

Application Paper on Liquidity Risk Management

**Public Consultation Document
19 November 2019**

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This document was prepared by the Systemic Risk Assessment Drafting Group in consultation with IAIS members.

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List of Abbreviations

ALM	Asset-Liability Management
BOLI	Bank-Owned Life Insurance
COLI	Corporate-Owned Life Insurance
ComFrame	Common Framework for the Supervision of IAIGs
ERM	Enterprise Risk Management
FSB	Financial Stability Board
GICs	Guaranteed Investment Contracts
IAIGs	Internationally Active Insurance Groups
IAIS	International Association of Insurance Supervisors
ICP	Insurance Core Principle
ORSA	Own Risk and Solvency Assessment
SFT	Securities Financing Transactions
SPV	Special Purpose Vehicle

1 Introduction

1. This Application Paper on Liquidity Risk Management provides guidance on the supervisory material related to liquidity risk management in the Insurance Core Principles (ICPs) and the Common Framework for the Supervision of Internationally Active Insurance Groups (ComFrame). In particular, it is related to the material in ICP standards 16.8 and 16.9 (ICP 16 Enterprise Risk Management (ERM) for Solvency Purposes) and ComFrame 16.9.a – 16.9.d. As part of the holistic framework for systemic risk in the insurance sector, the IAIS enhanced the ERM requirements in ICP 16 to more explicitly address liquidity risk.¹
2. The purpose of this Paper is to provide further guidance to supervisors in their application of the liquidity risk management standards in the ICPs and ComFrame. It does not establish standards or expectations for the insurers' implementation of a liquidity risk management framework, but instead provides additional detail on particular aspects of the Supervisory Material relating to liquidity risk to assist implementation, and provides examples of good practice. It should, however, not be considered an exhaustive guide to liquidity risk management.
3. This Paper provides guidance and examples on:
 - considerations on applying liquidity risk management measures in a proportionate way and the ways that supervisors may tailor requirements;
 - detailed components of the four elements for “more detailed risk management processes” contained in ICP standard 16.9:
 - liquidity stress testing;
 - maintenance of a portfolio of unencumbered highly liquid assets;
 - a contingency funding plan; and
 - the submission of a liquidity risk management report to the supervisor; and
 - integration of liquidity risk into insurers' ERM frameworks as described in ICP Standard 16.8, including recommendations for governance.

1.1 Rationale

4. In the normal course of business, insurers typically rely on premiums, income from investment and other sources for liquidity. Nevertheless, they need to maintain adequate liquidity to fulfil expected and unexpected payment obligations and funding needs. Liquidity risk management is essential to the proper operation of the insurer, the protection of policyholders and financial stability.
5. Past experience demonstrates that even solvent insurers may experience material financial distress, including failure, if they do not manage their liquidity prudently. Although many of an insurer's liabilities are long-term in nature or contingent on the occurrence of an event, certain activities may create significant and unanticipated demands for liquidity. When confronted with stress events, insurers with insufficient

¹ Next to liquidity risk, enhanced requirements targeted at macroeconomic exposure and counterparty exposure were also introduced. These are not within the scope of this Application Paper.

liquidity may be forced to take remedial actions that can amplify or accelerate stresses through the financial system.

6. Liquidity fundamentally differs from capital: while both are essential to remaining a going concern, liquidity has a “real time” dimension that capital does not. Insufficient liquidity can cause “sudden death” in insurers that are otherwise well-capitalized. As a result, the insurer’s capital management framework may be inappropriate or inapplicable to liquidity risk management.
7. Supervisory measures for liquidity risk management and planning are intended to help the insurer with its risk management. In addition to helping to protect insurer solvency and financial stability, integrated liquidity risk management can inform strategic initiatives, product design and pricing, investment allocation, and operational resiliency. Additionally, the supervisory measures may provide the supervisor with a view on vulnerabilities that may cause funding shortfalls in stress situations. This assists the supervisor in identifying common exposures and vulnerabilities across the insurance sector and in coordination with other financial sector supervisors.

1.2 Terms

8. In this Application Paper, all terms have the same meaning as set out in the IAIS Glossary and the Introduction to the ICPs. When assessing liquidity risk, collateral needs should be seen as part of the insurer’s financial needs.

1.3 Scope

9. As stated in ICP 16.8 “the supervisor requires the insurer’s ERM framework to address liquidity risk and to contain strategies, policies and processes to maintain adequate liquidity to meet its liabilities as they fall due in normal and stressed conditions” This Paper describes a particular set of approaches for managing liquidity risk, but the concepts may be relevant to the supervisors of all insurers and reinsurers.
10. This Paper is intended to be particularly useful for supervisors that require more detailed liquidity risk management processes. The processes identified in the ICP standard 16.9, are expected to be applied to Internationally Active Insurance Groups (IAIG), through the application of ComFrame standards 16.9.a – 16.9.d, and other insurers as necessary, based on the nature, scale and complexity of the their activities that lead to increased liquidity risk exposures and risk amplification effects related to their size.
11. Liquidity risk can manifest when there is an imbalance between the insurer’s liquidity sources and liquidity needs. Certain activities can increase insurers’ exposure to liquidity risk by generating unexpected liquidity needs and, thus, may warrant more robust risk management, including the application of the policy measures described in ICP standard 16.9. Examples of such activities may include, but are not limited to :
 - Derivatives: Many derivatives contracts require collateral or a margin to be posted for mark-to-market declines in the value of the contract. These derivatives, used to hedge market risk arising from investments and liabilities, transform capital risk into liquidity risk. A significant macroeconomic shock against hedges, while potentially

improving an insurer's capital position, could trigger calls for additional margins or collateral, forcing insurers to raise liquidity;

- Securities lending transactions: If funds received are reinvested in illiquid assets, sudden recalls of these funds could force the insurer to sell assets. In a stressed market, these sales could impact the insurer's creditworthiness, triggering more collateral demands and leading to a price spiral as the lender sells assets to meet collateral needs; and
- Backing liquid liabilities with illiquid assets: Some products offered by insurers contain provisions whereby a policyholder can withdraw cash from the policy with little notice or penalty. When insurers do not adequately match such liabilities with sufficiently liquid assets, this may lead to a liquidity shortage in certain circumstances and ultimately trigger fire sales.

12. When not properly managed, these activities can threaten the solvency of the insurer and, in certain circumstances, contribute to systemic risk.

1.4 Proportionality

13. This Application Paper should be read in the context of the proportionality principle, which acknowledges supervisors' flexibility to tailor their application of supervisory requirements and supervision to achieve the outcomes stipulated in the Principle Statements and Standards, as described in the Introduction to ICPs and ComFrame.

14. The supervisor may, as per ICP 16.9.4 and CF 16.9.b.2, increase or decrease the intensity of the requirements set out in ICP 16.9 for example by varying the frequency, scope and granularity of liquidity stress testing, the proportion and quantity of various types of highly liquid assets allowed in the portfolio of liquid assets or the form and level of detail in the contingency funding plan and liquidity risk management report. The supervisor may also decide on varying the form and level of detail in updates to the contingency funding plan and liquidity risk management report by taking into consideration subsequent material changes since the initial assessment.

1.5 Supervisory review

15. Guidance on elements of liquidity risk management presented in the Paper can support the supervisor's review of the insurers' frameworks. This section presents additional considerations to assist the supervisor in assessing the adequacy of risk management elements for an insurer's liquidity risk profile.

16. With respect to evaluating the integration of liquidity risk into an insurer's ERM framework discussed in ICP 16.8, the supervisor may follow general guidelines for the review of the ERM. For liquidity risk management specifically, supervisors should ensure that frameworks adequately consider the time horizons and fungibility of liquidity across entities, purposes, and currencies. As timing is a critical dimension to liquidity risk, supervisors should assess whether the insurer maintains sufficient operational capabilities, including information systems, to execute liquidity plans. This includes assessing whether management of the insurer has access to timely information to identify and manage liquidity events.

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17. In line with ICP 16.9.5, where an insurer is required to establish detailed liquidity risk management processes, the supervisor should assess the effectiveness of their implementation, including the interaction with existing control mechanisms. The following paragraphs address the supervisory review of specific elements in ICP16.9.
18. Liquidity Stress Testing: The supervisor should review an insurer's stress test design and results. The review should focus on:
- a. whether the set of scenarios are appropriate and adequate for the insurer's liquidity exposures,
 - b. whether scenarios and associated assumptions and parameters are forward-looking, coherent, and conceptually sound,
 - c. whether anticipated management actions are realistic and consistent with stated contingency plans,
 - d. whether there are appropriate controls around the stress testing process and;
 - e. whether stress testing results inform business and risk management practices.

In considering stress scenarios, the supervisor should also consider the appropriateness of the time horizons used by the insurer in its liquidity risk assessments, the key assumptions used in cash-flow projections and stress testing, particularly economic variables, capital markets conditions, differences in lapse sensitivity, debt issuance and refinancing, new business and mortality.

19. Portfolio of Liquid Assets: Supervisors should assess the suitability of a liquid asset portfolio in the context of the timing of a particular insurer's liquidity needs. To account for the differences in the timing of payments and possible volumes of liquidity needs, the supervisor can use the insurer's stress testing to assess the quality and quantity of liquid assets. The supervisor may vary the proportion of assets in different liquidity buckets allowed in an insurer's liquidity portfolio or may allow insurers to identify multiple portfolios with differing liquidity parameters to cover liquidity needs in different stressed horizons. As part of its review, the supervisor should assess whether assets in the portfolio are accessible by relevant entities to ensure that they are able to meet their liabilities as they fall due.
20. Contingency Funding Plans: The supervisory review of insurer's contingency funding plans should cover the adequacy of the plans and the insurer's preparedness to execute the plans. The supervisor should assess whether the plan covers an adequate range of scenarios, relies on actions that are realistic for the particular scenario including ability to execute plans in a timely manner, and provides enough flexibility to react to unforeseen scenarios. Scenarios considered in the contingency funding plan should be informed by, but not limited to, the results of the insurer's liquidity stress tests. The supervisor should assess whether processes are current and documented and whether key employees have been trained. The supervisor should ensure that the insurer regularly and adequately tests aspects of the plan to ensure that plans can be executed. This includes testing access to funding sources, production of necessary reporting, and coordination among stakeholders.

21. Liquidity Risk Management Report: Supervisors should assess whether the framework in the report is sound, reflective of the insurer's risk profile, and is currently being put into practice as presented. Supervisors should assess the reporting on the insurer's risks and risk positions and determine whether it provides the supervisor and Board with adequate visibility into the insurer's risks and risk management. The liquidity risk appetite and levels of limits should have sound rationale and be appropriately monitored and enforced. Supervisors should assess whether liquidity policies are documented and are being applied as required in business decision making.
22. Where the supervisor deems that the insurer's liquidity risk management is not appropriate to the nature, scale, and complexity of the insurer or its activities, it should use the powers at its disposal to intervene and require effective and timely remedial action. This could be in the form of further supervisory reporting or additional qualitative and quantitative requirements arising from the supervisor's assessment. As per ICP 16.16.14, additional quantitative requirements should only be applied in appropriate circumstances and be subject to a transparent supervisory framework.

1.6 Structure

23. The remainder of this Application Paper is structured as follows:

- Section 2: Governance
- Section 3: Liquidity stress testing
- Section 4: Liquidity portfolio
- Section 5: Contingency funding plan
- Section 6: Liquidity risk management report

2 Governance

24. In the ongoing management of its business, an insurer relies on the availability of capital and liquidity. This demonstrates a need for the insurer to have an appropriate system of governance for liquidity risk in place. A proper liquidity risk management governance framework supports the identification, assessment, management, reporting and planning of risk-mitigating decision making.
25. The insurer's risk appetite statement should be approved by the insurer's Board of Directors, which should be responsible for its effectiveness on an on-going basis. The Board should also periodically review the insurer's liquidity risk practices and performance to determine if it is operating within its stated risk appetite.
26. The insurer's Senior Management is responsible for applying the insurer's risk appetite in pursuit of its strategic objectives. In doing so, Senior Management is responsible for several key liquidity risk management functions. Most importantly, Senior Management is responsible for integrating the insurer's risk appetite into day-to-day operations. As such, group-wide level Senior Management should receive clear and timely information from all material legal entities on the entities' liquidity position and emerging liquidity stress events. Senior Management should report periodically to the Board of Directors or the Board committee on the insurer's current liquidity risk profile

both at a group level and for material legal entities. Senior Management should also review the insurer's stress testing methodology and results and periodically report them to the Board of Directors, specifically highlighting any vulnerabilities identified and proposing appropriate remedial action.

27. The insurer should establish and maintain an appropriate process for monitoring liquidity. This should include a process for management reporting which provides clear, concise, timely and accurate liquidity risk reports to relevant functions within the insurer. Reports on liquidity risk should be provided on a regular basis to the insurer's Board of Directors or Board Committee, Senior Management and other appropriate personnel. Reports to the insurer's Board of Directors or Board Committee may be less detailed and less frequent than reports to Senior Management with responsibility for managing liquidity risk.

3 Liquidity stress testing

28. Insurers should have a sound understanding of the ways in which their activities affect their liquidity risk profile under both current and stressed conditions - so comprehensive, robust stress testing is an important part of liquidity risk management.
29. Liquidity risk is very much company and scenario specific. An insurer's stress tests should therefore include a range of severe, but plausible scenarios, covering short-term and protracted macroeconomic, sector-wide, and idiosyncratic events that appropriately reflect the distinctive features of its business. For material legal entities, this includes, where appropriate, locally developed stresses that reflect local business vulnerabilities and market conditions. Depending on its business model, an insurer may be vulnerable to different liquidity stresses than other insurers. Certain activities may contribute to larger or less predictable liquidity needs. Stress scenarios should be chosen to reveal vulnerabilities in the insurer's liquidity profile. In this way, the chosen stresses should help management to identify material risks to the insurer. The scenarios and model parameterization should not be limited to historical events, distributions and correlations.
30. Through its stress testing, the insurer should assess the impact of its chosen scenarios on cash inflows and outflows, liquidity resources, profitability, and solvency, both at a group level and for all material legal entities. Stressed cash flows should be produced at a level that allows comparison to baseline business-as-usual results. Where appropriate, the supervisors may accommodate stress testing only on material legal entities provided that the insurer demonstrates reasonable considerations of intragroup funding transactions, including off-balance exposures and commitments, and fungibility.
31. To ensure that stress tests capture a sufficiently diverse set of risks, the insurer should use a variety of time horizons for their scenario planning. The insurer should consider several relevant time horizons (such as one month, three months or longer term horizons, like one year). While insurers are generally exposed to, and expected to plan for, medium- to longer-term risks, certain activities, such as collateral calls or

withdrawals from large or institutional policies, can result in sudden, large demands for liquidity. Where applicable, the supervisor may also suggest any other planning horizons relevant to the insurer's liquidity risk profile. For example, for insurers with significant activity in capital markets that could generate short-term liquidity needs, supervisors may find horizons of one week or less appropriate.

32. The insurer should make appropriately conservative assumptions, both qualitative and quantitative, in determining its stress scenarios. Key assumptions should be described and justified in relation to the level of severity of the scenario and relevant risk factors taken into account. Generally, stressed cash inflows should not assume borrowings from off-balance sheet sources such as lines of credit. While these may provide sources of funding under normal conditions, they may not be available when needed in times of stress as a large number of institutions might try to seek funding from the same sources. Moreover, they may amplify shocks to the financial system by transmitting the insurer's liquidity demands to other financial counterparties. Other potential cash inflows, such as future premiums, may still be assumed to be available under stressed conditions, though the insurer should adjust their assumed availability in line with the stress scenarios. For example, a spike in interest rates may make alternative savings products more appealing, reducing the inflow of new premiums.
33. The supervisor should assess an insurer's responses to a liquidity stress: these should not include actions that would significantly damage the insurer's franchise or reputation. In line with this, the supervisor may consider whether an insurer's assumption would delay or defer payments under insurance contracts, or whether it could send an inappropriate signal to policyholders and markets more broadly. Anticipated management actions should be consistent with the insurer's contingency funding plan.
34. Events that have a significant impact on capital may not have a significant impact on liquidity. As such, stress testing work for capital purposes may not be relevant or adequate for liquidity risk management.
35. Where the insurer is required to submit a liquidity risk management report to the supervisor, the degree of conservatism of the scenarios and assumptions, alongside the results, should be discussed in the report.

3.1 Liquidity risk drivers

36. The insurer's liquidity risks may be influenced by certain factors including - insurable events, policyholder behaviour, funding structure, fungibility, and liquidity impairments on capital markets. In addition to the following elements, severe stress scenarios should consider potential correlated impairments to capital markets that may further hinder an insurer's ability to manage a liquidity event. The following liquidity risk drivers should be considered when designing and assessing stresses:

(1) Exposure to insurable events

37. This may include considerations of the nature, frequency and severity of exposures to insurable events, including catastrophic events or material legal decisions that may

occur within the time horizon. The supervisor should consider the insurer's dependence on reinsurance and the possibility that a material portion is uncollectible or not funded in a timely manner, even if ultimately collectible.

(2) Policyholder behaviour

38. This includes an assessment of the possible withdrawals from different product types, taking into account features such as guarantees, surrender penalties, maturity dates, interest rate sensitivity and customer type, and should also include liquidity needs arising from both life and non-life products. Stresses should also assess potential reductions in regular premium payments, non-renewals, and declines in new business and their impact on net cash flows.

(3) Contingent or off-balance sheet exposures

39. The insurer should include an assessment of derivative cash flows and collateral requirements caused by market changes, maturity, exercise of options, margin or collateral calls, changes in the value of posted collateral, and additional costs to rebalancing portfolios. The insurer should also consider additional collateral needs that could arise from reinsurance arrangements and any other potentially material liquidity needs arising from off-balance sheet commitments, contracts or facilities.

(4) The impact of a deterioration in the insurer's credit rating

40. The insurer should consider all types of outflows and collateral requirements resulting from its own credit downgrades of varying magnitude. This should include considerations on the types, quantity, and timing of potential collateral and margin requirements. This analysis should encompass retail and institutional policyholders as well as capital markets and reinsurance counterparties.

(5) The ability to transfer liquidity across entities, countries and portfolios

41. The insurer should assess the intragroup fungibility. This should include considerations of existing legal, regulatory and operational limitations to transfers of liquidity and unencumbered assets between entities, business lines and countries. The insurer should note that, during periods of market stress, liquidity might not be freely transferable between and within group entities, or across national borders and the potential for affiliates to default on intragroup obligations. A prudent assumption is that, under stress, liquidity may become non-transferrable, so it is expected that the insurer will demonstrate that the assumptions it makes regarding fungibility are realistic.
42. As part of its stress testing, where material, the insurer should appropriately address legally or operationally ring-fenced assets. Such assets could include legally insulated separate accounts, closed blocks², with-profits funds or matching adjustment portfolios. These blocks of assets, therefore, should only be included as cash flow sources to back cash flow needs arising from these same accounts. The insurer should also detail how assets in these blocks may affect the insurer's balance sheet through

² Closed blocks are discrete pools of assets that are set aside to support the dividend expectations of participating policyholders from the periods prior to demutualization. Typically, changes of their values would be largely offset by future changes in the dividend rates on these participating policies.

guarantees, hedging programs or other regulatory requirements to replace or maintain assets.

(6) Foreign exchange convertibility and access to foreign exchange markets

43. Where appropriate, the insurer should assess liquidity needs by individual currency to support an assessment of how shortfalls can be funded in a stressed market with impaired access to foreign exchange markets and loss of convertibility.

(7) The reduction in secured and unsecured wholesale funding

44. The insurer should identify any wholesale liabilities and assess how they would behave under stressed conditions. This should include the risk of shortening tenors, for example if the funding provider has call options, or refusal to roll over or extend the maturity of funding. A prudent assumption is that, for the length of the stress horizon, funding providers will be unable or unwilling to provide new unsecured borrowings or roll over or extend the maturity of existing funding. Wholesale funding that provides the counterparty with optionality, of acceleration in particular, should be noted and elaborated on.

(8) The correlation and concentration of funding sources

45. The insurer should consider the instrument type, markets, currency and counterparty, including groups of related counterparties. This assessment should analyse the effectiveness of the diversification across the insurer's chosen sources of funding.

4 Liquidity portfolio

4.1 Scope of liquidity portfolio

46. To the extent that stressed cash inflows are insufficient to meet the required cash outflows, the insurer may choose or be forced to sell assets. Where stress scenarios reveal stressed cash outflows that exceed stressed cash inflows, the insurer should hold liquid assets of sufficient values to cover shortfalls and ensure that it can meet its liabilities as they fall due. For the purposes of liquidity planning, such assets may be referred to as the "Liquidity Portfolio". Any assets that the insurer includes in the portfolio should be documented with an appropriate level of granularity.

4.2 Composition

47. Assets included in the portfolio should be easily and immediately convertible into cash, either through repo or outright sale, at little or no loss in value. Such assets generally have low credit risk and low market risk; have easy, transparent and accurate valuations and have low correlation with risky assets, ie they are "liquid". These assets typically also have active outright sale or repo markets at all times with evidence of market breadth and depth with a diverse group of active buyers and sellers, ie they are "readily marketable". Finally, assets should have a proven record as a reliable source of liquidity during stressed market conditions.

48. To ensure their availability to meet the insurer's liquidity needs, assets included in the portfolio should be unencumbered. For the purpose of this Paper, an unencumbered asset is (i) free of legal, regulatory, contractual and other restrictions on the insurer's ability to promptly sell or transfer the asset and (ii) not pledged or used to secure or provide credit enhancement to another transaction.

49. As a result, assets generally eligible for inclusion in the portfolio include:

- i. Demand deposits; provided that these are sufficiently diversified across institutions so as not to create a concentration risk;
- ii. Securities issued or unconditionally guaranteed by sovereign entities, supranational organizations, such as the Bank for International Settlements, the International Monetary Fund, the European Central Bank, the European Union, or a Multilateral Development Bank, and other non-sovereign public sector entities that are backed by the full faith and credit of the issuing entity;³
- iii. Other securities issued by a sovereign entity in its own currency used to back liabilities in that sovereign's jurisdiction;
- iv. Securities issued by a government sponsored enterprise that are senior to preferred equity;
- v. Covered bonds;⁴
- vi. Vanilla corporate debt securities, including commercial paper, not issued by a financial institution or any of its affiliated entities;⁵
- vii. Fixed income instruments issued by public sector entities; and
- viii. Common equity shares publicly traded on a major exchange, not issued by a financial institution or any of its affiliated entities.

The liquidity portfolio may include other assets that the insurer demonstrates to the supervisor which have low credit risk and low market risk, are liquid and readily marketable and have a proven record as a reliable source of liquidity during stressed market conditions.

50. There are natural differences in the liquidity of these assets that would limit the insurer's ability to monetise them during a stressed situation. As a result, an insurer should group assets according to their usability in stress. As an example, assets may be classified according to the following hierarchy:

³ This will generally exclude special revenue bonds or other obligations which are backed by a specific stream of revenue.

⁴ Covered bonds are bonds issued by a bank or mortgage institution and are subject by law to special public supervision designed to protect bond holders. Proceeds deriving from the issue of these bonds must be invested in conformity with the law in assets which, during the whole period of the validity of the bonds, are capable of covering claims attached to the bonds and which, in the event of the failure of the issuer, would be used on a priority basis for the reimbursement of the principal and payment of the accrued interest.

⁵ These securities' valuation is readily available based on standard methods and does not depend on private knowledge, i.e. these do not include complex structured products or subordinated debt.

<u>Asset Class</u>	<u>Other Considerations</u>	<u>Liquidity Bucket</u>
Demand deposits	Sufficiently diversified	Primary
Securities issued or guaranteed by sovereign, supranational or other non-sovereign public sector entities backed by their full faith and credit	Used to back liabilities in the sovereign's jurisdiction	Primary
	Rated AA- / Aa3 or better	Primary
	Rated A- / A3 or better, but less than AA- / Aa3	Secondary
Securities issued by a Government Sponsored Enterprise senior to preferred equity	Rated AA- / Aa3 or better	Primary
	Rated A- / A3 or better, but less than AA- / Aa3	Secondary
Covered bonds	Rated AA- / Aa3 or better	Secondary
	Rated BBB+ / Baa1 or better, but less than AA- / Aa3	Tertiary
Vanilla corporate debt securities, including commercial paper	- Rated AA- / Aa3 or better; AND	Secondary
	- Not issued by a financial institution or its affiliates	
	- Rated BBB+ / Baa1 or better, but less than AA- / Aa3; AND	Tertiary
	- Not issued by a financial institution or its affiliates	
Other fixed income instruments issued by public sector entities	- Rated BBB+ / Baa1 or better	Tertiary
Common equity shares	- Publicly traded on a major exchange; AND	Tertiary
	- Not issued by a financial institution or its affiliates	
Other assets	Demonstrated to have low credit risk and low market risk, is liquid and readily marketable and has a proven record as a reliable source of liquidity during stressed market conditions.	Primary / Secondary / Tertiary

51. To ensure their realisability in stress and to minimise financial stability impacts from the monetisation of financial assets, insurers generally should not rely on lower quality assets for shorter stress periods as they may be unable to monetise these assets quickly enough. Moreover, large sales of lower quality assets in a short time period, particularly in stressed conditions, could impact market prices, thereby affecting similar assets held by other institutions. For short-term stresses, for example those of one week or less, the insurer should rely on Primary assets only, as these assets are more likely to have willing buyers in very short horizons, even during stressed conditions. The insurer may also consider including limited quantities of Secondary assets, though the insurer may experience delays in finding a willing buyer, particularly in stressed conditions. For medium-term stresses, for example those between one week and three months, the insurer may rely on both Primary and Secondary assets. The insurer may also, in such circumstances, consider limited quantities of Tertiary assets to be appropriate for the liquidity portfolio, though the Primary assets should comprise a majority share of the portfolio. For longer-term stress periods, for example those longer than three months, the insurer would likely be expected to sell assets more strategically to minimise losses. As such, Primary, Secondary and Tertiary assets could be allocated to the liquidity portfolio in any quantity.
52. Instruments issued by other financial institutions are generally not appropriate for inclusion in the insurer's liquidity portfolio, except for demand deposits. This is due to the potential for wrong-way risk (i.e. that their liquidity is correlated with developments in the financial markets and/or broader economy) and may exacerbate stress at the insurer level. Moreover, such instruments could contribute to systemic risk by increasing the insurer's interconnections with the rest of the financial sector.
53. Insurers and supervisors should take a number of additional considerations into account when including assets in the liquidity portfolio. To avoid double-counting, assets generating cash-flows used as cash inflows, for example through coupon or interest payments or maturities, should not be allocated to the portfolio as the insurer may not be willing or able to sell them without impacting its existing business or risk management strategies.

4.3 Other portfolio considerations

54. Liquidity portfolio assets should be sufficiently diversified to reduce the risk of a material portion of the insurer's portfolio becoming illiquid just when it needs to draw down on the portfolio. In its liquidity risk management report, where relevant, the insurer should assess the diversity of its liquid assets by counterparty, including groups of related counterparties, counterparty jurisdiction, and instrument both with regard to its own asset portfolio, and also considering the broader market (i.e. the insurer does not hold a substantial share of the market for a particular counterparty or asset class) to ensure that the market will be able to bear the insurer's sales without adversely impacting its ability to monetise its liquid assets as planned.
55. The insurer should impose an appropriate haircut to the fair market value of assets added to the liquidity portfolio to account for the increased credit risk and market

volatility during a stress event. The haircuts should appropriately reflect differences in credit quality and market volatility across asset types and the amount of time that the asset would be required to be sold in. The assumed haircuts should be documented and key assumptions underlying them described.

56. The insurer should assess its ability to convert its liquidity portfolio into cash in a short time frame. This may involve periodically monetising a representative portion of the liquidity portfolio, either through repo or outright sale. This may help the insurer test its access to the market, the effectiveness of its processes for monetisation, the availability of the assets, and minimises the risk of negative signalling during a period of actual stress. Even where policyholders fully bear the investment performance of these assets, large-scale asset sales or purchases for these policies may still present operational challenges. As such, the insurer should consider its ability to monetise assets without compromising on either speed of disposal or price. As part of this assessment, the insurer should describe and justify all key assumptions about the amount of time needed to sell significant blocks of assets or the availability of willing counterparties for repo transactions. The insurer should also consider the impact of its actions on the wider market and on financial stability.
57. The insurer should consider fungibility in determining the magnitude of the required liquidity portfolio and the location where the portfolio is held. To facilitate policyholder protection, insurers are often restricted from transferring liquidity out of insurance underwriting entities. As such, insurers should not assume that these assets are readily available to cover liquidity shortfalls elsewhere in the group. Assets held at regulated entities should be included in the portfolio only up to the amount of their net cash outflows as calculated under the relevant internal liquidity stress tests plus any additional amounts that would be available for transfer to all other entities within the group during times of stress without statutory, regulatory, contractual, or supervisory restrictions. Funds held in regulated legal entities that have cash flow surpluses during the stress test and that would not be transferrable within the group should not be included in the liquidity portfolio.
58. Finally, in times of stress, access to foreign exchange markets may be impaired. When determining the appropriate location and currency of assets in its portfolio, the insurers should be aware of the risk of non-convertibility of foreign currencies, particularly over short time horizons.

5 Contingency funding plan

59. As indicated in ICP 16.9.2, contingency funding planning to respond to liquidity stress events may assist the insurer in addressing stress situations where its liquid assets are insufficient or unexpectedly become illiquid. It should include the actions that the insurer would take to ensure that liquidity sources are sufficient to maintain normal operations and continue to meet its financial obligations, including collateral needs, under stress. Such a plan should describe all existing strategies, policies and procedures for addressing liquidity shortfalls in emergency situations in a timely manner and at a reasonable cost. It should include a diversified set of viable, readily

available and flexibly deployable methods that the insurer would use to access alternative sources of funding. The plan should also describe when and how each of the actions can and should be activated and the time needed to access funds and quantity of funds that would be expected to be available from each contingency source. The plan should describe the clear steps that allow the insurer to make timely and informed decisions, execute contingency measures efficiently, and communicate effectively. No one particular method, such as accessing a pre-funded liquidity facility, is expected to be included as part of this plan.

60. The form and level of detail of the plan and the frequency of reviewing and updating it should take into account the proportionality principle described in Section 1.4, as well as the results of its liquidity stress testing, which may reveal funding sources most likely to be impacted during stress and which the insurer is most reliant on. The insurer's contingency funding plan should address a range of plausible stresses and in different time horizons, including intraday where relevant. An insurer that is exposed to a broader array of risk drivers should plan for a wider set of applicable circumstances. An insurer should regularly test its contingency plan to ensure that it remains operationally robust. Based on this, but also as a way of good practice, the insurer should regularly review and update its contingency plan to ensure that it remains fit for purpose, especially when there are material changes to the scale, nature, and complexity of the insurer's activities, liquidity portfolio, funding profile, or market environment. An insurer with a more volatile liquidity position may wish to test its contingency funding plan more frequently than others.
61. The contingency funding plan should include quantitative metrics that the insurer would use to identify a range of liquidity stress events, including the level and nature of the effect it would have on the insurer's liquidity position and on sources of available funding. Such metrics should be informed by the insurer's stress tests and could include sharp increases in interest rates, a catastrophic event, steep equity market declines, multiple ratings downgrades or other events that could affect the policyholder's or counterparties' perception of the insurer's liquidity or solvency condition. On the basis of these metrics, the plan should define a variety of circumstances in which it would be executed to respond to liquidity shortfalls for identified stress events. The insurer may wish to use different metrics to differentiate between systematic and idiosyncratic liquidity stress, for instance, the insurer may have a broader range of possible actions that it could use to raise liquidity or make more time to execute planned actions, compared to a systematic liquidity stress.
62. The plan should clearly set out a process on what actions to take at what time, who can take them, and what needs to be escalated or prioritised. The plan should establish a clear allocation of roles and clear lines of management responsibility and define procedures for identifying early warning indicators for potential liquidity stress events that are based on the distinctive features of its business. The plan should also contain a governance process for escalation. It should establish the lines of communication to ensure that the Board and Senior Management receive the necessary management information in a timely manner. It is important that the relevant employees are aware

of the operational procedures to transfer liquidity and collateral across legal entities and accounts as well as the restrictions that govern such transfers.

63. The insurer's contingency funding plan should take into account the impact of stressed market conditions on its ability to monetise assets, including market-imposed haircuts or operational limitations, the impact of a freeze in typically available market funding options, the financial, reputational or other consequences for the insurer of executing its contingency funding plan and its ability to transfer liquidity between entities. The plan should also outline how it will manage both internal communications and those with external stakeholders.
64. Given the overlapping focus, the insurer may integrate its contingency funding plan into its recovery planning.

6 Liquidity risk management report

65. A liquidity risk management report should include at least the following:

- A liquidity risk appetite statement;
- Established liquidity risk limits;
- A discussion of the current liquidity position of the insurer in relation to its liquidity risk appetite and limits;
- A summary of strategies, policies and processes that the insurer has in place to manage liquidity risk;
- A discussion of potential vulnerabilities in the insurer's liabilities as well as the means of enhancing the liquidity position; and
- The insurer's approach to, and results of, liquidity stress testing.

66. A key purpose of a liquidity risk management report is to document and demonstrate overall liquidity adequacy, both under current and stressed market conditions. The report sets out an insurer's approach to liquidity and funding. It should be clear and self-explanatory so that any outside person familiar with the subject matter can easily understand it. The liquidity risk management report should also be tailored to the risks to which an insurer is exposed.

67. The liquidity risk management report should be regularly updated, particularly when there are material changes to the nature, scale, and complexity of the insurer's activities, liquidity portfolio and funding profile. The liquidity risk management report should be approved by the Board of Directors or Board Committee.

6.1 Risk appetite and risk limits

68. A central component of liquidity risk management is a clear articulation of the acceptable level of liquidity risk that the insurer may assume to achieve its strategic objectives. This should be described in a risk appetite statement that defines the duration and type of stress or stresses that the insurer aims to survive. This statement

should include both quantitative targets, such as excess liquidity or liquidity coverage ratios, and qualitative objectives. As per ICP 16.4.5, the insurer's risk appetite statement should be articulated in a way that all levels of management can clearly understand and apply it to all aspects of liquidity risk management throughout the organisation. All elements of the liquidity risk management report should be consistent with the risk appetite statement.

69. To the extent possible, the insurer's liquidity risk management report should include a description of the systems and metrics used to measure and monitor liquidity risk. A number of techniques can be used for measuring liquidity risk, ranging from simple calculations to highly sophisticated modelling. The degree of sophistication in risk metrics should be reflective of the scale, nature, and complexity of the insurer's activities.
70. In order to implement the insurer's stated risk appetite, based on these metrics, management should consider where limits should be set, in accordance with the nature, scale and complexity of the insurer's activities. Activities that may warrant limits to be set are (i) non-insurance liabilities maturing or redeemable within various time horizons; (ii) off-balance sheet or other exposures that could create liquidity needs during stressed market conditions; (iii) concentrations of liquid assets and funding sources by currency, single counterparty or group of related counterparties, counterparty type, instrument type, and instrument seniority; (iv) liquidity risk arising from insurance liabilities; (v) maturity gaps; and (vi) the value or proportion of encumbered assets. These limits should be documented in the insurer's liquidity risk management report, including how they interact with the insurer's stated risk appetite as well as in relation to the insurer's current liquidity position.
71. Senior management should disseminate the insurer's liquidity risk guidelines to involved employees and ensure that these employees work cooperatively to implement the insurer's liquidity risk management policies. Throughout its liquidity report, the insurer should demonstrate how the liquidity risk appetite is applied, in particular, how it and the insurer's liquidity risk management report are integrated into the risk management framework and how they inform business decisions (ie a use test).
72. Regarding the use test, for example, liquidity risk should be integrated with investment risks and influence business decisions around purchases and sales and asset allocation. Liquidity risk and liquidity risk appetite may also influence product design when considering large policy limits, guaranteed rates, surrender periods and benefits.

6.2 Liquidity risk management framework

73. The insurer's liquidity risk management report should discuss the strategies, policies and procedures that the insurer has in place to manage liquidity risk and implement its stated risk appetite.
74. Where applicable to its business, the report should detail the policies it has in place for the monitoring of intraday liquidity risk exposure, including any obligations that must

be settled at a specific time within the day or where intraday events could materially and adversely affect the insurer's liquidity position. For instance, where intraday movements of asset prices could force the insurer to rebalance its hedging portfolio, the report should describe the procedures that the insurer has in place to monitor and mitigate the risk to its liquidity position. Other examples of intra-day risks could include securities trade settlements, where an insurer has used intra-day credit to fund all or part of the transaction, or margin calls on derivatives contracts.

75. Insurers with significant collateral needs, for example through derivatives, securities financing transactions securities financing transactions⁶ (SFTs) or reinsurance, should have in place systems and procedures to monitor assets that have been encumbered or are available to be loaned or pledged in such transactions. These systems and procedures should be detailed in the liquidity risk management report. In addition, the report should describe how the insurer monitors the levels of unencumbered assets that could be loaned or pledged. The insurer should also take into account any operational restrictions that could impair its ability to pledge certain assets, such as their geographical location or currency.
76. Insurers that are part of a group face additional challenges in their liquidity risk management. Such insurers should elaborate on all key considerations at a group level and also for all significant legal entities or functional sub-groups of entities. The liquidity risk management report should consider if and to what extent entities or sub-groups are self-sufficient or dependent on liquidity support from other parts of the group and whether such arrangements are both prudent and expected to be honoured in a stress scenario. As part of its ERM framework, the insurer should ensure the consistent reporting of results at the legal entity level.

6.3 Analysis of the insurer's liquidity profile

77. The insurer should consider potential vulnerabilities in its liability profile, both insurance-related and non-insurance-related. The insurer's liquidity risk management report should discuss its outstanding products in sufficient detail so that a reader can understand their features. The insurer should pay particular attention to product features that may encourage withdrawals or otherwise create significant liquidity demands under certain circumstances, for example the following:
- To the extent the insurer provides bank- or corporate- owned life insurance (BOLI or COLI), it should describe the exposures and assess the potential liquidity needs that could arise from these products;
 - The insurer should mention any deposit-type contracts or similar products.⁷ Where a trust or special purpose vehicle (SPV) or other structure is used to transform the

⁶ Securities Financing Transactions (SFTs) are transactions such as repurchase (repo) and reverse repurchase (reverse repo) agreements, buy-sell back and sell-buy back transactions, dollar and reverse dollar rolls, security lending and borrowing, and margin lending transactions, where the value of the transactions depends on the market valuations and the transactions are often subject to margin agreements.

⁷ Deposit-type insurance liabilities are those products that do not incorporate significant insurance risk. Examples of products that should be reported include Guaranteed Investment Contracts (GICs), Funding Agreements, Annuities Certain, and Funding Agreement-backed or Fixed Annuity-backed securities

maturity of the issued instrument, for example in a funding agreement-backed securities programme, these structures may exacerbate liquidity risk and the insurer should describe such structures in the report;

- The insurer should maintain adequate ability to regularly quantify, monitor and report to the supervisor all insurance contracts that could present funding draws due to policyholder decisions. This should be done at such a level to identify blocks of business that may behave similarly. Companies should be able to monitor these amounts net of surrender penalties and market-value adjustments to assess maximum cash flow needs and to identify changes in the aggregate profile of a block's surrender charges;
- Any material outstanding legal decisions that could create unexpected liquidity needs;
- The insurer's report should describe any non-insurance liabilities that could contribute to liquidity stress. A detail should be provided of yield enhancing activities, such as, SFTs that the insurer engages in, including reinvestment practices and its internal policies regarding such activities; and;
- The insurer should also describe its hedging strategy and the ways through which it manages the associated liquidity risk, for instance, through margin calls.

78. To complement an analysis of its liabilities, the supervisor should also require the insurer to consider means of raising cash. This may include an assessment of returns on investments, off-balance sheet instruments, such as credit lines, and its ability to issue debt or commercial paper. As part of this analysis, the report should detail any legal or operational restrictions, covenants, etc. that might limit its ability to use these means to raise funds under stress. This analysis should also include an assessment of the liquidity of the insurer's investment portfolio. It should consider material assets that have been pledged, encumbered or are otherwise unavailable to raise cash. The supervisor may expect the insurer to assess the extent that it has generally illiquid investments, such as privately placed securities, real estate or mortgages that it is using to support liabilities that could be subject to material cash demands.

79. In the normal course of business, the insurer should periodically produce cash flow projections, commensurate with the relevant time horizon, that incorporate (i) anticipated claim and annuity payments; (ii) policyholder options including surrenders, withdrawals and policy loans; (iii) collateral requirements; (iv) expenses; (v) intercompany transactions; (vi) maturities and renewals of funding instruments, including through the exercise of provisions that could accelerate their maturity; (vii) premiums from new and recurring business; (viii) investment income; and (ix) any other potential cash flows that are relevant to the unique nature of the insurer's business and activities. Cash flows should be reported with sufficient detail on the underlying activity and at sufficient granularity with respect to the time interval for the insurer to assess areas for potential vulnerabilities. Cash flows from asset disposals should be accounted for separately. In its liquidity plan, the insurer is expected to document and justify all key assumptions used in generating the cash flow projections. In the plan, the insurer should also identify and analyse any potential, discrete and cumulative cash flow mismatches over various time horizons, as applicable to its activities and business.

6.4 Reporting to the supervisor

80. The insurer should regularly report to the supervisor on its liquidity management and planning, or more frequently in the event of material changes to its liquidity plan or liquidity risk profile. The report and other related information may be shared within the insurer's supervisory college where relevant.
81. The insurer should ensure consistency between its liquidity report and all other supervisory required documents, such as recovery and resolution plans or ORSAs. To the extent, however, that elements of the report are incorporated in other material, the supervisor may allow the insurer to satisfy the reporting requirement by reference to those other risk management policies and/or the ORSA.
82. As part of its liquidity risk management, the insurer should report the ratio of the liquidity portfolio to net stressed cash outflows (inflows minus outflows), under each time horizon, as produced by the stress test(s).
83. The supervisor should collect additional information on the set of risks that may be relevant for a particular insurer as part of its monitoring of potential vulnerabilities arising from liquidity risk in the insurance sector.⁸

By way of illustration, possible additional data are included below:

- General funding make-up⁹ (including, at a minimum, information on residual maturities of assets and liabilities, pledged, secured, and unsecured funds, off-balance sheet transactions). This could be applied to all insurers, with larger, more complex insurers submitting more granular information.
- SFTs, in line with FSB's recommendation¹⁰, with the intent of capturing both the maturity structure of these transactions (and the extent that the entity uses them to conduct maturity transformation) and for assessing intra-financial connections. This may be most efficiently applied to firms conducting a material amount of SFTs (e.g. 1% of total liabilities or gross SFT liabilities greater than 5 billion USD).
- Surrender information to assess the likelihood of and the insurer's resilience to a mass lapse event. Information could be requested by any product type, distribution channel, policyholder age (bucket), interest rate sensitivity, contract age, remaining policy duration or premium payment type.
- Funding instruments (including information on contractual maturities, both interim and final, and embedded optionality) with information on the use of short-term funding and the use of funding instruments that may unexpectedly become short-term. This may be most efficiently applied to firms with a material amount of outstanding debt or deposit-type contracts (e.g. 5% of total liabilities).

⁸ See, for example, the Section, Data Elements and Granularity in FSB (2015): Transforming Shadow Banking into Resilient Market-based Finance: Standards and processes for global securities financing data collection and aggregation, <http://www.fsb.org/wp-content/uploads/FSB-Standards-for-Global-Securities-Financing-Data-Collection.pdf>.

⁹ See e.g. Figures 6 and 17 from http://www.fsb.org/wp-content/uploads/r_121029.pdf

¹⁰ See, e.g. the section, *Data Elements and Granularity* from <http://www.fsb.org/wp-content/uploads/FSB-Standardsfor-Global-Securities-Financing-Data-Collection.pdf>

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- Available unencumbered assets to assess firms' ability to monetise assets either through sale or repo. This could be applied to all insurers, with larger, more complex insurers submitting more granular information.
 - Funding concentrations (by counterparty and product/instrument type > 1% of assets) to assess liquidity concentration risk. This could be applied to all insurers, with larger, more complex insurers submitting more granular information.
 - Derivatives¹¹ with the intent of capturing counterparty information (intra-financial considerations) and assessing the potential for future collateral calls from volatile positions. This may be most efficiently applied to firms conducting a material amount of derivatives activity (e.g. notional greater than 100 billion USD).

¹¹ See for instance <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R0104&from=EN>, Table 1, items 2-7, 14, 17, 20-35, and Table 2 Sections 2a-2C, items 1-11, 17-24, 26-30.