

LIQUIDITY STRESS TESTS: ARE YOU READY?

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2 ABSTRACT

Since the financial crisis, supervisory stress testing has become a powerful tool for banking supervisors and macro prudential authorities to assess institutions' resilience to a significantly deteriorating economic climate. In recent years, quantitative and qualitative outcomes of supervisory stress tests have become a key component of Pillar 2 assessments through the ECB's annual Supervisory Review and Evaluation Process ('SREP'). Indeed, the ECB calibrates, among other elements, its Pillar 2 guidance based on the results of these stress test exercises. For instance, the outcomes of the 2018 EBA stress tests were used as an input for the 2018 SREP.

In 2019 the ECB will conduct an annual supervisory stress test with a focused scope. This exercise will seek to assess banks' resilience to liquidity shocks, while the individual banks' stress test results will inform the SREP assessment. Although global supervisory stress tests have been around for quite some time, their focus has always been on the impact of severe macroeconomic downturn scenarios on profitability and solvency, with little focus on liquidity risk. Whilst there are many forms of liquidity stress tests within banks, they usually address targeted and specific vulnerabilities. In practice, the framework for liquidity stress tests is typically not well established and integrated within many banks' risk management framework. It is for these reasons that the ECB is interested in this topic, especially bearing in mind the devastating effects of past liquidity crises and the lack of maturity of some institutions with respect to the Internal Liquidity Adequacy Assessment Process ('ILAAP').

This briefing note aims to present first the forthcoming ECB's supervisory stress tests¹, highlighting areas that banks should anticipate by the summer of 2019, especially concerning operational issues. Secondly, this paper shares a number of market practices surrounding liquidity stress test frameworks for internal management and strategic steering purposes.

3 OVERVIEW

The ECB confirmed, as part of its publication of SSM priorities for 2019, that an annual stress test exercise will be conducted assessing the ability of supervised institutions to withstand extreme yet plausible liquidity shocks.

As liquidity has been abundant in the euro area in recent years and as the ILAAP for many firms has fallen below supervisory expectations, the ECB wants to ensure that banks are able to absorb liquidity shocks in the event of a new crisis.

- The exercise will focus on the capacity of institutions to resist to idiosyncratic liquidity shocks over a short-term horizon.
- Multiple scenarios will present different degrees of severity, based upon the ECB's supervisory experience.
- The templates to be submitted should be based on existing reporting requirements and are likely to be shorter and less onerous than the 2018 EBA Stress tests, with a deep-dive on certain aspects of liquidity risk management, such as collateral management, FX exposures management and intra-group liquidity.

This liquidity supervisory stress test will present a challenge for institutions with a weak liquidity stress testing framework. Specifically, it will give rise to challenges around methodology and simulation, data granularity, infrastructure capabilities and the ability to produce various quantitative analyses and qualitative narratives.

¹ [ECB banking supervision conducts sensitivity analysis of liquidity risk as its 2019 stress tests](#)

4 KEY AREAS OF FOCUS

Our analysis focus is split into two different sections:

- A general overview of the key components of ECB's liquidity supervisory stress tests; and
- A preliminary description of the key components of institutions' liquidity stress testing frameworks.

ECB'S LIQUIDITY SUPERVISORY STRESS TESTS

This section describes what institutions should expect regarding this supervisory stress test.

1) *Presentation*

After years of abundant liquidity, in order to assess bank's resilience to liquidity shocks, the ECB has decided to conduct a supervisory stress test focused on liquidity risk, based on the key findings regarding ILAAPs from the SREP process (the 2019 Liquidity Supervisory Stress Tests ('LIST')).

This exercise will consist of a sensitivity analysis of banks' net liquidity position under various extreme idiosyncratic liquidity shocks. Aiming to leverage existing reporting requirements, the templates will be challenged through a quality assurance process completed by dedicated deep dives. The exercise starts in February 2019, with submission in May/June 2019 and supervisory dialogue in Q3 2019.

2) *Sensitivity analysis*

The sensitivity analysis will be conducted on consolidated figures, allowing collection of granular information at subgroup level and an assessment of liquidity circulation within a group. The following table highlights the key principles of this analysis.

Input data	<ul style="list-style-type: none"> • Liquidity assessment by currency • Data to be requested based on existing reporting already provided by banks
Scenario	<ul style="list-style-type: none"> • Idiosyncratic liquidity shocks • No macro-driven scenario.
Time horizon	<ul style="list-style-type: none"> • Focus on short term liquidity - up to 6 months survival.
Measurement	<ul style="list-style-type: none"> • Focus on cash flow figures (e.g. survival period; net liquidity position over several time horizons, including intraday) to complement "Pillar1" regulatory view

3) *Scenario assumptions and parameters calibration*

The main scenario assumptions should rely on idiosyncratic features through heuristic idiosyncratic liquidity shocks (same shocks applied to all banks). The calibration of these shocks would be based on recent liquidity crises and inspired by supervisory experience. Market-driven scenarios are not considered in this exercise.

Various scenarios could be envisaged including a baseline and multiple adverse scenarios. For each scenario, no distinctions are expected to be made between a fast developing and more gradually developing stress event. The time horizon for simulating the stress scenarios is expected to be 6 months.

4) *Template collection and deep-dive*

The 2019 LIST will entail various spreadsheet templates, with the maturity ladder serving as the cornerstone of the exercise. These templates could be split into two categories:

- Templates to address the core exercise at a consolidated level; and
- Templates to address the deep dive's areas of focus including FX, intragroup and collateral mobilization.

The granularity of data and the number of templates to be produced will be clarified at the beginning of the exercise.

5) *Quality assurance*

All institutions will be subject to an in-depth quality assurance exercise including data quality checks, such as cell completeness, implausible value/data format, consistency with the LIST template and LCR reporting and COREP C66. It will likely also include a wide range of other checks, including compliance with methodological assumptions or key variables benchmarking.

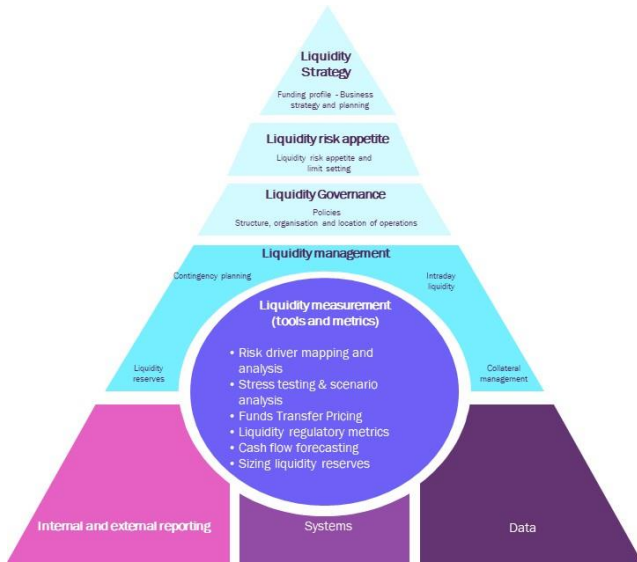
INSTITUTIONS LIQUIDITY STRESS TESTING FRAMEWORK

This section describes the key components of institutions' liquidity stress testing frameworks and how they should use this supervisory stress test to assess their capabilities and level of maturity.

1) *ILAAP framework*

The aim of the ILAAP is to evaluate the quality of a Bank's liquidity risk management, including the extent to which banks hold sufficient high-quality liquid assets on an ongoing basis in both normal and adverse circumstances. It should inform a firm's Board and General Management of the ongoing assessment and quantification of the firm's funding and liquidity risks, how the firm intends to mitigate those risks, and how much current and future liquidity is required.

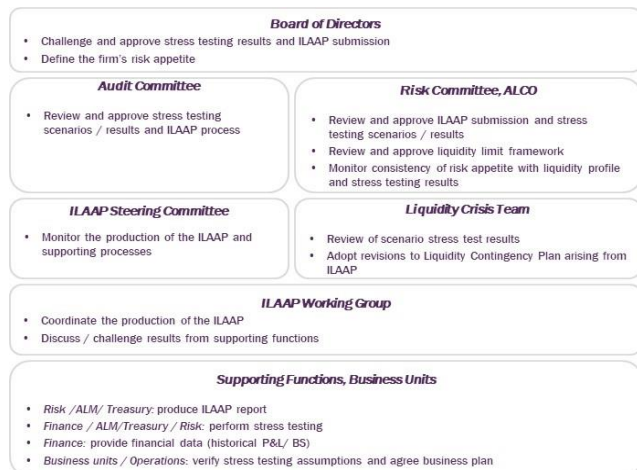
The ILAAP framework, as the cornerstone of the institutions' self-assessment of liquidity adequacy is described in the following figure:



2) ILAAP and liquidity stress tests governance

Liquidity stress tests represent a key component of the ILAAP. Both the ILAAP and liquidity stress tests should be well-integrated into the asset and liability management (ALM) process and governance. In particular, the liquidity stress testing process should be well-established and fully integrated into the institutions' overall liquidity risk management framework.

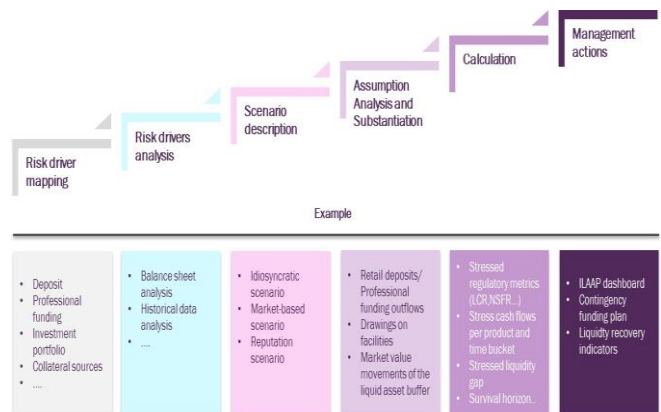
Below is an example of the objectives of key finance and risk teams involved in the ILAAP and internal stress tests.



3) Liquidity stress test process

To construct a liquidity stress test process, there are several steps to assess the sensitivity of the bank's net liquidity position. Stress scenarios aim to assess the sensitivity of banks' key risk drivers and vulnerabilities. The assumptions applied to stressed parameters should be reflected in the contractual and behavioural cash flows over various time buckets. These are determined by product type (deposits, loans, etc.) and by time buckets on key internal and regulatory metrics.

The diagram below gives a high-level overview of the key elements of a liquidity stress test approach:



4) Balance sheet and risk driver analysis

The risk driver mapping is a key preliminary step of the liquidity stress test process. This consists of identifying the key liquidity risk drivers to which the institution is exposed which impacts its liquidity balance sheet.

Once these key liquidity vulnerabilities have been identified, there are two different approaches to map and to analyse the sensitivity of the liquidity balance sheet components:

- Product based mapping (e.g. retail funding risk, wholesale funding risk...); and
- LCR based mapping (e.g. HQLA level 1, operational deposit for financial counterparties...).

Once the risk driver mapping has been completed, the next steps consist of conducting various risk driver analysis to understand the materiality of the key risk drivers, and to identify the key vulnerabilities. This exercise consists of various liquidity sensitivity analyses:

- An historical analysis of the potential historical observed outflows;

- A balance sheet analysis requiring a qualitative assessment of the key components of the balance sheet and their associated weights; and
- A sensitivity analysis of the net liquidity position to various parameters by calculating the impact of changes in the stress parameters for each risk driver.

- A selection of management actions identified to assess the impact of stress events before and after the application of these mechanisms; and
- Coherence of the outcomes between the risk appetite framework, the Contingency Funding Plan, the ILAAP and the Recovery plan.

5) Scenario description and parameters calibration

The goal of liquidity stress testing is to evaluate if institutions can maintain adequate liquidity levels in stress situations, and to provide information to ensure timely management action in actual liquidity crisis situations.

Ideally, liquidity stress scenarios should be framed as follows:

- Scenario design such that different scenarios evaluate idiosyncratic stress features, market-wide features, reputation risk impacts, etc.;
- Narratives accompanying scenarios to provide information that enables the evaluation of a wide range of events that can be either directly linked to the institution and to the market; and
- Fast versus gradually developing stress features.

6) Calculation and management actions

The scenario analysis should produce a wide range of liquidity indicators, including an assessment of the impact on regulatory metrics such as the LCR and NSFR but also on internal management metrics such as the net liquidity position, the survival horizon or cash-flows per time bucket.

Also, key stress tests outcomes should be assessed before and after the application of management actions that could be deployed in a stress situation.

5 NEXT STEPS: WHAT ARE THE KEY CHALLENGES?

While the ECB is getting more prescriptive regarding its expectations for the ILAAP, the LIST 2019 provides insight into what institutions' internal liquidity stress testing framework should look like. This exercise should be seen as an opportunity for institutions to test themselves in their forecasting capabilities and their supporting infrastructure. Institutions should self-assess whether their liquidity stress testing framework adequately encompasses the following:

- Balance sheet and risk driver analysis;
- Mapping risk driver analysis to scenario assumptions and their calibration (including the speed of propagation of the stress events);
- A number of scenarios (idiosyncratic, market-wide, combined...) tested and implemented to give an understanding of short- and medium-term liquidity resistance;

6 ABOUT AVANTAGE REPLY

Avantage Reply (a member of the Reply Group) is a pan-European specialised management consultancy delivering change initiatives in Risk, Compliance, Finance (Capital Management and Regulatory Reporting), Treasury and Operations within the Financial Services industry.

Within our core competencies, we have extensive experience in implementing changes driven by:

- Industry-wide legislative and regulatory initiatives (e.g. CRD, BRRD);
- Mergers, Acquisitions & Divestments (e.g. business combination, separation and flotation); and
- Business improvement and optimisation agendas (e.g. risk appetite and capital allocation).

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