

Risk & Asset management | Principles for sound Liquidity Risk Management and Supervision

Getting Started

Here with you today



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- 3 Liquidity Management Tools (LMT)
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Considering liquidity risk

General definition



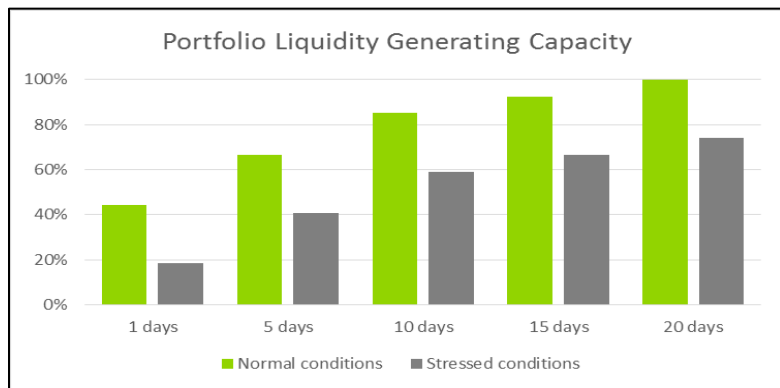
Simulating Stress

Liquidity evaporation
Managers should simulate:

- **Increasing** time to liquidation
- **Increasing** liquidation costs
- **Increasing** market impact

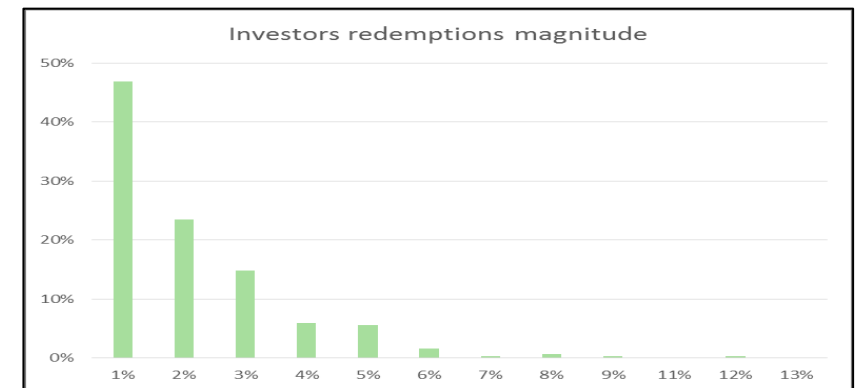
Managers should consider:

- **Increasing** redemption frequency
- **Increasing** redemption magnitude
- **Decreasing** availability of other funding sources



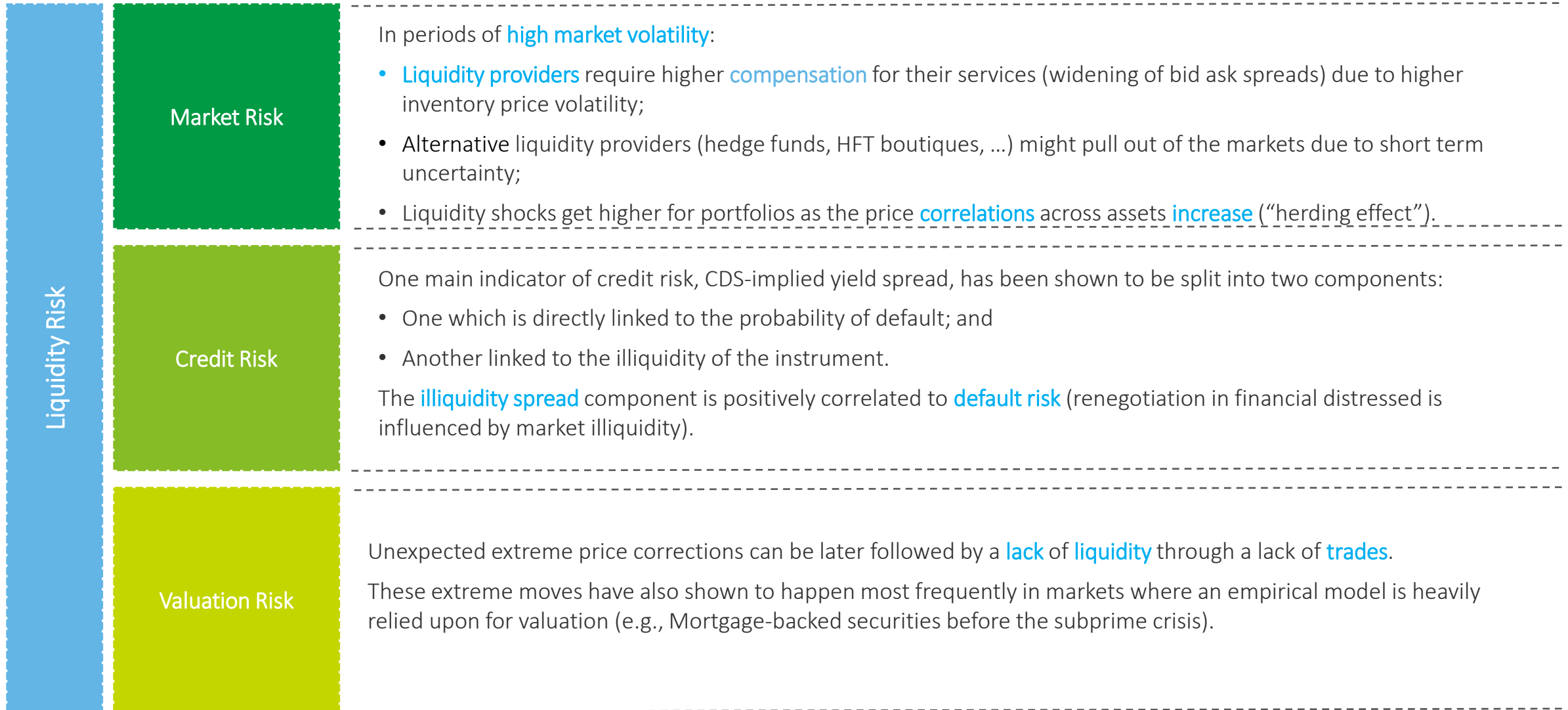
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Determine the overall effect on Fund liquidity and Fund **ability to meet its obligations**



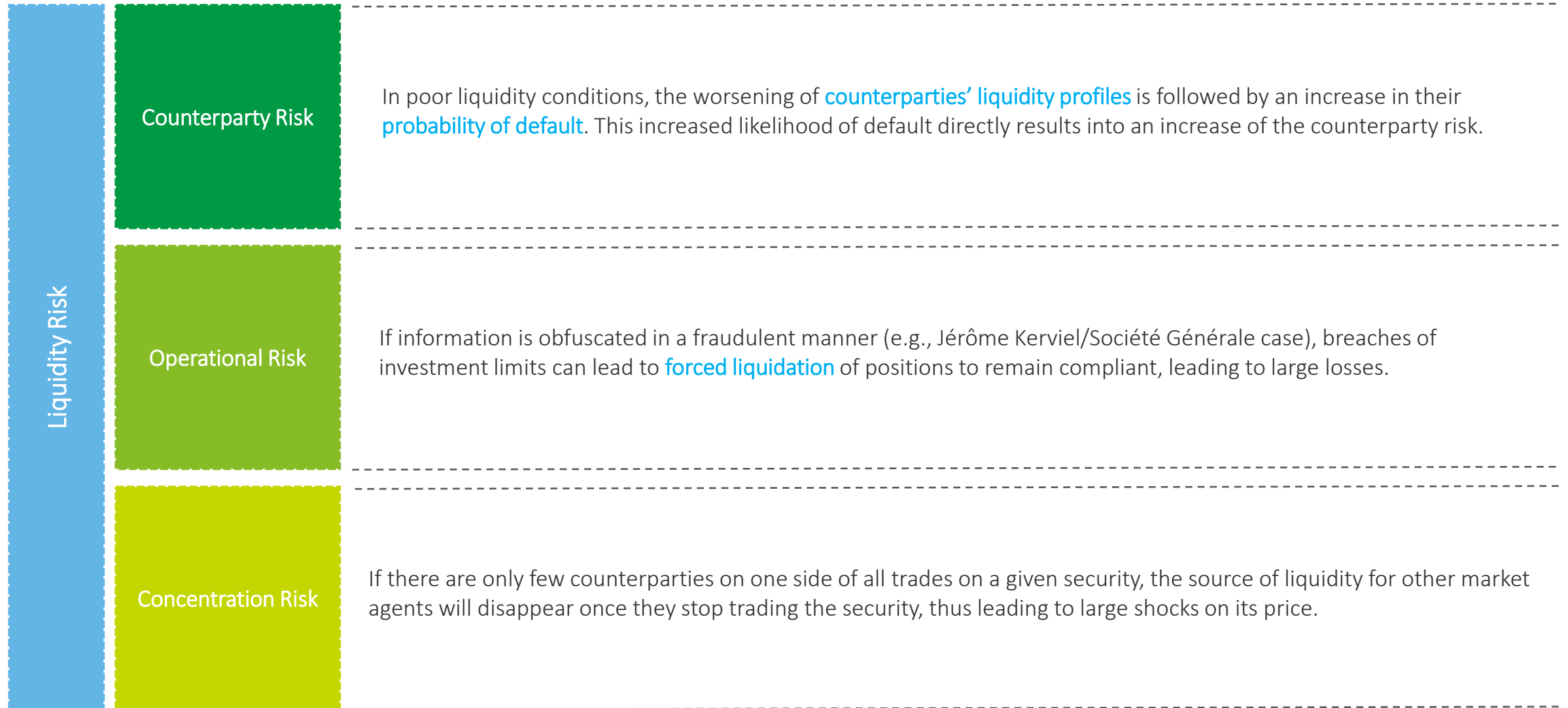
Integrated into the overall risk framework requirement

How liquidity ties in



Integrated into the overall risk framework requirement

How liquidity ties in



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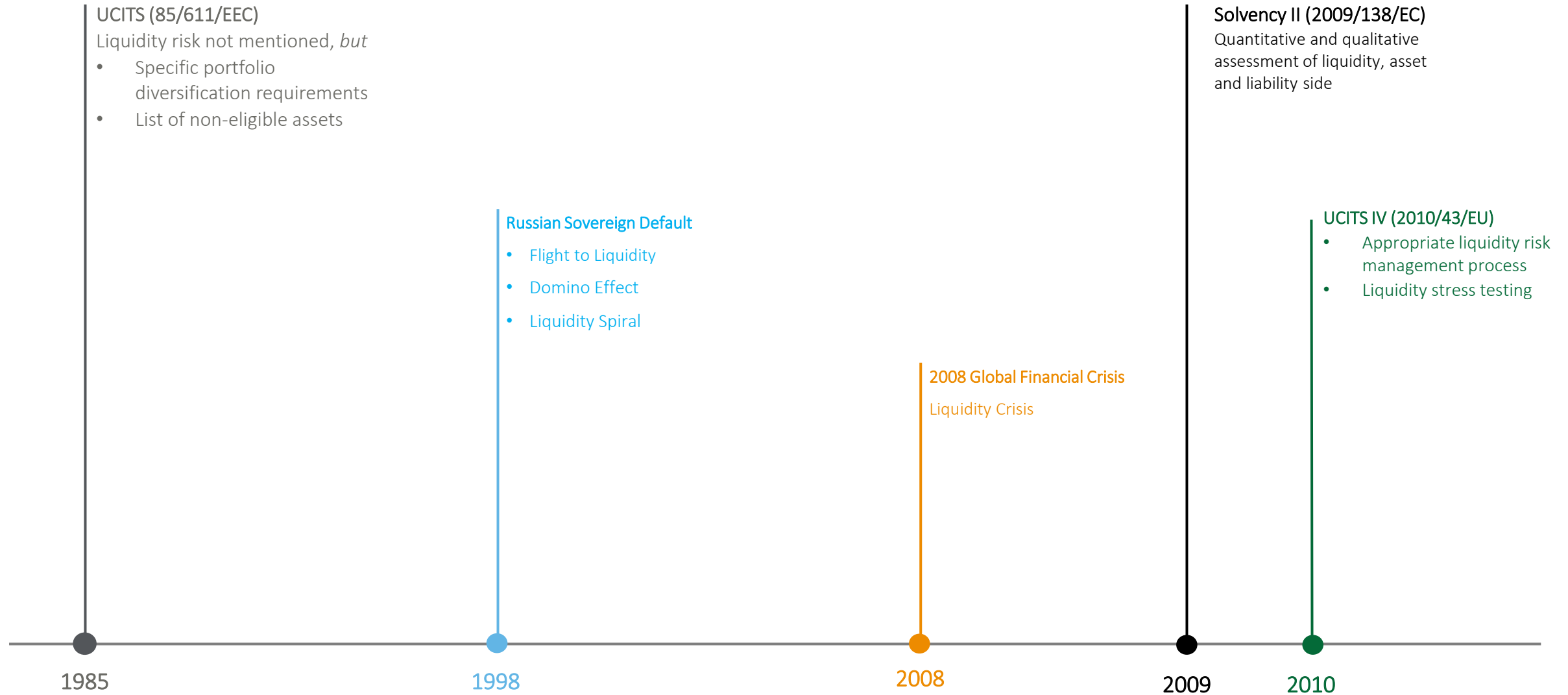
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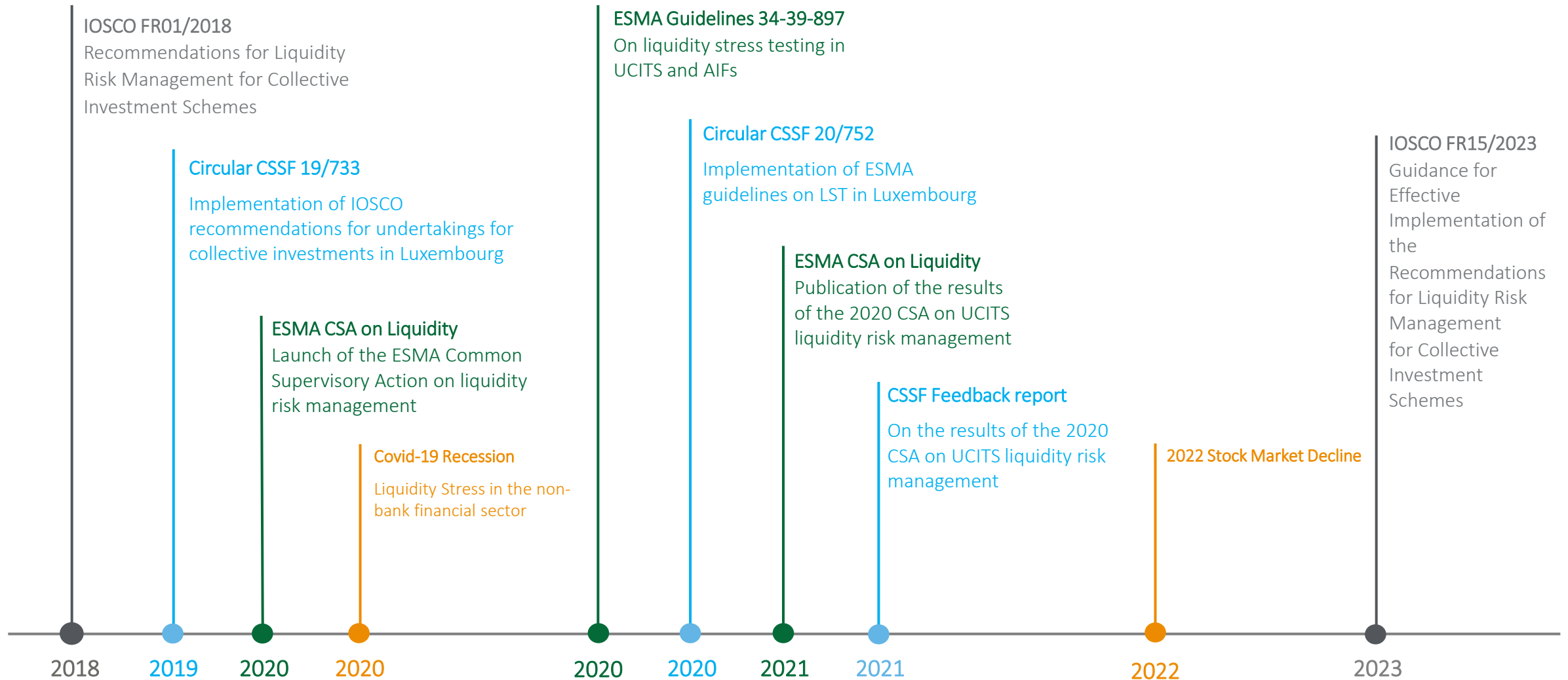
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Regulatory Context Genesis



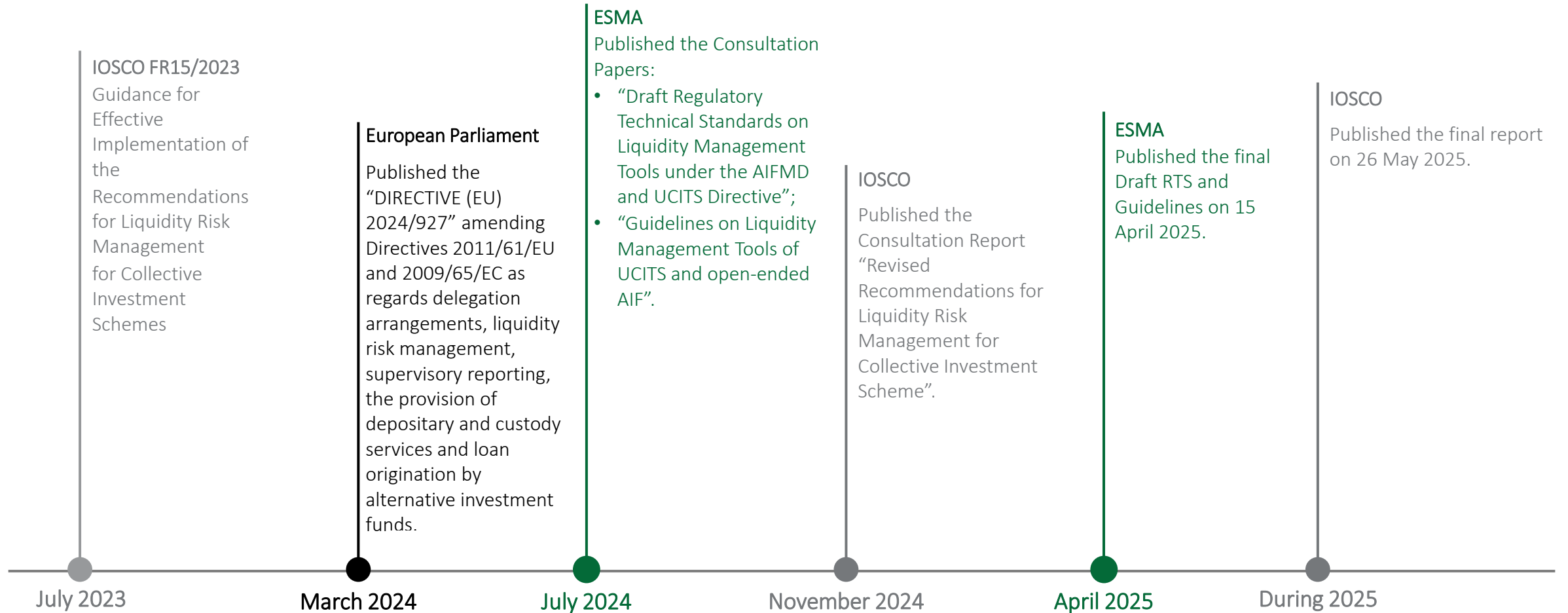
Regulatory Context

Recent regulatory milestones



Regulatory Context

Recent regulatory milestones – Liquidity Management Tools



Regulatory Context

Key points regarding the Guidelines and RTS on LMTs



ESMA RTS on LMT
AIFMD and UCITS

- Selection of minimum two Liquidity Management Tools from the list available.

- LMTs can be activated by one or more thresholds.

- Incorporate both implicit and explicit cost, including market impact for redemption fees, swing pricing, dual pricing & anti-dilution levy



ESMA Guidelines on LMTs
UCITS and open-ended AIFs

- Selection of minimum two Liquidity Management Tools; one for Money Market Funds.

- Demonstrate that the selection is at the best interest of the investors.

- Ensure that no investor has privileged access to the information related to the activation.

- Avoid material dilution for investors.

- Be able to demonstrate that the calibration is fair and reasonable.

- Incorporate both implicit and explicit cost, including market impact.

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Measuring Liquidity Risk

Overview

No standard definition



Liquidity proxies rather than observations



Liquidity is not directly observable due to the **lack of transaction data**.



Accordingly, risk managers, portfolio managers and economists rely on **proxies**.



Significant efforts are dedicated to identify the good proxies and **measurement techniques**.

Measuring Liquidity Risk

Asset Liquidity Risk - Implicit Factors

Assets key liquidity risk factors

Transaction Costs

Measure how much it will cost to liquidate a position

Context:

- Depends on the asset type, liquidation horizon, and the size of the trade/order

Stressing:

- Bid-Ask spreads

Problems:

- For liquid assets, the Bid-Ask spread may not be representative of the real cost
- For illiquid assets data can be limited



Market Impact

Measure the rate of price change induced by trading a certain volume of an asset

Context:

- Useful in stressed conditions

Stressing:

- The sensitivity of asset prices to trades large orders (volumes).

Problems:

- Technical complexity
- Lack of universal market practice



Time to liquidate

Measure how long it takes to liquidate a position without significant market impact

Context:

- Required by regulator

Stressing:

- Volumes expressing longer time to liquidate

Problems:

- Little academic evidence
- Not adapted to stressed conditions



Scoring

aggregation of indicators at the position level

Measuring Liquidity Risk

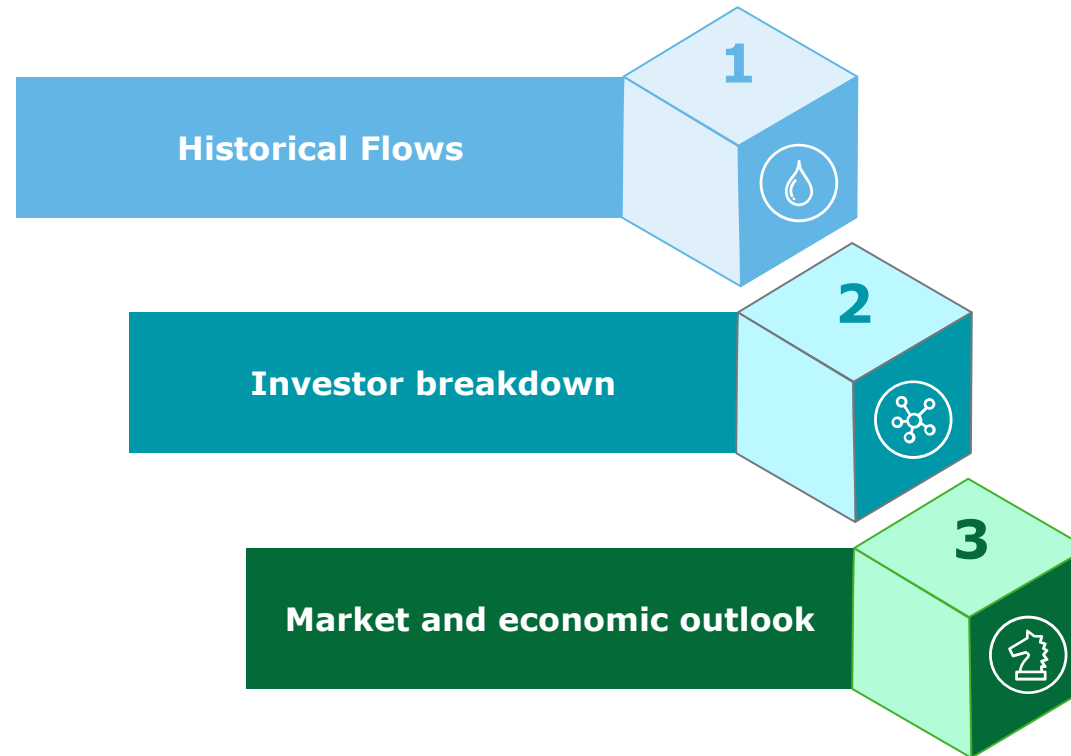
Liability Liquidity Risk – The Three Pillars

CSSF Circular 20/752
ESMA LST Guidelines V.1.12



CSSF Circular 19/733
IOSCO
Recommendation 13

"LST should incorporate risk factors related to investor type and concentration according to the nature, scale and complexity of the fund."



Measuring Liquidity Risk

Liability Liquidity Risk – Market Insights

Basic Practices

- Construction of an **historical flows database** for Gross and Net redemptions.
- Regular computation of **descriptive statistics** of the resulting time-series.
- Ongoing **monitoring (alerts)** of the new redemptions with respect to defined thresholds.
- Monitoring of the **concentration** through the **largest investors ownership**: Top 1, Top 5 and Top 10.

Common Practices

- **Modelling** the **distribution** of flows to project redemptions scenarios.
- Management Companies are modelling distributions both **non-parametrically** and **parametrically**
- Negative scenarios are often projected relying on:
 - **Value-at-Risk** (sometimes also called Liquidity-at-Risk, LaR); or
 - **Expected Shortfall**.
- Completing largest ownership with additional descriptive statistics casting a light on the **other investors** such as:
 - Monitoring the number of investors needed to reach a given NAV percentage.
 - Monitoring concentration indices (Herfindahl-Hirschman Index, Gini Index, etc.)

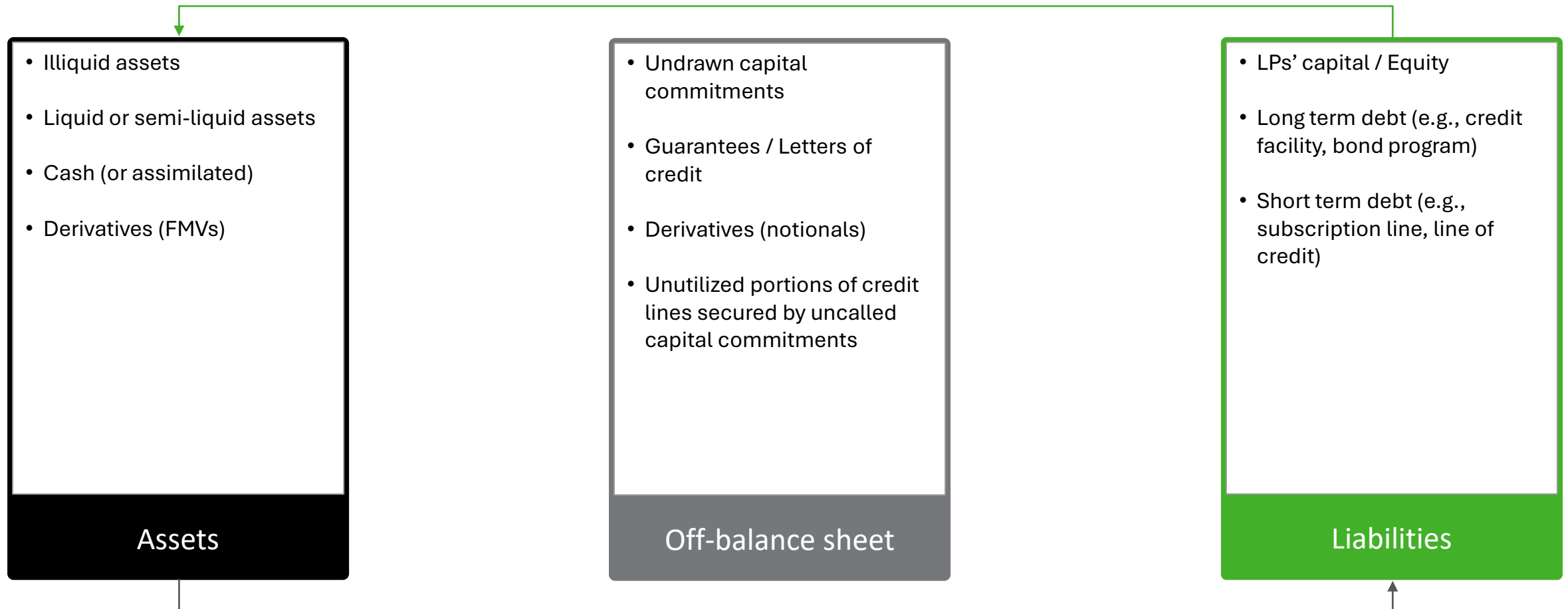
Advanced Practices

- More advance approaches try to **condition** projected redemption distribution on **key drivers**.
- The magnitude and probability of redemptions can be made dependent on:
 - the fund **performance** (relative);
 - the past **flows**;
 - market **indicators**.
- With sufficient granularity the **flows** history can be **segregated** per **investor type** (retail vs institutional) to adjust the projections to the current investors base.
- **Grouping investors** per categories of individuals with **homogeneous** redemption patterns and risk preferences.
For example, retail and institutional investors display diverging behavior with respect to:
 - Probability and magnitude of redemptions
 - Seasonality
 - Sensitivity to past performance
 - Costs

Measuring Liquidity Risk

An illiquid perspective

- Illiquid funds (Private Equity, Real Estate, Infrastructure & Venture Capital) are characterized by a **segmented life cycle**.



Measuring Liquidity Risk

An illiquid perspective

- Typically, in funds investing in alternative investments, investors have a **contractual obligations** to contribute via a **capital commitment** that is drawn down following a specified period of notice.



The liquidity risk in this case is closely linked to funding risk.

- In case of an **investor default**, the fund may be forced to **borrow money** to fund the resulting **shortfall** or face the **costs of delay** in an acquisition causing the loss of opportunity and reputation. Most common reasons why investors could default on their capital commitment are:

Market distortions in capital calls and distributions

Over-commitment strategies

- Performing the Due Diligence and monitoring of investors
- Charging a penalty interest on the late payments
- Monitoring the investor concentration
- Monitoring the levels of called and uncalled commitment per investor

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Regulation overview

Objective

To define the constituting elements of LMTs, such as calculation methodologies and activation mechanisms.



Regulatory Technical Standards
ESMA

Guidelines on Liquidity Management Tools
ESMA



Objective

To provide guidance on how managers should select and calibrate LMTs, considering their investment strategy, their liquidity profile and the redemption policy of the fund.

Covered LMTs

1. Suspension of subscriptions, redemptions, and repurchases;
2. Redemption gates;
3. Extension of notice periods;
4. Redemption fees;
5. Swing pricing;
6. Dual pricing;
7. Anti-dilution levy;
8. Redemption in kind;
9. Side pockets.

Key takeaways

1. The RTS establish formal definitions for the Liquidity Management Tools required by the regulation.
2. The RTS also set ground rules for the activation of the LMTs and for their execution.
3. For LMTs that alter the price at which investors can trade their fund shares, the RTS indicate that the cost estimates should include both implicit and explicit costs.
4. The operational processes must be amended to integrate the usage of LMTs.

Type of LMTs	<i>Anti-Dilution Tools (ADL)</i>	<i>Quantitative LMTs</i>	<i>Other LMTs</i>
LMTs	Redemption fees, swing pricing, dual pricing, AntiDilution Levy (ADL).	Suspension of subscriptions, repurchases and redemptions, redemption gates, extension of notice period.	Redemptions in kind, side pockets.

The UCITS Directive and the AFIM Directive require the selection of **at least 2 appropriate Liquidity Management Tools** from the list designated in the RTS.

The ESMA Guidelines require only one LMT to be used for Money Market Funds.

When using LMTs, the asset manager must ensure that investors are treated fairly regarding eventual conflicts of interest, in the sense that no investor should be in a position where they can take advantage of this information at the detriment of the other investors in the fund.



Liquidity Management Tools

Description and overview

Swing Pricing

Swing Pricing is a mechanism used by investment funds, such as mutual funds, to adjust the net asset value (NAV) of a fund to account for the costs associated with investor transactions. Usually, swing pricing is more adequate for traditional liquid funds.

Requirements

1. The swing factor should include implicit and explicit transaction costs related to the execution of subscriptions and redemptions as well as an estimation of potential market impact.
2. The official NAV should be the swung NAV.
3. Partial swing: A thresholds can be determined for the activation of swing pricing.
4. Tiered Swing: Several thresholds can be determined for the activation of several swing factors.
5. If the difference between the redemption orders and the subscription orders for a given dealing date results in net redemptions, the swing factor shall be deducted from the net asset value of the UCITS or AIF.
6. If the difference between the redemption orders and the subscriptions orders for a given dealing date results in net subscriptions, the swing factor shall be added to the net asset value of the UCITS or AIF.

Redemption Fee

A redemption fee is a charge levied on investors when they sell the shares of a fund or redeem their investment.

Requirements

1. The redemption fee should include implicit and explicit transaction costs related to the execution of subscriptions and redemptions as well as an estimation of potential market impact.
2. Explicit transaction costs should include costs that are explicitly charged to an AIF for its acquisition or disposal of assets. These costs would typically include brokerage fees, trading levies, taxes and settlement fees. These costs are generally stable in amount and quantifiable in advance of the transactions.
3. Implicit transaction costs should be costs incurred indirectly upon acquisition or disposal of assets by an AIF (with the bid-ask spread and market impact being the key component). These costs may vary depending on, among other things, the type of underlying asset and the market conditions.
4. Redemption fees shall be expressed either as a percentage of the redemption orders or as a monetary value. They may be applied at different levels based on the size of the redemption orders.

Liquidity Management Tools

Description and overview

Dual pricing

Dual pricing is the mechanism of maintaining two different prices for the same fund shares.

There are two possible calculation methods:

1. One price should incorporate the values of each asset at Bid and the other price should incorporate the values of each asset at Ask.
2. The Mid price can be adjusted by an “adjustable spread” that is estimated by the fund manager and adjusts the spread between the Bid and Ask price to reflect market liquidity conditions.

Requirements

For both calculation methods the resulting prices should include:

- The implicit and explicit cost of subscriptions and redemptions.
- The estimated market impact of asset purchases and sales, if the impact is to be significant.

Anti-dilution levy

An anti-dilution levy is a charge imposed on investors who buy or sell shares in a fund.

Requirements

1. Anti-dilution levies should be applied depending on the excess amount of redemption/subscriptions: if redemptions exceed subscriptions a levy should be charged to redeeming investors, if subscriptions exceed redemptions a levy should be charged to subscribing investors.
2. An activation threshold can be defined for the trigger of the levy.
3. The levy should include the explicit and implicit costs of subscriptions and redemptions as well as the estimated potential market impact.

Other LMTs

UCITS and AIFs are allowed to use other LMTs than those mentioned in the regulation, but these tools cannot be considered as LMTs for the purpose of complying with the obligation to select at least two management tools.

Suspensions

Suspensions are temporary halts or restrictions placed on transactions or account activities.

Requirements

The suspensions can only apply to subscriptions, repurchases and redemptions simultaneously. These three actions cannot be suspended independently one from another. They must also apply to all the share classes of a fund, for both UCITS and AIFs.

Notice period

Extensions of notice periods are an increase in the duration that an investor, customer, or account holder must wait before they can withdraw or redeem funds from their account or investment.

Requirements

1. Extensions of the notice period should not have any impact on the redemption frequency of the fund.
2. The notice period should not include the settlement process that is not controlled by the management company or AIFM.
3. The notice period must be defined as a number of days, weeks (and months for AIFs) or a fixed date that precedes the redemption date.

Liquidity Management Tools

Description and overview

Redemption Gate

A redemption gate is a mechanism employed to limit or temporarily halt redemptions.

Requirements

1. A redemption gate is a partial and temporary restriction that does not entirely suspend redemptions but limits the amount or proportion of units or shares that shareholders can redeem within a given period.
2. The part of the orders that is not executed should be handled in accordance with the local regulation.
3. Redemption gates apply to all investors, and the execution is proportional for all redeeming investors.
4. The threshold for activation must be a percentage of the net asset value for UCITS. For AIFs, the threshold for activation can be a percentage of the net asset value, a fixed monetary value or a percentage of the liquid assets present in a portfolio.

Redemption in Kind

Redemption in Kind is a process wherein investors receive assets from an investment fund in physical form rather than cash when they decide to redeem their shares.

Requirements

1. Redemptions in Kind are allowed even for retail investors in ELTIFs.
2. Otherwise, Redemptions in Kind should only be available to professional investors and be done on a prorate basis.
3. The prorate basis can be avoided if the fund is only marketed to professional investors or if it is an ETF.
4. The redemption in kind might prevent the market impact or a significant transaction cost.

Liquidity Management Tools

Description and overview

Side Pockets

Side Pockets are a mechanism used by hedge funds and some other investment funds to segregate illiquid or hard-to-value assets from the main portfolio.

There are two types of separation that can be implemented for side pockets: account or physical.

Requirements

1. Account:

- New subscriptions, redemptions and repurchases shall be executed on the basis of the net asset value of the fund from which the assets of the side pockets are excluded.

2. Physical:

• UCITS:

- Assets that are not affected by the liquidity issue shall be transferred either to a newly created fund specifically for this operation. The new UCITS shall be authorised and managed according to the investment strategy of the original UCITS. The assets can also be transferred to an existing UCITS through a merger.
- Assets that have been affected by the liquidity issue shall be kept in the original UCITS, which will be closed for subscriptions and considered closed-ended.

• AIFs:

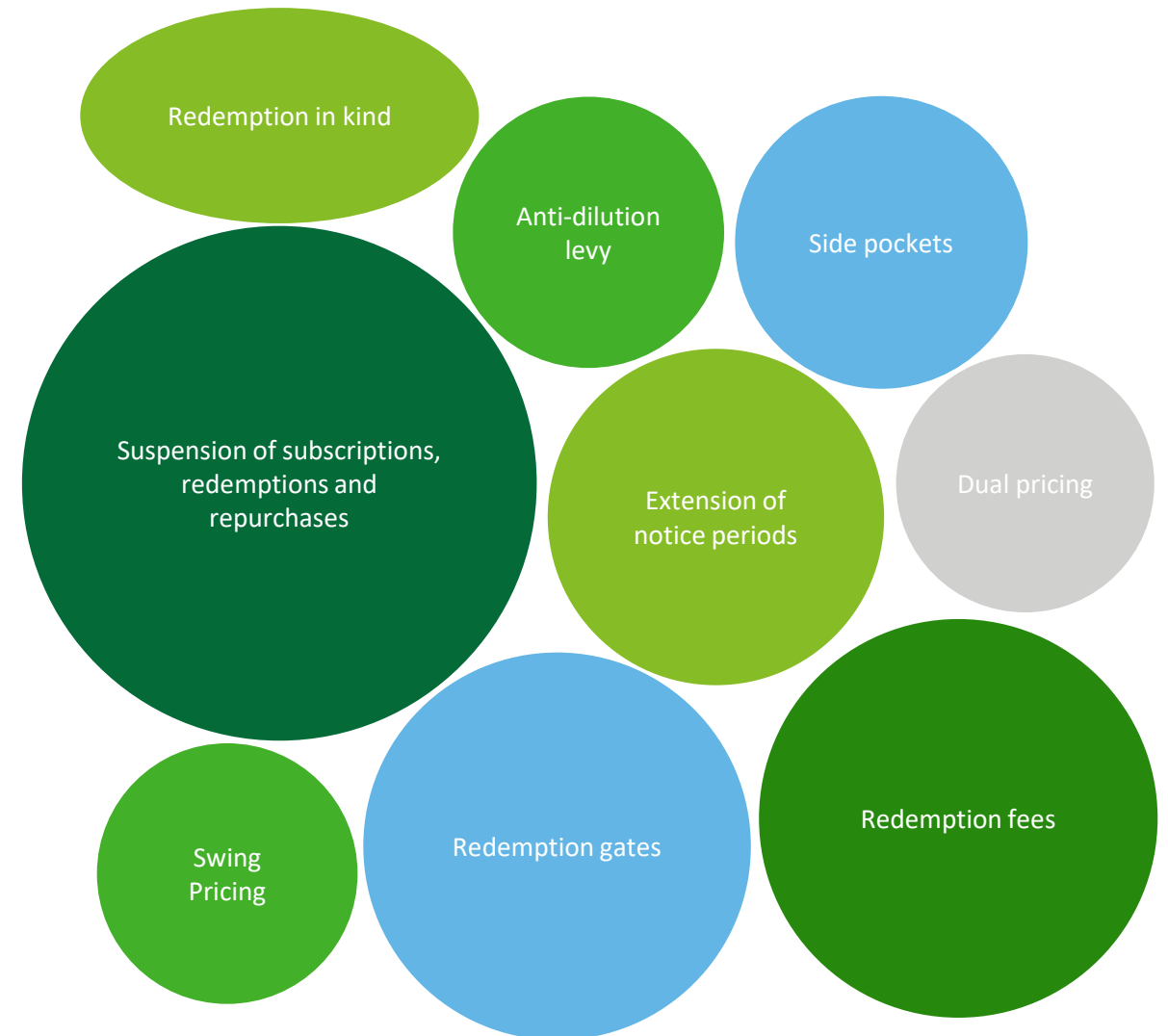
- AIFs have the liberty of choosing if the newly created fund would hold the assets affected by the liquidity issue or the assets that are not affected by the liquidity issue. The assets can also be transferred to an existing AIF through a merger.

3. Investors shall receive shares or units of the side pocket pro rata in relation to their holdings in the original fund.

4. Side pockets shall be closed ended and no subscriptions shall be accepted for them.

Which two LMTs would you consider using?

You can type your answer into the chat.



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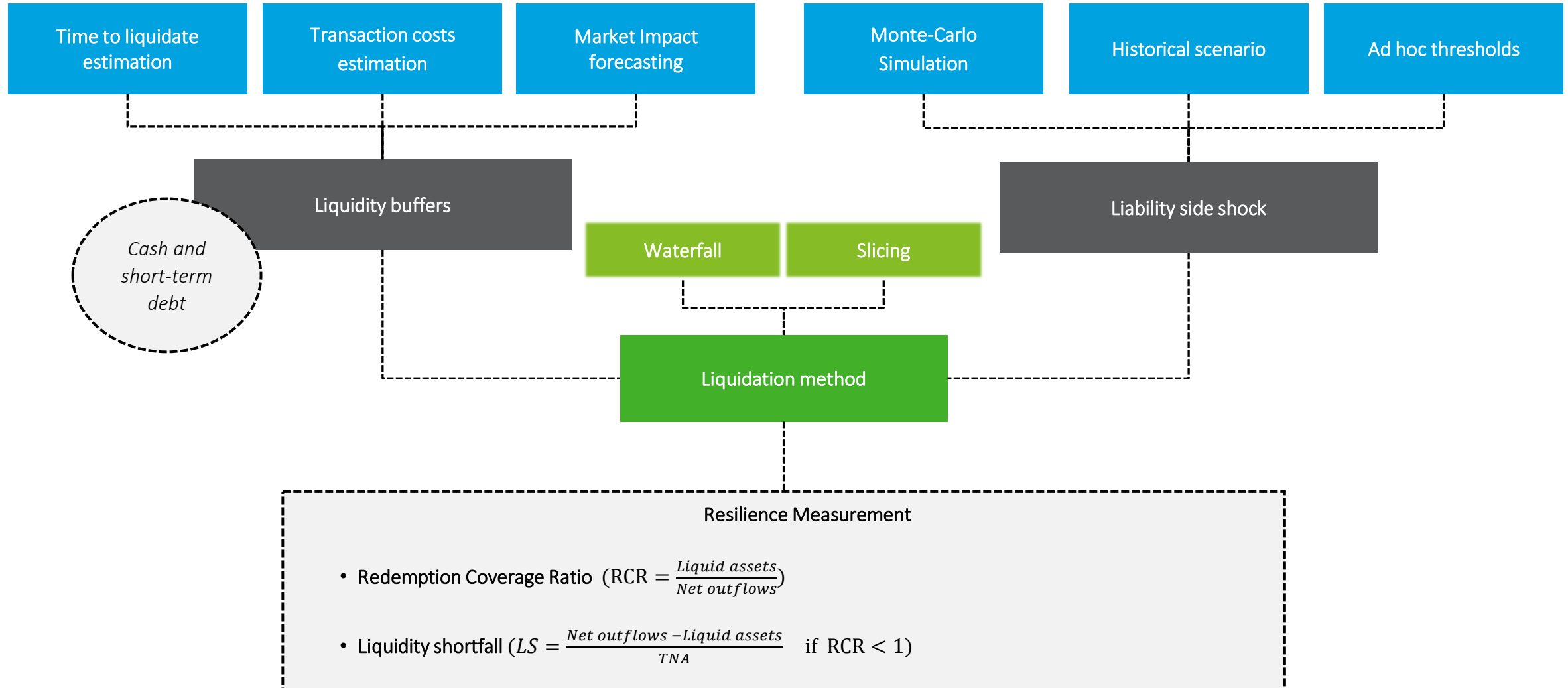
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Liquidity Stress Testing

Key Takeaways and Q&A

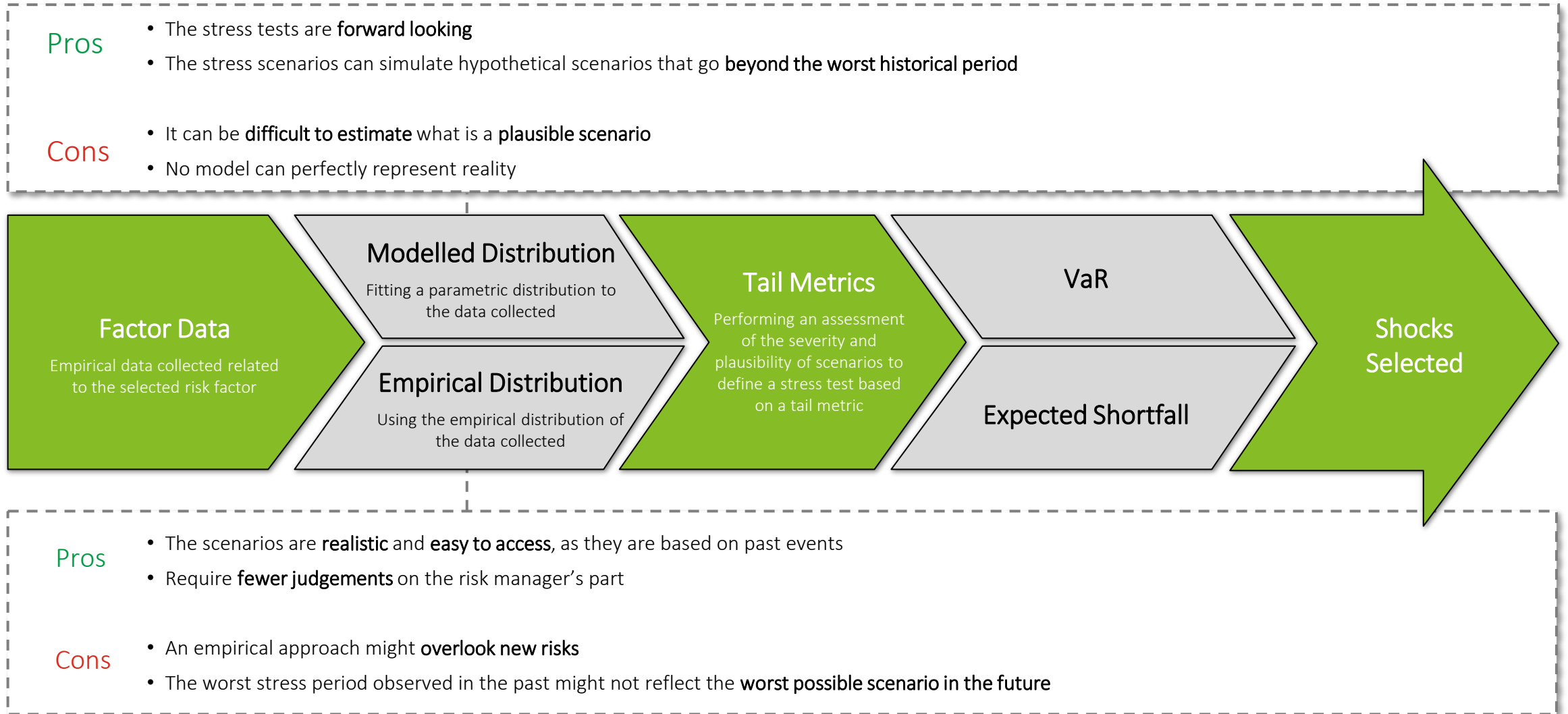
Liquidity stress-testing and aggregation

Factors affecting liquidity: asset vs liabilities



Liquidity stress-testing and aggregation

Process of calibrating a plausible parametric shock



Liquidity stress-testing and aggregation

Process of calibrating a plausible parametric shock

Liquidity stress-testing for UCITS and AIFs (ESMA34-39-882)

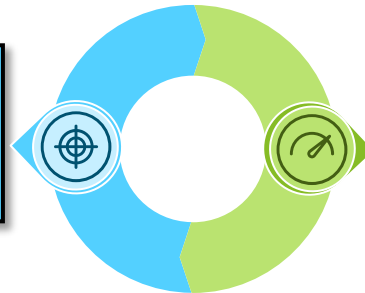
Historical scenarios could include the global financial crisis 2008-2010 or the European debt crisis 2010-2012 but should not overly rely on historical data, particularly as future stresses may differ from previous ones.

Parametric scenarios could include events such as rising interest rates, credit spread widening, or political events.

Effective Liquidation Process: “47. The method of liquidating assets in an LST should: a. reflect how a manager would liquidate assets during normal and stressed conditions in accordance with applicable rules [...]”

How to define parametric scenarios?

Factor to shock:
What risk factors is the fund most exposed to?



Magnitude of shock
What is an adequate shock for this stress factor?

- The **magnitude of the shock** is pivotal to the relevance of the stress test.
- Shock selection is somewhat arbitrary; **calibration** aims at rendering it more objective through a data driven assessment of **two key criteria**:

Severity

The defined scenarios must be severe enough to **adequately test the resilience** of the fund to the relevant risk factors

Plausibility

The defined scenarios must remain plausible in order to **be relevant** for the purpose of **stress testing** the fund

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Key Takeaways

1

Measuring Liquidity Risks involves

- Assessing **asset side** risks by estimating potential transaction costs, market impact and time to liquidation.
- Assessing **liability side** risks by anticipating the possible redemption flow and the effect of investor concentration.
- Accounting for **off balance sheet** factors in the case of alternative funds.

2

To effectively help mitigate liquidity risk, Liquidity Management Tools must

- Be **adequate** to the fund's liquidity profile and serve the best interest of investors.
- Ensure a **fair treatment of investors** and manage potential conflicts of interest.
- Include **explicit and implicit costs** when using anti-dilution tools.

3

Liquidity Stress Testing

- Can simulate **parametric** and **historical** scenarios.
- Allows to evaluate **liquidity conditions under stressed scenarios**.
- Allows to **identify liquidity shortfalls** before they happen.

Open discussion

Thank you very much for your participation



Next Link'n Learn webinar

*Date: **11/06/2025***

**Topic: Technology &
Innovation | Generative
AI: Application to FSI**





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