulate the effects of different holding limits and interest rate environments on key ratios, such as banks' funding costs, liquidity, and profitability.

How banks adapt to a digital euro

The D€ is designed to be non-interest-bearing. Its effects on bank liquidity and profitability depend on various factors, such as the prevailing interest rate environment and depositors' preferences for holding a D€. In general, there are three mechanisms through which banks can respond to deposit outflows into a D€:

1. Reducing liquidity buffers to offset outflows.
2. Raising deposit rates to retain funds.
3. Issuing bonds to replace lost deposits with wholesale funding.

Our model captures these strategic trade-offs, considering the regulatory constraints banks face, such as the Liquidity Coverage Ratio (LCR), and the market dynamics of retail deposits and bond funding.

Simulations reveal that banks are likely to rely more on bond issuance than on raising deposit rates to adapt to a D€. This is because depositors exhibit low sensitivity to small changes in deposit rates, making rate increases a costly strategy. Instead, banks prefer to issue bonds, even though this increases their funding costs due to credit and liquidity risks.

Key findings: Limited impact, but heterogeneous effects

Our results suggest that the long-term impact of a D€ on the German banking system is contained, especially if holding limits are introduced. For a holding limit of €3,000 per person – a figure widely discussed among regulators – the return on equity (ROE) for German banks decreases by between 0.03 percentage points (PP) in the favorable scenario and 0.2 percentage points in the most adverse scenario, while the aggregate LCR declines by between 4 PP and 7 PP.

However, the effects are not uniform across banking groups:

- Commercial banks, which rely less on retail deposits, experience minimal impact.
- The potential outflows for retail banks, which depend heavily on retail deposits, are to a certain degree more pronounced. These banks, however, have greater flexibility to adapt than commercial banks by reducing their liquidity buffers, as their funding models rely less on wholesale funding.

Interestingly, the simulations show that smaller retail banks within banking associations can leverage their central institutions to access wholesale funding. This allows them to mitigate adverse effects on profitability.

Policy implications

Our findings highlight the importance of carefully calibrating holding limits for a D€ to balance its benefits with potential effects on bank liquidity and profitability. A holding limit in the range of €3,000 appears to mitigate the adverse effects on banks' liquidity and profitability while preserving the D€'s role as a payment instrument.

Moreover, the resilience of the banking system to liquidity shocks will continue to depend on the adequacy of existing liquidity buffers. This underscores the need for policymakers to maintain ongoing and comprehensive monitoring of banks' liquidity positions, both during and after the introduction of the D€.

References

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