Sensitivity Analysis of Liquidity Risk – Stress Test 2019
Executive summary

- The ECB will perform a sensitivity analysis of liquidity risk (LiST) as the annual supervisory stress test for 2019
  - Liquidity risk is part of the supervisory priorities for 2019, as we have witnessed individual cases of constrained liquidity in recent years

- The sensitivity analysis will focus on banks’ ability to handle hypothetical idiosyncratic liquidity shocks
  - Shocks are calibrated based on supervisory experience
  - The exercise will be carried out without any reference to monetary policy decisions

- Results will feed into the ECB’s ongoing supervisory assessments of banks’ liquidity risk management frameworks, including the SREP
  - Exercise will run until May/June 2019
  - Banks’ individual results will be discussed bilaterally as a part of the supervisory dialogue in Q3 2019
Background & Objectives

Background

- **Art. 100 CRDIV** requires that competent authorities (CAs) conduct at least **annually supervisory stress tests** on the supervised institutions as an input to the SREP.
- **EU-wide stress-tests** are conducted biennially, with the next one being scheduled for **2020**.
- In between, the ECB conducts stress tests focussed on topical issues. For the first time, the ECB conducted the **Sensitivity analysis of IRRBB** in **2017**.
- This year’s stress test will take the form of a **sensitivity analysis of idiosyncratic liquidity risk**.

Objectives

- Objective of the call is to **inform about the launch of the 2019 exercise**.
  - Provide an overview of the exercise and the approach
  - Present the foreseen interactions between the banks and the ECB
  - Explain the next steps
- Discuss bank-specific information or bank-specific questions on the methodology
The assessment of banks’ liquidity risk is one of the SSM supervisory priorities for 2019

- Banks in the euro area have experienced ample liquidity in the past few years…
  - High levels of compliance with fully phased-in Liquidity Coverage Ratio (LCR)
  - Supervisory framework for sound internal liquidity risk management procedures (ILAAP) finalized in 2018

- …yet, we have witnessed individual cases of constrained liquidity
  - Liquidity risk is an inherent risk of banks, as banks transform short term funding into long term credit
  - Liquidity drains can happen fast and can be based on multiple factors, both systemic and idiosyncratic
  - Usually they are going hand in hand with reduced trust in the viability of an institution

⇨ This calls for a test to which degree SSM banks can handle critical situations.

Sensitivity Analysis of Liquidity Risk – Stress Test 2019
Key features of the Sensitivity Analysis of Liquidity Risk – Stress Test 2019

Key features

- The exercise will be a **sensitivity analysis** based on **idiosyncratic liquidity** shocks
  - **Instantaneous shocks** reverberating through six months
  - **No macro-economic scenario** or market-wide stress simulation

- The exercise will be carried out **without any reference to monetary policy decisions**.

- **Around 100 significant institutions**\(^{(a)}\) required to report bottom-up cash flows projections

- **Smaller exercise than EBA ST 2018**
  - **Less than 5% of data points** collected and significantly less resources involved compared to the 2018 stress test
  - Banks will be able to **leverage on existing supervisory reporting**

- **Reported data will be challenged by the ECB Banking Supervision** through a Quality Assurance process

Timeline

- **Quality Assurance** will last until **May/June 2019**
- **Integration** of results into the **SREP** will be discussed bilaterally with banks in **Q3 2019**
- **Decision on the publication of aggregated results** in **Q3/ Q4 2019 pending**

\(^{(a)}\) Combined number of significant institutions (SIs) included in the exercise is lower than the total number of banks under direct ECB supervision, as some exceptions apply (e.g. SIs that are subsidiaries of other SSM SIs, which are already covered at the highest level of consolidation).
Exercise focuses on assessing banks’ ability to handle idiosyncratic liquidity shocks

The exercise covers…

- Sensitivity analysis will be based on hypothetical shocks drawn upon supervisory experience.
  - The exercise simulates cash outflows of retail and commercial deposits and a full freeze of wholesale funding. Moreover, banks face rating downgrades and additional drawdowns of committed lines.
  - At the same time, banks find themselves unable to generate liquidity from deleveraging commercial lending activities.
  - Banks’ ability to withstand the shocks is driven by their counterbalancing capacity, the amount of liquidity they can generate instantaneously based on available collateral.
  - The exercise will also test banks’ intragroup liquidity flows as well as those denominated in a non-EUR currency; and their ability to mobilise further collateral beyond what is immediately available.

…and it excludes

- The exercise will not assess banks’ structural funding risk and it makes no reference to systemic liquidity crises (i.e. general changes in risk premia or asset valuations, etc.)
- Liquidity shocks will not rely on any macroeconomic or geopolitical scenario. Accordingly, the exercise is carried out without any reference to monetary policy decisions.
Banks will be assessed based on their expected and stressed short-term cash flows

Survival period represents main output metric

- Banks will provide **expected and shocked cash flows** to the ECB covering the six month following the reference date (**31 Dec 2018**)
- The **survival period** describes the number of days that a bank can continue to operate using available cash and collateral with **no access to funding**
  - Comparable among banks with different business models
  - Complementary to the existing supervisory requirements (e.g. Liquidity Coverage Ratio)
Test of adverse and extreme hypothetical shocks in which banks face increasing liquidity outflows

**Baseline**
- Contractual cash flows

**Adverse shock**
- No shock
  - Contractual flows from wholesale banking are fully considered.
  - Commercial banking activities (deposit taking / lending) remain stable.
- Moderate shock
  - Banks face limited scale deposit outflow; a freeze of wholesale banking activities, a one-notch rating downgrade and limited withdrawals of committed lines.
  - Commercial lending is assumed to remain stable.
- Harsh shock
  - Severe deposit run-offs are assumed to hit the bank while commercial lending remains stable.
  - Besides the freeze of wholesale banking, banks face an instantaneous three-notch downgrade and pronounced withdrawals of committed lines.

**Extreme shock**
- Lasting 6 months

Shocks designed without any reference to monetary policy decisions
Deposit outflows were calibrated based on supervisory experience from recent crisis episodes

- The ECB analysed the liquidity dynamics observed in recent bank-specific liquidity crises through multiple sources.

- Patterns identified by supervisors informed the design of the shocks, including their length.

- The severity of shock factors was calibrated based on real crisis cases.

- Deposit outflows were identified as one of the main channels through which idiosyncratic shocks may hit banks.

Source: ECB.
Analysis reveals that despite substantial outflows, banks’ commercial lending remains stable

- In spite of the substantial outflows observed in historic liquidity crisis episodes, stressed banks did not compensate the drain of liquidity through deleveraging their balance sheet.

- Potential explanations include e.g. possible signaling effects to market participants and the long-term nature of many loans.

- The asymmetric impact on their assets and liabilities may lead banks into a liquidity squeeze.

Banks find it hard to deleverage quickly in response to a shock
Shock time horizon of six months closes gap between existing supervisory measures

- Past liquidity crises were observed to last between four and five months on average.

- The Liquidity Coverage Ratio (LCR) targets a 30 day stress horizon, the Net Stable Funding Ratio (NSFR) a 1 year horizon.

- Six months LiST stress horizon complements both LCR and NSFR and closes the gap between the time periods targeted by other supervisory measures.

Liquidity crises may last for several months

Number of crises observed broken down by length (in months)

- <3m: 14%
- 3m - 6m: 43%
- >6m: 43%

Source: ECB.
# Overview of shocks envisaged for the key balance sheet items

**Full table in the Annex!**

<table>
<thead>
<tr>
<th>Contractual maturity items</th>
<th>Baseline contractual CFs</th>
<th>Adverse shock</th>
<th>Extreme shock</th>
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<tbody>
<tr>
<td>Securities issued &amp; secured market funding</td>
<td>100% outflow rate</td>
<td>100% outflow rate</td>
<td>100% outflow rate</td>
</tr>
<tr>
<td>Secured market lending</td>
<td>100% outflow rate</td>
<td>100% outflow rate</td>
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</tr>
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<td>Term deposits (commercial counterparties)</td>
<td>Constant stock</td>
<td>18%-52% outflow rate&lt;sup&gt;a&lt;/sup&gt;</td>
<td>27%-76% outflow rate&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>Open maturity items</td>
<td></td>
<td></td>
<td></td>
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<td>Sight deposits (commercial clients)</td>
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<td>CBC</td>
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<td>Coins banknotes and CB reserves</td>
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<td></td>
</tr>
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<td>12%/ 60% outflow rate&lt;sup&gt;b&lt;/sup&gt;</td>
<td>15%/ 75% outflow rate&lt;sup&gt;b&lt;/sup&gt;</td>
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<td>Outflows from committed facilities</td>
<td>Impact from own rating downgrade</td>
<td>1-notch ↓</td>
<td>3-notch ↓</td>
</tr>
</tbody>
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<sup>a</sup> Outflow rates relate to particular types of deposits which are assumed to differ in terms of stability. Lowest outflow rates are attributed to ‘Stable deposits’ as defined in Art. 421 CRR, whereas the highest outflow rates relate to deposits from non-financial corporates.

<sup>b</sup> The lower rate shall be applied to committed credit facilities whereas the higher rates apply to committed liquidity facilities.
Outcome will affect supervisory SREP requirements in a non-mechanical way

SREP: Determination of capital requirements

- Quality and timeliness of banks’ submissions will be factored into the assessment of banks’ governance and risk management (Element 2 of the SREP framework(a)). Thus, LiST results may have an indirect impact on capital requirements.
- No direct impact on capital requirements which would be inappropriate to address liquidity risks.

(a) For further reference, see SREP Booklet [Link]

SREP: Determination of liquidity requirements

- LiST outcome shall inform all blocks of the liquidity assessment of the SREP (Element 4 of the SREP framework(a)).
- LiST will be used as an input factor into banks’ liquidity SREP scores and thus may lead to additional liquidity requirements.
- LiST might also lead to supervisory requests to strengthen specific liquidity buckets to improve the overall resilience of individual banks.

(a) For further reference, see SREP Booklet [Link]

⇒ Outcome to be discussed with banks in the supervisory dialogue in Q3 2019.
⇒ LiST 2019 will contribute to the further improvement of the SREP methodology.
# Next steps...

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>6 February 2019</td>
<td>Launch of exercise</td>
</tr>
<tr>
<td>Launch + 6 weeks</td>
<td>Remittance date for data request for all participating banks and start of the Quality Assurance phase</td>
</tr>
<tr>
<td>May/ June 2019</td>
<td>Finalization of Quality Assurance interactions with banks</td>
</tr>
<tr>
<td>Q3 2019</td>
<td>Supervisory dialogue between supervisors and individual banks</td>
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<tr>
<td>H2 2019</td>
<td>Disclosure of aggregate results [to be decided]</td>
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Annex
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<td>Derivatives &amp; FX swaps (inflow/outflow)</td>
<td>100% in/outflow rate</td>
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<td>100% inflow rate</td>
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<td>Others (inflow/outflow)</td>
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<tr>
<td>Undrawn committed facilities received</td>
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<td>100% in/outflow</td>
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Haircuts based on current monetary policy frameworks

**Net liquidity position computed as:**

- In the context of this sensitivity analysis of liquidity risk, the net liquidity position is computed as the sum of the net positions in the liquidity items outlined above. The name of each liquidity item is denoted by its corresponding number in the leftmost column of the table. The net liquidity position is a key metric for assessing a bank’s ability to meet liquidity needs under various stress scenarios.

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**Notes:**

- Baseline contractual CFs: This includes a range of potential outflows, such as deposits, loans, and derivatives, to assess the bank’s liquidity position under normal market conditions.
- Adverse shock: This scenario tests the bank’s ability to manage liquidity during moderate stress conditions, where some outflows are assumed to be higher than under normal conditions. For example, outflows from deposits and loans may increase, reflecting a higher risk of withdrawals.
- Extreme shock: This scenario pushes the liquidity stress test to its limits, with the highest assumed outflows for deposits and loans, reflecting severe stress conditions. The outflows under this scenario are designed to test the bank’s resilience and ability to maintain liquidity under extreme conditions.

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**Sources:**

- ECB-PUBLIC
- Sensitivity Analysis of Liquidity Risk – Stress Test 2019

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**References:**

- The ECB’s guidelines on liquidity risk management and stress testing frameworks.
- Relevant sections of the Capital Requirements Regulation (CRR) and other regulatory frameworks that govern liquidity risk management.

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**Acknowledgments:**

- The ECB team responsible for developing and refining the liquidity stress test methodology.
- External experts and regulatory bodies that provided feedback and insights.

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**Further Reading:**

- ECB’s quarterly reporting on supervisory stress testing:
  - [ECB’s Stress Test Reports](https://www.ecb.europa.eu/bsa/html/supervisory_stress_tests.en.html)
- International Financial Stability Forum (IFSF) recommendations on liquidity stress testing.
- The International Organization of Securities Commissions (IOSCO) guidelines on liquidity risk management.

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**Contact:**

- For more information, please contact: [ ECB Contact Point](mailto:contact@ecb.europa.eu)