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## **BASEL III FRAMEWORK**

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# **Liquidity Risk Management**

## **Rules and Guidelines**

February 2022



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## **LIST OF ACRONYMS**

<b>ALA</b>	<b>Alternative Liquidity Approach</b>
<b>ASF</b>	<b>Available Stable Funding</b>
<b>BCBS</b>	<b>Basel Committee on Banking Supervision</b>
<b>BIS</b>	<b>Bank for International Settlements</b>
<b>BTCL</b>	<b>Banks and Trusts Companies Law</b>
<b>CD</b>	<b>Certificate of Deposit</b>
<b>CFP</b>	<b>Contingency Fund Planning</b>
<b>CIMA</b>	<b>Cayman Islands Monetary Authority</b>
<b>CP</b>	<b>Commercial Paper</b>
<b>ECAI</b>	<b>External Credit Assessments Institution</b>
<b>HQLA</b>	<b>High Quality Liquid Assets</b>
<b>IMF</b>	<b>International Monetary Fund</b>
<b>KYD</b>	<b>Cayman Islands Dollar</b>
<b>LCR</b>	<b>Liquidity Coverage Ratio</b>
<b>LTV</b>	<b>Loan To Value</b>
<b>MDB</b>	<b>Multilateral Development Banks</b>
<b>MLR</b>	<b>Minimum Liquidity Ratio</b>
<b>NSFR</b>	<b>Net Stable Funding Ratio</b>
<b>OBS</b>	<b>Off-Balance Sheet</b>
<b>OTC</b>	<b>Over-the-Counter</b>
<b>PD</b>	<b>Probability of Default</b>
<b>PSE</b>	<b>Public Sector Entity</b>
<b>RMBS</b>	<b>Residential Mortgage-Backed Securities</b>
<b>RSF</b>	<b>Required Stable Funding</b>
<b>SFT</b>	<b>Securities Financing Transaction</b>
<b>SIV</b>	<b>Special Investment Vehicle</b>
<b>SPE</b>	<b>Special Purpose Entity</b>
<b>SPV</b>	<b>Special Purpose Vehicle</b>

# PART I – Liquidity Risk Management Framework

## 1. Background and Overview

- 1.1. This document sets out a comprehensive Liquidity Risk Management framework for banks, including the minimum standards for funding liquidity, namely the Liquidity Coverage Ratio (“LCR”), Net Stable Funding Ratio (“NSFR”) and Minimum Liquidity Ratio (“MLR”), as well as additional liquidity monitoring tools.
- 1.2. In order to highlight the Cayman Islands Monetary Authority’s (“CIMA”) liquidity rules within the compendium, a rule is written in light blue and designated with the letter “R” in the right margin.

## 2. Scope of Application

- 2.1. The scope of application of the liquidity rules applies to all banks which apply the capital adequacy rules as defined in the Scope of Application section of the Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I).
- 2.2. All Category “A” Retail banks are required to meet the minimum requirements of the LCR and the NSFR, as specified in Parts II and III of these Rules and Guidelines.
- 2.3. All Category “A” Non-Retail banks and Category “B” banks are required to meet the minimum requirements of the MLR, as specified in Part V of these Rules and Guidelines.

## 3. Statement of Objectives

- 3.1. To establish key principles for managing liquidity risk, the formality and sophistication of the process used should be dependent upon the size and sophistication of the bank, as well as the nature and complexity of its activities. The principles established here have broad applicability to all banks which apply the capital adequacy rules as defined in the Scope of Application section of the Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I).
- 3.2. Liquidity, or the ability to fund increases in assets and meet obligations as they come due, is crucial to the ongoing viability of any bank.

## 4. Ongoing Liquidity Management

- 4.1. Each bank should have a strategy for the day-to-day management of liquidity, setting out the bank’s general approach to liquidity. A bank’s board of directors should approve the strategy and significant policies related to the management of liquidity. R The strategy should address the bank’s goal of protecting financial strength and the ability to withstand stressful events in the marketplace.
- 4.2. Each bank should have a management structure in place to effectively execute the liquidity strategy. R Senior management must ensure that liquidity is effectively managed, and that appropriate policies and procedures are established to control and mitigate liquidity risk.

- 4.3. The board should ensure that senior management takes the steps necessary to monitor, control and report on liquidity risk. The board should be informed regularly of the liquidity situation of the bank and immediately if there are any material changes in the bank's current or prospective liquidity position. R
- 4.4. A bank's liquidity strategy should enunciate specific policies on particular aspects of liquidity management, such as the composition of assets and liabilities, the approach to managing liquidity in different currencies and from one country to another, the relative reliance on the use of certain financial instruments, and the liquidity and marketability of assets. There should also be an agreed strategy for dealing with the potential for both temporary and long-term liquidity disruptions.
- 4.5. The strategy for managing liquidity risk should be communicated throughout the organisation. All business units within the bank that conduct activities having an impact on liquidity should be fully aware of the liquidity strategy and operate under the approved policies, procedures and limits. R
- 4.6. Senior management and the appropriate personnel should have a thorough understanding of how other risks, including credit, market and operational risk, impact on the bank's overall liquidity strategy and position. R
- 4.7. A bank's management must make decisions related to the structure for managing liquidity. This may be in the form of an Asset/Liability Committee (ALCO) comprised of senior management, the treasury function and/or a risk management department. The bank may completely centralise all liquidity management within the ALCO; or it may decentralise by assigning business units responsibility for their own liquidity, subject to limits imposed by senior management and overarching responsibility within the ALCO. Whatever structure is used, it is critical that there be close links between those individuals responsible for liquidity and those monitoring market conditions, as well as other individuals with access to critical information such as credit risk managers. R
- 4.8. A bank must have adequate information systems for measuring, monitoring, controlling and reporting liquidity risk. Reports should be provided on a timely basis to the bank's board of directors, senior management, other appropriate personnel and the Authority, if requested. R
- 4.9. A schedule of frequent routine liquidity reviews and less frequent, but more in-depth reviews should be established. These reviews provide the opportunity to re-examine and refine a bank's liquidity policies and practices in the light of a bank's liquidity experience and developments in its business. R
- 4.10. A bank's management should set limits to ensure adequate liquidity and to control liquidity risk exposures and vulnerabilities. The limits imposed should include, but are not limited to, operational limits, concentration limits, exposure and sensitivity limits, and trading and stop loss limits for the investment portfolio. Limits set by management will be reviewed by the Authority from time to time and may be subject to the Authority's approval. The Authority may also set the limits on a case-by-case basis. Banks should analyse the likely impact of different stress R

scenarios on their liquidity position and set their limits accordingly. Limits should be appropriate to the size, complexity, nature of the operations and financial condition of the bank. Management should define the specific procedures and approvals necessary for exceptions to policies and limits.

- 4.11. A bank's management information system should be designed to provide the board of directors, senior management and other appropriate personnel with timely information on the liquidity position of the bank. The system should be flexible to deal with various contingencies that may arise. It should have the ability to calculate liquidity positions in all of the major currencies in which the bank deals, both individually and on an aggregate basis. The bank should have the ability to calculate its liquidity position on a day-to-day basis for the short time horizons (e.g. out to eight days) and over a series of specified time periods thereafter, including more distant periods. The management information system should be used to check for compliance with the bank's established policies, procedures and limits. R

## 5. Measuring and Monitoring Liquidity Requirements

- 5.1. At a very basic level, liquidity measurement involves assessing all of a bank's cash inflows against its outflows to identify the potential for any net shortfalls going forward. This assessment is performed with both a short term and long-term horizon. The assessment includes funding requirements for off-balance sheet commitments. A number of techniques can be used for measuring liquidity risk, ranging from simple calculations and static simulations based on current holdings to highly sophisticated modelling techniques. Each bank should establish a robust process for the ongoing measurement and monitoring of liquidity requirements.
- 5.2. a) All Category "A" Retail banks: R
- i. are required to calculate the LCR and NSFR as specified in Parts II and III of these Rules and Guidelines;
  - ii. are required to report the LCR and NSFR as specified in Parts II and III of these Rules and Guidelines and in accordance with the timeframe and format stipulated by the Authority; and R
  - iii. should use additional liquidity monitoring tools as outlined in Part IV of these Rules and Guidelines.
- b) All Category "A" Non-retail banks and Category "B" banks are required to: R
- i. calculate the MLR as specified in Part V of these Rules and Guidelines; and
  - ii. report the MLR as specified in Part V of these Rules and Guidelines and in accordance with the timeframe and format stipulated by the Authority.
- 5.3. Since a bank's future liquidity position will be affected by factors that cannot always be forecast with precision, assumptions need to be reviewed frequently to determine their continuing validity, especially given the rapidity of change in banking markets. The total number of major assumptions to be made, however, is fairly limited. The remainder of the paragraphs in this section catalogue some liquidity assumptions for consideration.

- 5.4. Assumptions about a bank's future stock of assets include their potential marketability and use as collateral which could increase cash inflows, the extent to which assets will be originated and sold through asset securitisation programs, and the extent to which maturing assets will be renewed, and new assets acquired.
- 5.5. Determining the level of a bank's potential assets involves answering three questions:
- a) what proportion of maturing assets will a bank be able and willing to roll over or renew?
  - b) what is the expected level of new loan requests that will be approved?
  - c) what is the expected level of draw-downs of commitments to lend that a bank will need to fund?
- 5.6. Analysing the liability side of the balance sheet for sources of funding requires a bank to understand the characteristics of their fund providers and funding instruments. To evaluate the cash flows arising from a bank's liabilities, a bank would first examine the behaviour of its liabilities under normal business conditions. This would include establishing:
- a) the normal level of roll-overs of deposits and other liabilities;
  - b) the effective maturity of deposits with non-contractual maturities, such as demand deposits and many types of savings accounts;
  - c) the normal growth in new deposit accounts.
- 5.7. In examining the cash flows arising from a bank's liabilities under abnormal circumstances (bank-specific or general market problems), a bank would examine four basic questions:
- a) which sources of funding are likely to stay with the bank under any circumstance, and can these be increased?
  - b) which sources of funding can be expected to run off gradually if problems arise, and at what rate? Is deposit pricing a means of controlling the rate of runoff?
  - c) which maturing liabilities or liabilities with non-contractual maturities can be expected to run off immediately at the first sign of problems? Are there liabilities with early withdrawal options that are likely to be exercised?
  - d) does the bank have back-up facilities that it can draw down and under what circumstances?
- 5.8. A bank should also examine the potential for substantial cash flows from its off-balance sheet activities (other than the loan commitments already considered). The contingent nature of most off-balance sheet instruments adds to the complexity of managing off-balance sheet cash flows. In particular, during stressful situations, off-balance sheet commitments can have a significant drain on liquidity.
- 5.9. Looking solely at instruments may ignore some factors that could significantly impact a bank's cash flows. Besides the liquidity needs arising from their own business activities, banks also require funds to support other operations. For example, many large banks provide correspondent banking services for foreign banks or provide access to payment systems for smaller domestic banks and other financial institutions.



- 5.10. In addition, net overhead expenses, such as rent, salary and tax payments, although generally not significant enough to be considered in banks' liquidity analyses, can in some cases also be sources of cash outflows.

## 6. Managing Market Access

- 6.1. [Each bank should periodically review its efforts to establish and maintain relationships with liability holders, to maintain the diversification of liabilities, and aim to ensure its capacity to sell assets.](#)
- 6.2. A bank needs to understand how much funding it can expect to receive from the market, both under normal and adverse circumstances. Senior management needs to ensure that market access is being actively managed by appropriate staff within the bank. Relationships may exist with trading counterparties, correspondent banks, corporate customers and payments systems. Building strong relationships with key providers of funding can provide a line of defence during times of liquidity stress and form an integral part of a bank's liquidity management. The frequency of contact and the frequency of use of a funding source are two possible indicators of the strength of a funding relationship.
- 6.3. Concentrations in funding sources increase liquidity risk. Consequently, as a check for adequate diversification of liabilities, a bank needs to examine the level of reliance on particular funding sources, both at an individual level and by instrument type, nature of the provider of funds, and geographic market. Senior management must constantly be aware of the composition, characteristics and diversification of its funding sources.

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## 7. Contingency Planning

- 7.1. [A bank should have contingency plans in place that address the strategy for handling liquidity crises and include procedures for making up cash flow shortfalls in emergency situations.](#)
- 7.2. Senior management needs to address these issues realistically in order to determine how the bank may fare under abnormal adverse circumstances. In addition, management needs to identify and understand the types of events that may trigger liquidity contingency plans.
- 7.3. A major element in the plan should be a strategy for taking certain actions to alter asset and liability behaviours. Other components of the contingency plan involve maintaining customer relationships with liability-holders, borrowers, and trading and off-balance sheet counterparties.
- 7.4. Contingency plans should also include procedures for making up cash flow shortfalls in adverse situations. Banks have available to them several sources of such funds, including previously unused credit facilities. Depending on the severity of the liquidity problems, a bank may choose - or be forced - to use one or more of these sources. The plan should spell out as clearly as possible the amount of funds a bank has available from these sources, and under what scenarios a bank could use them. Banks must be careful not to rely excessively on back-up lines and need to understand the various

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conditions, such as notice periods, that could affect the bank's ability to access quickly such lines. Indeed, banks should have contingency plans for times when their back-up lines become unavailable.

- 7.5. Banks should consider under what circumstances and for what purposes they would establish committed lines of funding, for which they pay a fee, which will be available to them under abnormal circumstances if uncommitted facilities fail.
- 7.6. The existence of recourse provisions in asset sales, the extension of liquidity facilities to securitisation programs, and the early amortisation triggers of certain asset securitisation transactions can involve significant liquidity risk to banks engaged in these secondary market credit activities. Banks should ensure that their liquidity contingency plans fully incorporate the potential risk posed by their secondary market credit activities. With the issuance of new asset-backed securities, the issuing banking organization should determine the potential effect on its liquidity at the inception of each transaction and throughout the life of the securities in order to better ascertain its future funding needs.
- 7.7. A bank's contingency plans should take into consideration the need to obtain replacement funding, and specify the possible alternative funding sources, in the event of the early amortisation of outstanding asset-backed securities. It should be recognised that an early amortisation of a bank's asset-backed securities could impede its ability to fund itself, either through re-issuance or other borrowings, since the bank's reputation with investors and lenders may be adversely affected.

## 8. Foreign Currency Liquidity Management

- 8.1. [Each bank should have a measurement, monitoring and control system for its liquidity positions in the major currencies in which it is active.](#) In addition to assessing its aggregate foreign currency liquidity needs and the acceptable mismatch in combination with its domestic currency commitments, a bank should also undertake separate analysis of its strategy for each currency, individually.
- 8.2. A bank should, where appropriate, set and regularly review limits on the size of its cash flow mismatches at least on an annual basis for foreign currencies in aggregate and for each significant individual currency in which the bank operates.
- 8.3. When foreign currency is used to fund a portion of domestic currency assets, banks need to analyse the market conditions that could affect access to the foreign currency and understand that foreign currency depositors and lenders may seek to withdraw their funding more quickly than domestic counterparties. Banks should also assess their access to alternative sources of funding to repay foreign currency liabilities.
- 8.4. When lending in a currency other than their domestic currency, banks need to consider carefully the various risks. Bank management need to make a thorough and conservative assessment of the likely access to the foreign exchange markets and the likely convertibility of the currencies in which the bank carries out its activities, under the various scenarios in which they might need to switch funding from one currency to another. They further need to consider a range of possible scenarios for exchange rates,

even where currencies are currently pegged or fixed. In many cases, an effective yet simple strategy for dealing with these issues would be for a bank to hold foreign currency assets in an amount equal to its foreign currency liabilities.

## 9. Internal Controls for Liquidity Risk Management

- 9.1. [Senior management should ensure that there are adequate internal controls in place to protect the integrity of the established liquidity risk management process.](#) A fundamental component of the internal control system involves regular independent reviews and evaluations of the effectiveness of the system and, where necessary, ensuring that appropriate revisions or enhancements to internal controls are made. The results of such reviews should be clearly documented and made available to the Authority upon request.
- 9.2. Banks should have adequate internal controls to ensure the integrity of their liquidity risk management process. The internal controls should be an integral part of the bank's overall system of internal control. They should promote effective and efficient operations, reliable financial and regulatory reporting, and compliance with relevant laws, regulations and institutional policies. An effective system of internal control for liquidity risk includes:
- a) a strong control environment;
  - b) an adequate process for identifying and evaluating liquidity risk;
  - c) the establishment of control activities such as policies and procedures;
  - d) adequate information systems; and
  - e) continual review of adherence to established policies and procedures.
- 9.3. With regard to control policies and procedures, attention should be given to appropriate approval processes, limits, reviews and other mechanisms designed to provide a reasonable assurance that the bank's liquidity risk management objectives are achieved. Many attributes of a sound risk management process, including risk measurement, monitoring, reporting and control functions, are key aspects of an effective system of internal control. Banks should ensure that all aspects of the internal control system are effective, including those aspects that are not directly part of the risk management process.
- 9.4. In addition, an important element of a bank's internal control system is regular evaluation and review of its liquidity risk management process by its risk management or compliance function. This includes ensuring that personnel are following established policies and procedures, as well as ensuring that the procedures that were established actually accomplish the intended objectives. Such reviews and evaluations should also address any significant change that may impact on the effectiveness of controls. Management should ensure that all such reviews and evaluations are conducted regularly, at least annually, by individuals, who are independent of the function being reviewed. When revisions or enhancements to internal controls are warranted, there should be a mechanism in place to ensure that these are implemented in a timely manner.

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- 9.5. From the periodic review, management should determine whether the organisation complies with its liquidity risk policies and procedures. Positions that exceed established limits should receive the prompt attention and should be resolved according to the process described in approved policies. Periodic reviews of the liquidity management process should also address any significant changes in the nature of instruments acquired, limits, and internal controls that have occurred since the last review.
- 9.6. The internal audit function should also periodically review the liquidity management process in order to identify any weaknesses or problems. In turn, these should be addressed by management in a timely and effective manner.

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## PART II - LIQUIDITY COVERAGE RATIO

### 10. Introduction

- 10.1. The LCR aims to ensure that a bank has an adequate stock of unencumbered HQLA that consists of cash or assets that can be converted into cash at little or no loss of value in private markets, to meet its liquidity needs for a 30-calendar day liquidity stress scenario. At a minimum, the stock of unencumbered HQLA should enable the bank to survive until Day 30 of the stress scenario, by which time it is assumed that appropriate corrective actions can be taken by management and, if necessary, the Authority, or that the bank can be resolved in an orderly way.
- 10.2. The formula used to calculate LCR is provided below. The formula specifies two key components of the LCR, stock of HQLA and total net cash outflows over the next 30 days. Sections 11 to 16 provide the requirements for a bank's stock of HQLA and sections 17 to 19 provide the requirements for a bank's total net cash outflows over the next 30 days.
- 10.3. All Category "A" Retail banks are required to meet the minimum requirements of the LCR as stipulated in this Part of the Rules and Guidelines.

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### 11. Calculation of Minimum LCR Requirements

- 11.1. A Category "A" Retail bank should compute its LCR by dividing its stock of HQLA by its total net cash outflows over the next 30 days.

$$\text{Liquidity Coverage Ratio} = \frac{\text{Stock of HQLA}}{\text{Total net cash outflows over the next 30 days}}$$

- 11.2. The value of the LCR must not be less than 100%.

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### 12. Determination of HQLA

- 12.1. A bank must determine its total stock of HQLA which shall comprise of Level 1 and/or Level 2 assets. Level 2 assets comprise of Level 2A and Level 2B assets. Level 2B and Level 2 assets shall comprise a maximum of 15% and 40% of total HQLA, respectively, after application of required haircuts. The formula for the calculation of total stock of HQLA is:

*Stock of HQLA*

$$= \text{Level 1 assets} + \text{Level 2A assets} + \text{Level 2B assets} - \text{Adjustment for 15\% cap} \\ - \text{Adjustment for 40\% cap}$$

Where

Adjustment for 15% cap = Max [{Adjusted Level 2B - 15/85\*(Adjusted Level 1 + Adjusted Level 2A)}, {Adjusted Level 2B - 15/60\*Adjusted Level 1}, 0]

Adjustment for 40% cap = Max {(Adjusted Level 2A + Adjusted Level 2B - Adjustment for 15% cap) - 2/3\*Adjusted Level 1 assets, 0}

- 12.2. There is no limit or haircut applicable on Level 1 assets for the purposes of determining a bank's LCR.
- 12.3. Level 2A assets are subject to a 15% haircut on the current market value of each Level 2A asset. Level 2B assets are subject to a 25% haircut for residential mortgage-backed security ("RMBS"), 50% haircut for corporate debt securities (including commercial paper) and sovereign debt securities, and 50% haircut on common shares. Where a liquid asset can be categorised into different categories of HQLA, a bank shall categorise the liquid asset into the HQLA category with the highest haircut except where expressly provided, or where the bank has obtained the approval of the Authority to do otherwise. A bank may apply to the Authority for such approval with evidence supporting the less conservative treatment.
- 12.4. A bank shall calculate the cap on Level 2 assets and Level 2B assets after the application of the required haircuts, and after taking into account the unwinding of short-term securities financing transactions and collateral swap transactions maturing within 30 calendar days that involve the exchange of HQLA. In this context, short term transactions are transactions with a maturity date up to and including 30 calendar days.
- 12.5. If a liquid asset no longer qualifies as HQLA, (e.g. due to a rating downgrade), a bank is permitted to keep such liquid assets as HQLA for an additional 30 calendar days. This would allow the bank additional time to adjust its HQLA as needed or replace the liquid asset.
- 12.6. In determining the amount of its HQLA for calculating its LCR, banks must deduct from the total weighted amount of its HQLA an amount calculated by multiplying together:
  - a) the principal amount of the level 1 assets constituting that portion of foreign currency-denominated HQLA held by the bank to cover its LCR mismatch; and
  - b) the foreign exchange haircut specified in LCR Table 1 as applicable to those assets.

The haircut does not apply to the relevant portion, or that part of the relevant portion, that is not more than 25% of the banks CI\$-denominated or US\$<sup>1</sup>-denominated total net cash outflows.

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<sup>1</sup> This will apply as long as the CI\$ currency peg with the US\$ is in place.

**LCR Table 1**

**Foreign Exchange haircuts on HQLA maintained in foreign currency**

No.	Foreign Currency	Haircut
(i)	Level 1 assets denominated Euro, Japanese Yen and Pound Sterling	<b>8%</b>
(ii)	Other currencies	<b>10%</b>

### 13. Characteristics of HQLA

13.1. The principal characteristics in order to qualify as HQLA include:

- a) The assets should be liquid in markets during a time of stress. Liquid assets comprise of high quality assets that can be readily sold or used as collateral to obtain funds in a range of stress scenarios.
- b) They should be unencumbered i.e. without legal, regulatory or operational impediments on the ability of the bank to liquidate, sell, transfer or assign the asset.
- c) Assets are considered to be high quality liquid assets if they can be easily and immediately converted into cash at little or no loss of value. The liquidity of an asset depends on the underlying stress scenario, the volume to be monetised and the timeframe considered. Nevertheless, there are certain assets that are more likely to generate funds without incurring large discounts due to fire-sales even in times of stress.

13.2. The fundamental characteristics of these assets include:

- a) low credit and market risk;
- b) ease and certainty of valuation;
- c) low correlation with risky assets and
- d) listing on a developed and recognized exchange market.

13.3. The market related characteristics of these assets include

- a) active and sizeable market;
- b) presence of committed market makers;
- c) low market concentration; and
- d) flight to quality (tendencies to move into these types of assets in a systemic crisis).

13.4. The bank must have in place and maintain adequate operational capacity and systems to readily monetise any asset in its HQLA without being constrained by its internal business or risk management strategy.

### 14. Classes of HQLA

14.1. This section describes the types of assets that meet the characteristics and operational requirements of inclusion in the stock of HQLA and therefore can be included in the total stock of HQLA. HQLA are classified as Level 1, 2A and 2B assets.

Level 1 assets

14.2. For the purposes of LCR, Level 1 assets shall include:

- a) currency notes and coins.
- b) withdrawable central bank reserves.
- c) marketable securities representing claims on or guaranteed by sovereigns, central banks, public sector entities (PSE), the Bank for International Settlements, the International Monetary Fund, the European Central Bank, European Community or multilateral development banks (MDB), which satisfy the following conditions:
  - i. it is assigned a 0% risk weight under the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I);
  - ii. it is traded in large, deep and active repo or cash markets characterised by a low level of concentration;
  - iii. it has a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions; and
  - iv. it is not an obligation of a financial institution or any of its related corporations.
- d) where a sovereign has a non-0% risk weight as determined in accordance with the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I), any sovereign or central bank debt security issued in domestic currencies by the sovereign or its central bank, conditional on:
  - i. if the sovereign or central bank is from a bank's home country; or
  - ii. if the sovereign or central bank is from a host jurisdiction where a bank has a branch or subsidiary and the bank, or its subsidiary takes liquidity risk in that jurisdiction.
- e) where the sovereign has a non-0% risk weight as determined in accordance with the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I), any sovereign or central bank debt security issued in foreign currencies by the sovereign or its central bank, conditional on:
  - i. if the sovereign or central bank is from a bank's home country; or
  - ii. if the sovereign or central bank is from a host jurisdiction where a bank has a branch or subsidiary and the bank or its subsidiary takes liquidity risk in that jurisdiction;

up to the amount of a bank's stressed net cash outflows in that specific foreign currency arising from the bank or its subsidiary's operations in the jurisdiction where the bank has a branch or subsidiary.
- f) any liquid assets recognised as alternative liquid assets in jurisdictions that implement the Alternative Liquidity Approach (ALA) and which the banking supervisor of that jurisdiction recognises for purposes of including in the liquid assets as Level 1 assets, subject to the requirements specified in paragraph 16.
- g) any other assets assessed and determined to be included in Level 1 assets approved by the Authority at its sole discretion, subject to any restrictions or conditions specified by the Authority.

#### Level 2A assets

- 14.3. For the purposes of the LCR, Level 2A assets, which are subject to an inclusion cap as specified in paragraph 12.1 and haircuts as specified in paragraph 12.3, shall include:
- a) any marketable security representing a claim on or guaranteed by, a sovereign, a central bank, a PSE or a MDB which satisfies the following conditions:
    - i. it is assigned a 20% risk weight under the Authority's credit risk requirements

- in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I);
      - ii. it is traded in large, deep and active repo or cash markets characterised by a low level of concentration;
      - iii. it has a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, i.e. a maximum price decline or increase in haircut not exceeding 10 percentage points over a 30-day period of significant liquidity stress; and
      - iv. it is not an obligation of a financial institution or any of its related corporations.
- b) any corporate debt security (including commercial paper) and covered bonds, which satisfies the following conditions:
  - i. in the case of a corporate debt security: it is not issued by a financial institution or any of its affiliated entities;
  - ii. in the case of a covered bond: it is not issued by the bank itself or any of its affiliated entities;
  - iii. it has a long-term credit rating from a recognised External Credit Assessment Institution (ECAI) of at least AA- or in the absence of a long term rating, a short-term rating equivalent in quality to the long-term rating;
  - iv. it is traded in large, deep and active repo or cash markets characterised by a low level of concentration; and
  - v. it has a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, i.e. a maximum price decline or increase in haircut not exceeding 10 percentage points over a 30-day period of significant liquidity stress.
- c) any liquid assets recognized as alternative liquid assets in jurisdictions that implement the ALA and which the banking supervisor of that jurisdiction recognises for purposes of including in the liquid assets as Level 2A HQLA, subject to the requirements specified in paragraph 16.
- d) any other assets assessed and determined to be included in Level 2A assets approved by the Authority at its sole discretion, subject to any restrictions or conditions specified by the Authority.

Level 2B assets

- 14.4. For the purposes of the LCR, Level 2B assets, which are subject to an inclusion cap as specified in paragraph 12.1 and haircuts as specified in paragraph 12.3, shall include:
- a) any RMBS which satisfies the following requirements:
    - i. it is not issued by, and the underlying assets have not been originated by, the bank itself or any of its affiliated entities;
    - ii. it has a long-term credit rating from a recognised ECAI of AA or higher, or in the absence of a long term rating, a short-term rating equivalent in quality to the long-term rating;
    - iii. it is traded in large, deep and active repo or cash markets characterised by a low level of concentration;
    - iv. it has a proven record as a reliable source of liquidity in the markets (repo or sale even during stressed market conditions, i.e. a maximum price decline or increase in haircut not exceeding 20 percentage points over a 30-day period of significant liquidity stress;
    - v. the underlying asset pool is restricted to residential mortgages only;



- vi. the underlying residential mortgages are “full recourse” loans (i.e. in the case of foreclosure the mortgage owner remains liable for any shortfall in sales proceeds from the property) and have a maximum weighted average<sup>10</sup> loan-to-value ratio (LTV) of 80% at issuance; and
  - vii. the securitisations are subject to risk retention laws and regulations which require issuers to retain an interest in the assets they securitise.
- b) any corporate debt security (including commercial paper), which satisfies all of the following conditions:
- i. it is not issued by a financial institution or any of its affiliated entities;
  - ii. it has a long-term credit rating from a recognised ECAI between A+ and BBB- or in the absence of a long term rating, a short-term rating equivalent in quality to the long-term rating;
  - iii. it is traded in large, deep and active repo or cash markets characterised by a low level of concentration; and
  - iv. it has a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, i.e. a maximum price decline or increase in haircut not exceeding 20 percentage points over a 30-day period of significant liquidity stress.
- c) any common shares, excluding preference shares and treasury shares, which satisfy all of the following requirements:
- i. the shares are not issued by a financial institution or any of its related corporations;
  - ii. the shares are exchange traded and centrally cleared;
  - iii. the common shares are a constituent of:
    - a) Where the common share is held in a jurisdiction outside of Cayman Islands to meet liquidity risks in that jurisdiction, an index that the banking supervisor of that jurisdiction recognises for purposes of including the common shares as Level 2B assets under the applicable regulatory policy; or
    - b) any other index for which a bank can demonstrate to the satisfaction of the Authority that the common share is as liquid and readily marketable.
  - iv. traded in large, deep and active repo or cash markets characterised by a low level of concentration; and
  - v. have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, i.e. a maximum price decline or increase in haircut not exceeding 40 percentage points over a 30-day period of significant liquidity stress.
- d) Any marketable security representing a claim on or guaranteed by, a sovereign, a central bank, a PSE or a MDB which satisfies the following conditions:
- i. it has a long-term credit rating from a recognised ECAI between BBB+ and BBB- or in the absence of a long term rating, a short-term rating equivalent in quality to the long-term rating;
  - ii. it is traded in large, deep and active repo or cash markets characterised by a low level of concentration;
  - iii. it has a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, i.e. a maximum price decline or increase in haircut not exceeding 20 percentage points over a 30-day period of significant liquidity stress; and

- iv. it is not an obligation of a financial institution or any of its related corporations.
- e) any liquid assets recognized as alternative liquid assets in jurisdictions that implement the ALA and which the banking supervisor of that jurisdiction recognises for purposes of including in the liquid assets as Level 2B HQLA, subject to the requirements specified in paragraph 16.
- f) any other assets assessed and determined to be included in Level 2B assets approved by the Authority at its sole discretion, subject to any restrictions or conditions specified by the Authority.

## 15. Management of HQLA

15.1. [A bank shall have adequate policies to identify and manage its stock of HQLA.](#)

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15.2. A bank shall treat a liquid asset as HQLA only if the liquid asset complies with the following operational requirements:

- a) the liquid asset is unencumbered and shall not be pledged whether explicitly or implicitly, to secure, collateralise or credit-enhance any transaction, nor be designated to cover operational costs (such as rents and salaries);
- b) any liquid asset received in reverse repo and securities financing transactions that are held at the bank, and which has not been rehypothecated and is legally and contractually available for the bank's use (i.e. where the bank can sell or deal with such assets);
- c) any liquid asset which has been deposited with, or pledged to, the central bank or a PSE but which has not been used to generate liquidity may be included as HQLA;
- d) the liquid asset is to be under the control of the function charged with managing the liquidity of the bank (e.g. the treasurer). In this regard, an asset would only be considered to be under the control of the function if the asset is maintained in a separate pool managed by the function with the sole intent for use as a source of contingent funds or if the bank is able to demonstrate that the function has authority and legal and operational capability to monetise an asset at any point in the 30-day stress period and that the proceeds of doing so are available to the function throughout the 30-day stress period without directly conflicting with a stated business or risk management strategy;
- e) a bank is permitted to hedge the market risk associated with ownership of the stock of HQLA and still include the assets in the stock. If it chooses to hedge the market risk, the bank should take into account (in the market value applied to each asset) the cash outflow that would arise if the hedge were to be closed out early (in the event of the asset being sold);
- f) the asset is freely transferable and available to the bank, whether between its Cayman Islands office and any of its specified associated entities and overseas branches, and is not subject to any liquidity transfer restriction;
- g) any liquid asset held to meet statutory liquidity requirements at the bank, branch or subsidiary level (where applicable) may only be included as HQLA at the consolidated level only if the expected cash flows as measured by the bank's branch or subsidiary are also reflected in the consolidated LCR. Any surplus of HQLA held at the bank can only be included in the consolidated stock if those HQLA would also be freely available to the consolidated (parent) group in times of stress;
- h) any liquid asset received as part of a securities borrowing transaction or any liquidity generated from assets received under right of re-hypothecation where the liquid

assets can be returned or recalled during the next 30 days shall not be included as HQLA;

- i) If the asset is included in the Bank's HQLA and is likely to be monetised through direct sale, there are no impediments to the sale of the asset and there are no requirements to hold such assets, including, but not limited to, statutory minimum inventory requirements if the institution is a market maker for assets of that type;
  - j) any asset received as collateral for derivatives transactions that are not segregated and are legally available and not yet re-hypothecated may be included as HQLA provided that the bank records an appropriate outflow for the associated risks as set out in paragraph 18.31.
- 15.3. If an asset included in a bank's HQLA became ineligible due to operational or other reasons, the bank is permitted to keep such assets in its stock of liquid assets for an additional 30 calendar days.
- 15.4. A bank must have in place and maintain adequate systems and procedures for the on-going assessment and management of its HQLA in order to ensure that:
- a) each asset included in the HQLA satisfies all the requirements in this document that are applicable to the inclusion of that asset in the HQLA;
  - b) an asset included in the HQLA that ceases to satisfy any requirement in this document applicable to the inclusion of that asset in the HQLA is identified as soon as is practicable; and prompt action is taken to exclude from the HQLA when the asset becomes ineligible.
- 15.5. A bank should have the operational capacity to monetise assets in stress scenarios.
- a) A bank should have in place and maintain adequate operational policies and monitoring systems to enable it to have full knowledge of the composition of its HQLA, at least on a daily basis, including the legal entity, location, and custodial or other account in which the assets in its HQLA are held and the currencies in which the assets are denominated.
  - b) The designated treasury or liquidity function should have access to all necessary information for monetising an asset in its HQLA within the standard settlement period for the type of asset concerned in the country concerned.
  - c) A bank should periodically monetise a representative proportion of the assets in the stock through repo or outright sale, in order to test its access to the market, the effectiveness of its processes for monetisation, the availability of the assets, and to minimise the risk of negative signalling during a period of actual stress.
- 15.6. Except for sovereign debt of the bank's home jurisdiction or cash, a bank must have in place and maintain adequate policies and limits to control the level of concentration of its HQLA within asset classes with respect to the type of asset, type of issue, type of issuer and type of currency.
- 15.7. A bank must have in place and maintain adequate systems and procedures to manage the foreign exchange risk associated with its HQLA, including:
- a) managing its ability to access relevant foreign exchange markets for the exchange of funds from one currency to another taking into account the risk that the access to such markets may be hindered in times of financial stress;

- b) managing its HQLA so that the HQLA is able to generate liquidity to meet the bank's total net cash outflows in different currencies; and
- c) managing the composition of its HQLA by currency so that the HQLA is broadly consistent with the distribution of its total net cash outflows by currency.

## 16. Inclusion of HQLA held at Branches

- 16.1. Where a bank has a branch or subsidiary in a jurisdiction that does not apply the Basel Committee's global framework for liquidity risk, the bank shall apply the parameters outlined in these Rules and Guidelines for its calculation of the LCR.
- 16.2. Where a bank has a branch or subsidiary in a jurisdiction that applies the Basel Committee's global framework for liquidity risk, sections 14 and 15 shall be interpreted according to the host jurisdiction's equivalent LCR rules.
- 16.3. Where a bank has banking presence (branch or subsidiary) in jurisdictions that adopt the ALA, the bank may include the HQLA recognized in these jurisdictions for its calculation of the LCR, up to the amount of the bank's stressed net cash outflows stemming from the bank or its subsidiary's operations in these jurisdictions.
- 16.4. The Authority reserves the right to impose stricter parameters where necessary.

## 17. Net Cash Outflows over the Next 30 Days

- 17.1. The term total net cash outflows is defined as the total expected cash outflows minus total expected cash inflows in the specified stress scenario for the subsequent 30 calendar days. Total expected cash outflows are calculated by multiplying the outstanding balances of various categories or types of liabilities and off-balance sheet commitments by the rates at which they are expected to run off or be drawn down. Total expected cash inflows are calculated by multiplying the outstanding balances of various categories of contractual receivables by the rates at which they are expected to flow in under the scenario.
- 17.2. A bank must, in calculating its total net cash outflows under the LCR:
  - a) calculate its total expected cash outflows, in accordance with section 18;
  - b) calculate its total expected cash inflows in accordance with section 19; and
  - c) deduct its total expected cash inflows from its total expected cash outflows to arrive at the total net cash outflows.
- 17.3. A bank's total expected cash inflows calculated under paragraph 17.2 b) must not be more than 75% of the bank's total expected cash outflows calculated under paragraph 17.1 a).
- 17.4. Banks will not be permitted to double count items, such that if an asset is included as part of its HQLA (i.e., the numerator), the associated cash inflows cannot also be counted as cash inflows (i.e., part of the denominator). Where there is potential that an item could be counted in multiple outflow categories, (e.g., committed liquidity facilities granted to cover debt maturing within the 30-calendar day period), a bank only has to assume up to the maximum contractual outflow for that product.

## 18. Cash Outflows

18.1. A bank must calculate its total expected cash outflows within the LCR period arising from the following types of on-balance sheet liabilities or off-balance sheet obligations:

### **Retail deposits cash out flows**

18.2. Retail deposits are deposits placed with a bank by a natural person. Deposits from legal entities, sole proprietorships or partnerships are captured in the wholesale funding categories. Retail deposits that may be included as part of the LCR computation include demand deposits and term deposits, unless otherwise excluded under the criteria set out in paragraphs 18.6 and 18.7. Retail deposits are divided into “stable” and “less stable” as described below.

#### Stable deposits

18.3. Stable deposits, which are subject to an outflow rate of 5%, are those which are fully insured by a government deposit insurance scheme or by a public guarantee that provides equivalent protection, where:

- a) The depositors have established relationships with the bank such that the deposits are highly unlikely to be withdrawn (“established relationships”); or
- b) The deposits are in transactional accounts (e.g., account where salaries are automatically credited).

18.4. Where a bank has a branch or subsidiary in other jurisdictions carrying on banking business and has stable deposits that are fully insured by other effective government deposit insurance schemes, the bank shall follow the relevant treatment adopted in the host jurisdiction where the branch or subsidiary operates.

#### Less stable deposits

18.5. Less stable deposits, which are subject to an outflow rate of 10%, are all deposits that are not considered as stable deposits as per paragraphs 18.3 and 18.4.

#### Retail term deposits

18.6. A bank shall exclude the cash outflow from a retail term deposit with a residual maturity or withdrawal notice period of greater than 30 days from the total expected cash outflows. If a bank allows a depositor to withdraw such deposits within the 30-day LCR horizon without applying any penalty that is materially greater than the loss of interest, notwithstanding a clause that says the depositor has no legal right to withdraw, the entire category of such deposits would then have to be treated as either stable or less stable deposits depending on their fulfilment of the criteria in paragraphs 18.2 to 18.5.

18.7. Where a bank has a branch or subsidiary in other jurisdictions carrying on banking business, the bank shall apply the cash flow rates outlined in this document when it calculates its LCR except for deposits from retail and small business customers<sup>2</sup> where the bank shall follow the relevant treatment adopted in the host jurisdiction where the branch or subsidiary operates, subject to the requirements in section 16.

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<sup>2</sup> For the purposes of this document, small business customer is defined based on the bank’s internal classification.

### **Unsecured wholesale funding cash outflows**

- 18.8. Unsecured wholesale funding is defined as those liabilities and general obligations that are raised from non-natural persons (i.e. legal entities, including sole proprietorships and partnerships) and are not collateralised by legal rights to specifically designated assets owned by the borrowing institution in the case of bankruptcy, insolvency, liquidation or resolution. Liabilities and obligations related to derivative contracts are explicitly excluded from this definition
- 18.9. The unsecured wholesale funding included in the LCR is defined as all funding that is callable within 30 calendar days or that has its earliest possible contractual maturity date situated within this horizon (such as maturing term deposits and unsecured debt securities) as well as funding with an undetermined maturity and includes all funding with options that are exercisable at the counterparty's discretion within 30 calendar days. For options exercisable at the bank's discretion, the bank may consider reputational factors that may limit the bank's ability not to exercise the option and its impact on unsecured wholesale funding cash outflows.
- 18.10. Unsecured wholesale funding that is callable by such counterparties subject to a contractually defined and binding notice period surpassing the horizon of 30 calendar days is not included.

#### Unsecured wholesale funding provided by small business customers

- 18.11. Unsecured wholesale funding provided by small business customers is treated the same way as retail deposits i.e. on the same basis as determining stable and less stable deposits and associated cash outflow rates apply.
- 18.12. Term deposits from small business customers are treated the same way as retail term deposits as provided in paragraphs 18.6 and 18.7.

#### Operational deposits generated by clearing, custody and cash management activities

- 18.13. Only operational deposits from customers with qualifying clearing, custody and cash management accounts with the bank ("qualifying operational deposits") are allocated a cash outflow rate of 25%. The portion of operational deposits generated by clearing, custody and cash management activities that is fully covered by any deposit insurance scheme shall receive the same treatment as "stable" retail deposits.
- 18.14. Qualifying clearing, custody or cash management activities shall meet the following criteria:
- a) the customer is reliant on the bank to perform these services as an independent third-party intermediary in order to fulfil its normal banking activities over the next 30 days. For example, this condition would not be met if the bank is aware that the customer has adequate back-up arrangements;
  - b) the bank is providing these services under a legally binding agreement to customers; and
  - c) the customer may only terminate such agreements either by giving prior notice of at least 30 days or paying significant switching costs (such as those related to transaction, information technology, early termination or legal costs) if the operational deposits are withdrawn before 30 days.

- 18.15. Qualifying operational deposits generated from the qualifying clearing, custody and cash management activities shall meet the following criteria:
- a) the deposits are by-products of the underlying services provided by the bank and not sought out in the wholesale market in the sole interest of offering interest income; and
  - b) the deposits are held in specifically designated accounts and priced without giving an economic incentive to the customer (not limited to paying market interest rates) to leave any excess funds on these accounts. In the case that interest rates in a jurisdiction are close to zero, such accounts are likely to be non-interest bearing. A bank should be particularly aware that during prolonged periods of low interest rates, excess balances (as defined below) could be significant.
- 18.16. Any excess balances that may be withdrawn while still leaving sufficient funds to fulfil the qualifying clearing, custody and cash management activities do not qualify as operational deposits.
- 18.17. A bank shall determine the methodology for identifying excess deposits that are excluded from this category. A bank shall conduct the assessment based on the methodology at a sufficiently granular level to adequately assess the risk of withdrawal in an idiosyncratic stress. The methodology shall take into account relevant factors such as the likelihood that wholesale customers have above average balances in advance of specific payment needs, and consider appropriate indicators (e.g., ratios of account balances to payment or settlement volumes or to assets under custody) to identify those customers that are not actively managing account balances efficiently.
- 18.18. Operational deposits would receive a 0% inflow assumption for the depositing bank given that these deposits are required for operational reasons, and are therefore not available to the depositing bank to repay other outflows.
- 18.19. Notwithstanding the inclusion of a deposit into the operational deposit category, if the deposit under consideration arises out of correspondent banking or from the provision of prime brokerage services, a bank shall treat the deposit as if there were no operational activity for the purpose of determining cash outflow rates.

Deposits in institutional networks of cooperative banks

- 18.20. An institutional network of cooperative (or otherwise named) banks is a group of legally autonomous banks with a statutory framework of cooperation with common strategic focus and brand where specific functions are performed by central institutions or specialised service providers. A cash outflow rate of 25% may be applied to the amount of deposits of member institutions with the central institution or specialised central service providers that are placed arising from statutory minimum deposit requirements or in the context of common task sharing and legal, statutory or contractual arrangements so long as both the bank that has received the monies and the bank that has deposited the monies participate in the same institutional network's mutual protection scheme against illiquidity and insolvency of its members. As with other operational deposits, these deposits would receive a cash inflow rate of 0% for the depositing bank, as these funds are considered to remain with the centralised institution.

18.21. A bank shall seek the Authority's approval before applying the treatment in paragraph 18.20. The bank shall not include its correspondent banking activities in this category and such banking activities shall receive a cash outflow rate of 100%, as would funds placed at the central institutions or specialised service providers for any other reason other than those outlined in paragraph 18.20 above, or for clearing, custody, or cash management activities.

Deposits contractually pledged to a bank as collateral to secure other transactions

18.22. Notwithstanding the paragraphs above, if a deposit is contractually pledged to a bank as collateral to secure a credit facility or loan granted by the bank ("pledged deposit") that will not mature or settle within the next 30 days, the pledged deposit may be excluded from the LCR only if all the following conditions are met:

- a) the loan or credit facility is not maturing in the next 30 days;
- b) there is a legally enforceable contract disallowing withdrawal of the pledged deposit before the loan is fully settled or repaid; and
- c) the amount of deposit that is excluded from the LCR does not exceed the outstanding balance of the loan or drawn portion of the credit facility.

This shall not apply to a deposit which is pledged against an undrawn facility, in which case the higher of the outflow rate applicable to the undrawn facility or the pledged deposit applies.

Unsecured wholesale funding provided by non-financial corporate and sovereigns, central banks, multilateral development banks and PSEs

18.23. This category comprises all deposits and other extensions of unsecured funding from non-financial corporate customers (that are not categorised as small business customers) and (both domestic and foreign) sovereign, central bank, multilateral development bank, and PSE customers that are not specifically held for operational purposes (as defined above). A bank shall apply a cash outflow rate of 20% on unsecured wholesale funding provided by corporate customers which are not financial institutions, sovereigns, central banks, multilateral development banks, and PSEs, that also do not qualify as operational deposits if the entire amount of the deposit is fully covered by an effective deposit insurance scheme or by a public guarantee that provides equivalent protection. Otherwise, the bank shall apply a cash outflow rate of 40% on such unsecured wholesale funding.

Unsecured wholesale funding provided by other customers which are not natural persons

18.24. A bank shall apply a cash outflow rate of 100% on all deposits and other funding from other institutions (including banks, securities firms, insurance companies), fiduciaries, beneficiaries, conduits and special purpose vehicles, affiliated entities of the bank and other entities that are not specifically held for operational purposes (as defined above) and not included in paragraphs 18.8 to 18.23. Outflows from unsecured wholesale funding over the 30-day LCR horizon and provided by intragroup banking entities may be computed on a net basis with inflows from unsecured wholesale funding over the 30-day LCR horizon provided by intragroup banking entities.

18.25. All notes, bonds and other debt securities issued by the bank are to be included in this category regardless of the holder, unless the bond is sold exclusively in the retail market and held in retail accounts (including small business customer accounts), in



which case a bank may include the notes, bonds or debt securities in the appropriate retail or small business customer deposit category provided that limitations are placed on the instrument by the bank such that those instruments cannot be bought and held by parties other than retail or small business customers.

- 18.26. A bank shall separate customer cash balances arising from the provision of prime brokerage services, including but not limited to the cash arising from prime brokerage services as identified in paragraph 18.19, from any required segregated balances related to client protection regimes imposed by national regulations and such cash balances shall not be netted against other customer exposures included in LCR. These offsetting balances held in segregated accounts are treated as inflows and shall be excluded from HQLA.

**Secured funding cash outflows**

- 18.27. A bank shall include as secured funding cash outflows any liabilities and general obligations that are collateralised by legal rights to specifically designated assets owned by the borrowing institution in the case of bankruptcy, insolvency, liquidation or resolution. The bank shall include forward repurchase transactions and collateral swaps that start prior to but mature within the 30-day LCR horizon in this category.
- 18.28. A bank shall treat collateral swaps as a combination of a repurchase and reverse repurchase agreement, as shall any other transaction which involves an exchange of non-cash assets. The net outflow for collateral swaps is computed based on the net cash outflow that will result from an equivalent repurchase and reverse repurchase transaction, floored at 0%. The bank shall treat collateral lent to the bank's customers to affect short positions as a form of secured funding.
- 18.29. If a pool of assets is used as collateral for a secured funding transaction, and a bank is unable to determine specifically which assets are used to collateralise the transaction, it shall assume that the assets are encumbered in the following order: Level 1 assets, Level 2A assets, Level 2B assets, non-HQLA eligible assets.
- 18.30. LCR Table 2 provides a summary of the cash outflow rates that applies to each category for outstanding secured funding transactions that mature within the 30-day LCR horizon. A bank shall apply the outflow rates to the amount of funds raised through the secured funding transaction.

**LCR Table 2**  
**Summary of cash outflow rates**

No.	Categories for outstanding maturing secured funding transactions	Amount to add to cash outflows
(i)	• Backed by Level 1 assets or with central banks.	<b>0%</b>
(ii)	• Backed by Level 2A assets	<b>15%</b>
(iii)	• Secured funding transactions with domestic sovereign, PSEs or multilateral development banks that are not backed by Level 1 or 2A assets. PSEs that receive this treatment are limited to those that have a risk weight of 20% or lower. • Backed by RMBS eligible for inclusion in Level 2B	<b>25%</b>
(iv)	• Backed by Level 2B assets	<b>50%</b>
(v)	• All others	<b>100%</b>

**Additional requirements**

Cash outflows from derivative contracts

- 18.31. A bank shall calculate, in accordance with its existing valuation methodologies, expected cash inflows and outflows from its derivative contracts. The sum of all net cash outflows shall be assigned a cash outflow rate of 100%. A bank may calculate its cash flows with its counterparty on a net basis (i.e., derivative inflows within the 30-day LCR horizon can offset derivative outflows within the 30-day LCR horizon), where it has entered into a valid master netting agreement with that counterparty. In determining the all-currency LCR, a bank may calculate its cash flows on a net basis for foreign exchange derivative contracts not covered by a master netting agreement, where it involves a full exchange of principal amounts within the same day. The bank shall exclude from such calculations those liquidity requirements that would result from increased collateral needs due to market value movements or falls in value of collateral posted. Options shall be assumed to be exercised at the point when they are 'in the money' to the option buyer.
- 18.32. Where derivative payments are collateralised by HQLA, cash outflows are calculated net of any corresponding cash or collateral inflows that would result, all other things being equal, from contractual obligations for cash or collateral to be provided to the bank, if the bank is legally entitled and operationally capable to re-use the collateral in new cash raising transactions once the collateral is received. The bank shall treat outflows from options with delivery settlement as secured borrowing transactions, where the delivered assets are treated as collateral in secured transactions or collateral swaps, with the appropriate outflow factors assigned in paragraphs 18.27 to 18.30. If contractual arrangements allow for both physical delivery and cash settlement, cash settlement may be assumed. For physical delivery, where not otherwise stated in the derivative contract, delivery of the least value security ("cheapest to deliver") may be assumed.

Increased liquidity needs related to downgrade triggers embedded in financing transactions, derivatives and other contracts

- 18.33. Often, contracts governing derivatives and other transactions have clauses that require the posting of additional collateral, drawdown of contingent facilities, or early repayment

of existing liabilities upon the bank's downgrade by a recognised credit rating organisation. For each contract in which downgrade triggers exist, the bank shall assume that 100% of this additional collateral or cash outflow as stated in the governing contract shall be posted for any downgrade during the next 30 calendar days up to and including a 3-notch downgrade of the bank's long-term credit rating. Triggers linked to a bank's short-term rating shall be triggered at the corresponding long-term rating in accordance with published ratings criteria. The bank shall consider impacts on all types of margin collateral and contractual triggers which change rehypothecation rights for non-segregated collateral for the impact of the downgrade.

Increased liquidity needs related to the potential for valuation changes on posted collateral securing derivative and other transactions

- 18.34. Observation of market practices indicates that most counterparties to derivatives transactions typically are required to secure the mark-to-market valuation of their positions and that this is predominantly done using cash or sovereign, central bank, MDBs, or PSE debt securities with a 0% risk weight under the Authority's Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I). When these Level 1 asset securities are posted as collateral, additional HQLA will not be required to be maintained for potential valuation changes. If, however, counterparties are securing mark-to-market exposures with other forms of collateral, to cover the potential loss of market value on those securities, 20% of the value of all such posted collateral, net of collateral received on a counterparty basis (provided that the collateral received is not subject to restrictions on reuse or re-hypothecation) will be added to the stock of required HQLA by the bank posting such collateral. This 20% will be calculated based on the notional amount required to be posted as collateral after any other haircuts have been applied that may be applicable to the collateral category. Any collateral that is in a segregated margin account can only be used to offset outflows that are associated with payments that are eligible to be offset from that same account. The notional amount to be collateralised shall be based on the contractual terms of the transaction. The bank shall not net collateral inflows and outflows across counterparties. The bank shall compute the amount of collateral to be posted in accordance with the relevant contract governing the respective transactions.

Increased liquidity needs related to excess non-segregated collateral held by the bank that could contractually be called at any time by the counterparty

- 18.35. A bank shall include 100% of the non-segregated collateral amount that could contractually be recalled by the counterparty because the collateral is in excess of the counterparty's current collateral requirements. The bank shall compute the amount that can be recalled in accordance with the relevant contract governing the transactions.

Increased liquidity needs related to contractually required collateral on transactions for which the counterparty has not yet demanded the collateral be posted

- 18.36. A bank shall include 100% of the collateral amount that is contractually due but where the counterparty has not yet demanded the posting of such collateral. The amount of collateral shall be computed in accordance with the relevant contract governing the transactions.

Increased liquidity needs related to contracts that allow collateral substitution to non-HQLA assets or lower-quality HQLA

- 18.37. A bank shall include a cash outflow equivalent to the market value of the initial HQLA collateral received multiplied by the difference in haircuts (as defined in paragraph 12.4 of the LCR section of this document) of the received collateral and the potential substitute collateral. This shall apply to initial HQLA collateral received that is counted in the bank's HQLA, and that can be substituted for non-HQLA assets or lower-quality HQLA assets without the bank's consent, where such HQLA collateral has been received to secure transactions that have not been segregated. The bank shall compute the contingent outflow resulting from collateral substitution in secured lending or borrowing transactions in accordance with the relevant contract governing the transactions.

Increased liquidity needs related to market valuation changes on derivative or other transactions

- 18.38. As market practice requires collateralisation of mark-to-market exposures on derivative and other transactions, a bank faces potentially substantial liquidity risk exposures to these valuation changes. A bank may treat inflows and outflows of transactions executed under the same master netting agreement on a net basis. A bank shall include any outflow generated by increased needs related to market valuation changes in its calculation of the LCR by identifying the largest absolute net 30-day collateral flow realised during the preceding 24 months. The absolute net collateral flow is based on both realised outflows and inflows. The largest absolute net 30-day collateral flow shall be assessed on a portfolio level. The bank shall compute the contingent outflow resulting from market valuation changes in accordance with the relevant contract governing the transactions.

Loss of funding on asset-backed securities, covered bonds and other structured financing instruments

- 18.39. A bank shall assign a cash outflow rate of 100% for such instruments maturing within the 30-day period, when these instruments are issued by the bank itself. For products maturing within the next 30 days a bank may offset inflows from Level 1 or Level 2 assets used as collateral for the products against the redemption payment of the products. Any net inflow shall be considered as other contractual cash inflows in paragraph 19.17.

Loss of funding on asset-backed commercial paper, conduits, securities investment vehicles and other such financing facilities

- 18.40. A bank having structured financing facilities that include the issuance of short-term debt instruments, such as asset backed commercial paper, shall fully consider the potential liquidity risk arising from these structures. These risks include the inability of the bank to refinance maturing debt, and the existence of derivatives or derivative-like components contractually written into the documentation associated with the structure that would allow the "return" of assets in a financing arrangement, or that require the original asset transferor to provide liquidity, effectively ending the financing arrangement ("liquidity puts") within the 30-day period. Where the structured financing activities of a bank are conducted through a special purpose entity (such as a special purpose vehicle ("SPV"), conduit or structured investment vehicle - ("SIV")), the bank shall, in determining the HQLA requirements as provided in LCR Table 3, look through

to the maturity of the debt instruments issued by the entity and any embedded options in financing arrangements that may potentially trigger the “return” of assets or the need for liquidity, irrespective of whether or not the SPV is consolidated.

**LCR Table 3**  
**Outflow rates applicable for SPVs/SIVs**

Potential Risk Element	Cash outflow rate required
Debt maturing within the 30 -day period	A cash outflow rate of 100% on maturing amount
Embedded options in financing arrangements that allow for the return of assets or potential liquidity support	A cash outflow rate of 100% on the amount of assets that could potentially be returned, or the liquidity required

Drawdowns on committed credit and liquidity facilities

- 18.41. Committed facilities are defined as explicit contractual agreements or obligations to extend funds at a future date to retail or wholesale counterparties, which are contractually irrevocable or conditionally revocable agreements. A bank shall classify facilities that are unconditionally cancellable by the bank (in particular, those without a precondition of a material change in the credit condition of the borrower) as other contingent funding obligations as outlined in paragraph 18.47. Irrevocable or conditionally revocable facilities or funding commitments can have long or short-term maturities, with short-term facilities frequently renewing or automatically rolling-over. In a stressed environment, it will likely be difficult for customers drawing on facilities of any maturity, even short-term maturities, to be able to quickly pay back the borrowings. Therefore, for purposes of this document, all such facilities that are assumed to be drawn as outlined in paragraphs 18.42 to 18.47 shall remain outstanding at the amounts assigned throughout the 30-day period in computing the net outflows for the LCR, regardless of maturity.
- 18.42. The currently undrawn portion of these committed facilities is calculated net of any HQLA which have already been posted as collateral by the counterparty to secure the facilities, or that are contractually obliged to be posted when the counterparty draws down the facility. (e.g. a liquidity facility structured as a repo facility). This is provided that the bank is legally entitled and operationally capable to re-use the collateral in new cash raising transactions once the facility is drawn, and there is no undue correlation between the probability of drawing the facility and the market value of the collateral. The collateral can be netted against the outstanding amount of the facility to the extent that this collateral is not already counted in the stock of HQLA.
- 18.43. A committed liquidity facility is defined as any committed, undrawn back-up facility that would be utilised to refinance the debt obligations of a customer in situations where such a customer is unable to rollover that debt in financial markets (e.g. pursuant to a commercial paper programme, secured financing transactions, obligations to redeem units). For the purpose of this document, the amount of the commitment to be treated as a committed liquidity facility is the amount of the currently outstanding debt issued

by the customer (or proportionate share, if a syndicated facility) maturing within a 30-day period that is backstopped by the facility. The portion of a liquidity facility that is backing debt that does not mature within the 30-day window is excluded from the scope of the definition of a facility.

- 18.44. Any additional capacity of the committed liquidity facility in paragraph 18.43 (i.e., the remaining commitment) would be treated as a committed credit facility with its associated drawdown rate as specified in paragraph 18.47. General working capital facilities for corporate entities (e.g., revolving credit facilities in place for general corporate or working capital purposes) will not be classified as liquidity facilities, but as credit facilities.
- 18.45. Notwithstanding paragraphs 18.41 to 18.44, any committed facilities provided to hedge funds, money market funds and special purpose funding vehicles or conduits, or other vehicles used to finance the bank's own assets, are to be captured in their entirety as a committed liquidity facility to other legal entities.
- 18.46. For that portion of financing programs issued by a bank that are captured under paragraphs 18.39 and 18.40 (i.e. are maturing or have liquidity puts that may be exercised within 30 calendar days), banks that are providers of the associated liquidity facilities do not need to double count the maturing financing instrument and the liquidity facility for consolidated programs.
- 18.47. Any contractual and estimated loan drawdowns from committed facilities within the 30-day period shall be fully reflected as cash outflows with the following outflow rates:
- a) Committed credit and liquidity facilities to retail and small business customers: A bank shall assume a cash outflow rate of 5% of the undrawn portion of these facilities;
  - b) Committed credit facilities to non-financial corporates, sovereigns and central banks, PSEs and MDBs: A bank shall assume a cash outflow rate of 10% of the undrawn portion of these credit facilities;
  - c) Committed liquidity facilities to non-financial corporates, sovereigns and central banks, PSEs, and MDBs: A bank shall assume a cash outflow rate of 30% of the undrawn portion of these liquidity facilities;
  - d) Committed credit and liquidity facilities extended to banks: A bank shall assume a cash outflow rate of 40% of the undrawn portion of these facilities;
  - e) Committed credit facilities to other financial institutions including securities firms, insurance companies, fiduciaries, and beneficiaries: A bank shall assume a cash outflow rate of 40% of the undrawn portion of these credit facilities;
  - f) Committed liquidity facilities to other financial institutions including securities firms, insurance companies, fiduciaries, and beneficiaries: A bank shall assume a cash outflow rate of 100% of the undrawn portion of these liquidity facilities; or
  - g) Committed credit and liquidity facilities to other legal entities (including SPEs, conduits and special purpose vehicles, and other entities not included in the prior categories): A bank shall assume a cash outflow rate of 100% of the undrawn portion of these facilities.

Contractual obligations to extend funds within a 30-day period

- 18.48. Any contractual lending obligations to financial institutions not captured elsewhere in this document are to be captured here at a cash outflow rate of 100%.
- 18.49. If the total of all contractual obligations to extend funds to retail and non-financial corporate clients within the next 30 calendar days (not captured in the prior paragraphs) exceeds 50% of the total contractual inflows due in the next 30 calendar days from these clients, the difference should be reported as a cash outflow rate of 100%.

Other contingent funding obligations

- 18.50. These contingent funding obligations may be either contractual or non-contractual and are not lending commitments. Non-contractual contingent funding obligations include associations with, or sponsorship of, products sold or services provided that may require the support or extension of funds in the future under stressed conditions. Non-contractual obligations may be embedded in financial products and instruments sold, sponsored, or originated by the bank that can give rise to unplanned balance sheet growth arising from support given for reputational risk considerations. These include products and instruments for which the customer or holder has specific expectations regarding the liquidity and marketability of the product or instrument and for which failure to satisfy customer expectations in a commercially reasonable manner would likely cause material reputational damage to the bank or otherwise impair ongoing viability. The full amount of the obligations that is expected to materialise will receive a cash outflow rate of 100%.
- 18.51. Some of these contingent funding obligations are explicitly contingent upon a credit or other event that is not always related to the liquidity events simulated in the stress scenario, but may nevertheless have the potential to cause significant liquidity drains in times of stress.
- 18.52. Non-contractual contingent funding obligations related to potential liquidity draws from joint ventures or minority investments in entities, which are not consolidated, are to be captured in paragraph 18.50 where there is the expectation that the bank will be the main liquidity provider when the entity is in need of liquidity.

Trade finance cash outflows

- 18.53. Trade finance instruments consist of trade-related obligations, directly underpinned by the movement of goods or the provision of services, such as:
- a) documentary trade letters of credit, documentary and clean collection, import bills and export bills; and
  - b) guarantees directly related to trade finance obligations, such as shipping guarantees.
- 18.54. For contingent funding obligations stemming from trade finance instruments, a bank shall apply a cash outflow rate of 3%.
- 18.55. Lending commitments, such as direct import or export financing for non-financial corporate firms, are excluded from the above treatment and a bank shall apply the cash outflow rates specified in paragraph 18.47 for such commitments.

18.56. Non contractual obligations where customer short positions are covered by other customers' collateral: A bank shall apply a cash outflow rate of 50% on such contingent obligations where the bank has internally matched client assets against other clients' short positions, where the collateral does not qualify as Level 1 or Level 2 HQLA, and the bank may be obligated to find additional sources of funding for these positions in the event of client withdrawals.

Other contractual cash outflows

18.57. Any other contractual cash outflows within the next 30 calendar days should be captured, such as outflows to cover unsecured collateral borrowings, uncovered short positions, dividends or contractual interest payments, with explanation given as to what comprises this bucket. A bank shall apply a cash outflow rate of 100% to these contractual cash outflows. A bank does not need to include outflows related to operating costs.

## 19. Cash Inflows

19.1. When considering its available cash inflows, a bank shall only include contractual inflows (including interest payments) from outstanding exposures that are fully performing and for which the bank has no reason to expect a default within the next 30 calendar days. The bank shall not include contingent inflows in total net cash inflows.

Secured lending, including reverse repos and securities borrowing

19.2. For maturing reverse repurchase or securities borrowing agreements:

- a) if the agreement is secured by Level 1 assets, a cash inflow rate of 0% shall be assumed;
- b) if the agreement is secured by Level 2 assets, a cash inflow rate equivalent to the relevant haircut for the specific Level 2 asset shall be assumed; or
- c) if the agreement is secured by non-HQLA, a cash inflow rate of 100% shall be assumed.

19.3. Collateralised loans extended to customers for the purpose of taking leveraged trading positions ("margin loans") are to receive 50% of contractual inflows (i.e. a cash inflow rate of 50%) from maturing margin loans made against collateral which would not be considered as HQLA. LCR Table 4 lists the relevant inflow rates.

19.4. If the collateral obtained through reverse repurchase, securities borrowing, or collateral swaps is used to cover short positions that could be extended beyond 30 days, a bank shall assume that such reverse repurchase or securities borrowing arrangements will be rolled-over and will not give rise to any cash inflows (i.e. a cash inflow rate of 0%), reflecting its need to continue to cover the short position or to re-purchase the relevant securities. LCR Table 4 lists the relevant inflow rates.



**LCR Table 4**  
**Matured secured lending inflow rates**

<b>Maturing secured lending backed by the following asset category</b>	<b>Inflow rate (if collateral is not used to cover short positions)</b>	<b>Inflow rate (if collateral is used to cover short positions)</b>
Level 1 assets	<b>0%</b>	<b>0%</b>
Level 2A assets	<b>15%</b>	<b>0%</b>
Level 2B assets <ul style="list-style-type: none"> <li>• Eligible RMBS</li> <li>• Other Level 2B assets</li> </ul>	<b>25%</b> <b>50%</b>	<b>0%</b> <b>0%</b>
Margin lending backed by all other collateral	<b>50%</b>	<b>0%</b>
Other collateral	<b>100%</b>	<b>0%</b>

19.5. If a bank’s short position is being covered by an unsecured security borrowing, the bank should assume the unsecured security borrowing of collateral from financial market participants would run-off in full, leading to a 100% outflow of either cash or HQLA to secure the borrowing, or cash to close out the short position by buying back the security. This should be recorded as a 100% other contractual outflow according to paragraph 18.57. If, however, the bank’s short position is being covered by a collateralised securities financing transaction, the bank should assume the short position will be maintained throughout the 30-day period and receive a cash inflow rate of 0%.

19.6. If a pool of assets is used as collateral for a secured lending transaction, and a bank is unable to determine specifically which assets are used to collateralise the transaction, it shall assume that the assets are encumbered in the following order: Level 1 assets, Level 2A assets, Level 2B assets, non-HQLA eligible assets.

19.7. Notwithstanding the roll-over assumptions in paragraphs 19.2 to 19.4, a bank shall manage its collateral such that it is able to fulfil obligations to return collateral whenever the counterparty decides not to roll-over any reverse repo or securities lending transaction.

Committed facilities

19.8. Credit facilities, liquidity facilities or other contingent funding facilities that the bank holds at other institutions for its own purposes receive a cash inflow rate of 0%.

Other inflows by counterparty

19.9. For loan payments, a bank shall only include cash inflows from fully performing loans. In addition, a bank shall only include cash inflows at the latest possible date, based on the contractual rights available to counterparties. For revolving credit facilities, the bank shall assume that the existing loan will be rolled over and any remaining balances are treated as a committed facility according to paragraph 18.47.

19.10. Cash inflows from loans that have no specific maturity should not be included, except for minimum payments of principal, fee or interest associated with open maturity loans that are contractually due within 30 days. An exception to this would be minimum payments of principal, fee or interest associated with an open maturity loan, provided that such payments are contractually due within 30 days. These minimum payment amounts are captured as inflows at the rates prescribed in paragraphs 19.11 and 19.12.

Retail and small business customer inflows

19.11. A bank shall assume that all payments (including interest payments and instalments) from retail and small business customers that are fully performing and contractually due within the next 30 calendar days will be received in full. At the same time, the bank shall assume that it will continue extending loans to retail and small business customers at a rate of 50% of contractual inflows. This results in a net cash inflow rate of 50% of the contractual amount.

Other wholesale inflows

19.12. A bank shall assume that all payments (including interest payments and instalments) received from wholesale customers that are fully performing and contractually due within the next 30 calendar days will be received in full. In addition, the bank is to assume to continue extending loans to wholesale customers with a cash inflow rate of 100% for financial institutions and central banks, and a cash inflow rate of 50% for all others, including non-financial corporates, sovereigns, multilateral development banks, and PSEs. This will result in a cash inflow rate of:

- a) 100% for financial institutions and central bank counterparties; and
- b) 50% for non-financial wholesale counterparties.

19.13. Inflows from securities maturing within 30 days not included in HQLA shall receive a cash inflow rate of 100%.

19.14. Operational deposits of a bank held at other financial institutions for operational purposes are to receive a cash inflow rate of 0%. Similarly, deposits held at the centralised institution in a cooperative banking network, which are assumed to stay at the centralised institution, are to receive a cash inflow rate of 0%. A bank shall assess operational deposits according to the methodology in paragraph 18.13. A deposit that has been classified by a receiving bank or financial institution, as the case may be, as operational shall also be considered by a depositing bank or financial institution, as the case may be, as an operational deposit. Notwithstanding the exclusion of deposit liabilities raised from correspondent banking activities from the treatment of operational deposits, as described in paragraph 18.19, deposits placed for the purpose of correspondent banking are held for operational purposes and, as such, must receive a 0% inflow rate. However, a 100% inflow rate may be applied to the amount which the bank is able to specifically determine and identify as excess balances as defined in paragraphs 18.16 and 18.17, in that, they are not tied to operational purposes and may be withdrawn within 30 days.

19.15. Inflows from intragroup banking entities may be computed on a net basis with outflows from intragroup banking entities.

### Other cash inflows

- 19.16. Cash inflows from derivative contracts: the sum of all net cash inflows shall be assigned a cash inflow rate of 100%. Where derivatives are collateralised by HQLA, a bank shall calculate the cash inflows for the derivatives net of any corresponding cash or contractual collateral outflows. The bank shall not double-count liquidity inflows or outflows. The amounts of cash inflows from derivative contracts shall be calculated in accordance to the methodology described in paragraphs 18.31 and 18.32. A bank shall treat inflows from an option with a delivery settlement as a secured lending transaction, with the appropriate outflows assigned as per paragraphs 19.2 to 19.7. If the contractual arrangements allow for both physical delivery and cash settlement, cash settlement may be assumed. For physical delivery, where not otherwise stated in the derivative contract, delivery of the least value security ("cheapest to deliver") may be assumed
- 19.17. All other contractual cash inflows shall receive a cash inflow rate of 0%. A bank shall include any other contractual cash inflows not captured in any other earlier category here, with an explanation as to what has been included in this category.
- 19.18. A bank shall not include the following items as contractual cash inflows:
- a) any cash inflow related to non-financial revenues;
  - b) any forward repurchase, forward reverse repurchase agreements or forward collateral swap that starts and matures within the 30-day LCR horizon;
  - c) any forward repurchase, forward reverse repurchase agreements or forward collateral swap that starts prior to and matures after the 30-day LCR horizon;
  - d) any forward sales of HQLA.

## **PART III - NET STABLE FUNDING RATIO**

### **20. Background and Overview**

- 20.1. The NSFR promotes resilience over a longer-term time horizon by requiring banks to fund their activities with stable sources of funding on an ongoing basis.
- 20.2. The objective of NSFR is to ensure that banks maintain a stable funding profile in relation to the composition of their assets and off-balance sheet activities. A sustainable funding structure is intended to reduce the probability of erosion of a bank's liquidity position due to disruptions in a bank's regular sources of funding that would increase the risk of its failure and potentially lead to broader systemic stress. The NSFR limits overreliance on short-term wholesale funding, encourages better assessment of funding risk across all on- and off-balance sheet items, and promotes funding stability.
- 20.3. [All Category "A" Retail banks are required to meet the minimum requirements of the NSFR as stipulated in this Part of the Rules and Guidelines.](#)

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### **21. Calculation of Minimum NSFR Requirements**

- 21.1. The NSFR is defined as the amount of available stable funding (ASF) relative to the amount of required stable funding (RSF). ASF is defined as the portion of capital and liabilities expected to be reliable over the time horizon considered by the NSFR, which

extends to one year. The amount of stable funding required (RSF) of a specific bank is a function of the liquidity characteristics and residual maturities of the various assets held by it as well as those of its off-balance sheet (OBS) exposures.

$$\text{Net Stable Funding Ratio} = \frac{\text{Available amount of stable funding (ASF)}}{\text{Required amount of stable funding (RSF)}}$$

21.2. The value of the NSFR must be greater than 100%.

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## 22. Calibration of ASF and RSF

- 22.1. ASF and RSF reflect a bank's liabilities and assets (including off balance sheet assets). The amounts of available and required stable funding specified in the paragraphs below were calibrated to reflect the presumed degree of stability of a bank's liabilities and liquidity of its assets.
- 22.2. The calibration of NSFR reflects the stability of liabilities across two dimensions:
- Funding tenor – The NSFR is calibrated such that longer-term liabilities are assumed to be more stable than short-term liabilities.
  - Funding type and counterparty – The NSFR is calibrated under the assumption that short-term (maturing in less than one year) deposits provided by retail customers and funding provided by small business customers are behaviourally more stable than wholesale funding of the same maturity from other counterparties.
- 22.3. In determining the appropriate amounts of required stable funding for various assets, the following criteria are taken into consideration, recognising the potential trade-offs between these criteria:
- Resilient credit creation – The NSFR requires stable funding for some proportion of lending to the real economy in order to ensure the continuity of this type of intermediation.
  - Bank behaviour – The NSFR is calibrated under the assumption that banks may seek to roll over a significant proportion of maturing loans to preserve customer relationships.
  - Asset tenor – The NSFR assumes that some short-dated assets (maturing in less than one year) require a smaller proportion of stable funding because banks would be able to allow some proportion of those assets to mature instead of rolling them over.
  - Asset quality and liquidity value – The NSFR assumes that unencumbered, high-quality assets that can be securitised or traded, and thus can be readily used as collateral to secure additional funding or sold in the market, do not need to be wholly financed with stable funding.
- 22.4. Additional stable funding sources are also required to support at least a small portion of the potential calls on liquidity arising from OBS commitments and contingent funding obligations.

## 23. Definition and computation of ASF

- 23.1. The amount of ASF is measured based on the broad characteristics of the relative stability of a bank's funding sources, including the contractual maturity of its liabilities and the differences in the propensity of different types of funding providers to withdraw their funding. The amount of ASF is calculated by first assigning the carrying value of a bank's capital and liabilities to one of five categories as presented in the table below. The amount assigned to each category is then multiplied by an ASF factor, and the total ASF is the sum of the weighted amounts. Carrying value represents the amount at which a liability or equity instrument is recorded before the application of any regulatory deductions, filters or other adjustments.
- 23.2. Section 24 below defines all the liability and capital items that are components of the ASF category, including the ASF factor associated with each item. NSFR Table 1 summarises all the liability and capital items that are components of ASF.

**NSFR Table 1**

No.	Components of ASF category (liability categories)	Associated ASF Factor
(i)	<ul style="list-style-type: none"> <li>• Total regulatory capital (excluding Tier 2 instruments with residual maturity of less than one year and Tier 3 instruments)</li> <li>• Other capital instruments and liabilities with effective residual maturity of one year or more</li> <li>• Total amount of secured and unsecured borrowings and liabilities (including term deposits) with effective residual maturities of one year or more</li> </ul>	<b>100%</b>
(ii)	<ul style="list-style-type: none"> <li>• Stable non-maturity (demand) deposits and term deposits with residual maturity of less than one year provided by retail and small business customers</li> </ul>	<b>95%</b>
(iii)	<ul style="list-style-type: none"> <li>• Less stable non-maturity deposits and term deposits with residual maturity of less than one year provided by retail and small business customers</li> </ul>	<b>90%</b>
(iv)	<ul style="list-style-type: none"> <li>• Funding with residual maturity of less than one year provided by non-financial corporate customers</li> <li>• Operational deposits</li> <li>• Funding with residual maturity of less than one year from sovereigns, PSEs, and multilateral and national development banks</li> <li>• Other funding with residual maturity between six months and less than one year not included in the above categories, including funding provided by central banks and financial</li> </ul>	<b>50%</b>

No.	Components of ASF category (liability categories)	Associated ASF Factor
(v)	<ul style="list-style-type: none"> <li>• All other liabilities and equity not included in the above categories, including liabilities without a stated maturity (with a specific treatment for deferred tax liabilities and minority interests)</li> <li>• NSFR derivative liabilities net of NSFR derivative assets if NSFR derivative liabilities are greater than NSFR derivative assets</li> <li>• “Trade date” payables arising from purchases of financial instruments, foreign currencies and commodities</li> </ul>	<b>0%</b>

## 24. Specific Considerations for Inclusion in ASF

### Liabilities and capital instruments receiving a 100% ASF factor

- 24.1. The total amount of regulatory capital, before the application of capital deductions, as defined in Chapter II of the Authority’s Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I), excluding the proportion of Tier 2 instruments with residual maturity of less than one year and Tier 3 instruments;
- 24.2. The total amount of any capital instrument not included in paragraph 24.1 that has an effective residual maturity of one year or more, but excluding any instruments with explicit or embedded options that, if exercised, would reduce the expected maturity to less than one year; and
- 24.3. The total amount of secured and unsecured borrowings and liabilities (including term deposits) with effective residual maturities of one year or more. Cash flows due before the one-year horizon but arising from liabilities with a final maturity greater than one year do not qualify for the 100% ASF factor.

### Liabilities receiving a 95% ASF factor

- 24.4. “Stable” (as defined in Part II, paragraphs 18.3 and 18.4) non-maturity (demand) deposits and/or term deposits with residual maturities of less than one year provided by retail and small business customers.

### Liabilities receiving a 90% ASF factor

- 24.5. “Non-stable” (as defined in Part II, paragraph 18.5) non-maturity (demand) deposits and/or term deposits with residual maturities of less than one year provided by retail and small business customers.

### Liabilities receiving a 50% ASF factor

- 24.6. Funding (secured and unsecured) with a residual maturity of less than one year provided by non-financial corporate customers.
- 24.7. Operational deposits (as defined in Part II, paragraphs 18.13 to 18.19);
- 24.8. Funding with residual maturity of less than one year from sovereigns, PSEs, and

multilateral and national development banks; and

- 24.9. Other funding (secured and unsecured) not included in the categories above with residual maturity between six months to less than one year, including funding from central banks and financial institutions.

Liabilities receiving a 0% ASF factor comprise:

- 24.10. All other liabilities and equity categories not included in the above categories, including other funding with residual maturity of less than six months from central banks and financial institutions;

- 24.11. Other liabilities without a stated maturity. This category may include short positions and open maturity positions. Two exceptions can be recognised for liabilities without a stated maturity:

- a) deferred tax liabilities, which should be treated according to the nearest possible date on which such liabilities could be realised; and
- b) minority interest, which should be treated according to the term of the instrument, usually in perpetuity.

These liabilities would then be assigned either a 100% ASF factor if the effective maturity is one year or greater, or 50%, if the effective maturity is between six months and less than one year;

- 24.12. NSFR derivative liabilities as calculated according to paragraphs 24.14 and 24.15 net of NSFR derivative assets as calculated according to paragraphs 24.16 and 24.17, if NSFR derivative liabilities are greater than NSFR derivative assets; such that

$$ASF = 0\% \times \text{MAX} ((NSFR \text{ derivative liabilities} - NSFR \text{ derivative assets}), 0).$$

- 24.13. "trade date" payables arising from purchases of financial instruments, foreign currencies and commodities that (i) are expected to settle within the standard settlement cycle or period that is customary for the relevant exchange or type of transaction, or (ii) have failed to, but are still expected to, settle.

Derivative Liabilities

- 24.14. Derivative liabilities are calculated first based on the replacement cost for derivative contracts (obtained by marking to market) where the contract has a negative value. When an eligible bilateral netting contract is in place that meets the conditions as specified in paragraphs 24.20 and 24.21 below, the replacement cost for the set of derivative exposures covered by the contract will be the net replacement cost.

- 24.15. In calculating NSFR derivative liabilities, collateral posted in the form of variation margin in connection with derivative contracts, regardless of the asset type, must be deducted from the negative replacement cost amount such that:

$$NSFR \text{ derivative liabilities} = (\text{derivative liabilities}) - (\text{total collateral posted as variation margin on derivative liabilities}).$$

Derivative Assets

- 24.16. Derivative assets are calculated first based on the replacement cost for derivative contracts (obtained by marking to market) where the contract has a positive value.

When an eligible bilateral netting contract is in place that meets the conditions as specified in paragraphs 24.20 and 24.21, the replacement cost for the set of derivative exposures covered by the contract will be the net replacement cost.

24.17. In calculating NSFR derivative assets, collateral received in connection with derivative contracts may not offset the positive replacement cost amount, regardless of whether or not netting is permitted, unless it is received in the form of cash variation margin and meets the conditions as specified in paragraph 26.31. Any remaining balance sheet liability associated with (a) variation margin received that does not meet the criteria above or (b) initial margin received may not offset derivative assets and should be assigned a 0% ASF factor. Such that:

$$\text{NSFR derivative assets} = (\text{derivative assets}) - (\text{cash collateral received as variation margin on derivative assets}).$$

24.18. When determining the maturity of an equity or liability instrument, investors are assumed to redeem a call option at the earliest possible date. For funding with options exercisable at the bank's discretion, the Authority may take into account reputational factors that may limit a bank's ability not to exercise the option. In particular, where the market expects certain liabilities to be redeemed before their legal final maturity date, banks should assume such behaviour for the purpose of the NSFR and include these liabilities in the corresponding ASF category. For long-dated liabilities, only the portion of cash flows falling at or beyond the six-month and one-year time horizons should be treated as having an effective residual maturity of six months or more and one year or more, respectively.

24.19. To the extent that the bank's accounting framework reflects on balance sheet, in connection with a derivative contract, an asset associated with collateral posted as variation margin that is deducted from the replacement cost amount for purposes of the NSFR, that asset should not be included in the calculation of a bank's RSF to avoid any double-counting.

24.20. For the purpose of these rules, the following conditions are to be met to consider net replacement cost for eligible bilateral netting contracts:

- a) Banks may net transactions subject to novation under which any obligation between a bank and its counterparty to deliver a given currency on a given value date is automatically amalgamated with all other obligations for the same currency and value date, legally substituting one single amount for the previous gross obligations.
- b) Banks may also net transactions subject to any legally valid form of bilateral netting not covered in paragraph (i), including other forms of novation.
- c) In both cases (i) and (ii), a bank will need to satisfy the Authority that it has:
  - i. a netting contract or agreement with the counterparty that creates a single legal obligation, covering all included transactions, such that the bank would have either a claim to receive or obligation to pay only the net sum of the positive and negative mark-to-market values of included individual transactions in the event a counterparty fails to perform due to any of the following: default, bankruptcy, liquidation or similar circumstances;
  - ii. written and reasoned legal opinions that, in the event of a legal challenge, the



relevant courts and administrative authorities would find the bank's exposure to be such a net amount under:

- a) the law of the jurisdiction in which the counterparty is chartered and, if the foreign branch of a counterparty is involved, then also under the law of jurisdiction in which the branch is located;
  - b) the law that governs the individual transactions; and
  - c) the law that governs any contract or agreement necessary to effect the netting.
- iii. procedures in place to ensure that the legal characteristics of netting arrangements are kept under review in the light of possible changes in relevant law.

24.21. Contracts containing walkaway clauses will not be eligible for netting. A walkaway clause is a provision that permits a non-defaulting counterparty to make only limited payments, or no payment at all, to the estate of a defaulter, even if the defaulter is a net creditor.

## 25. Definition and computation of RSF and Off-Balance Sheet

### Exposures

25.1. The amount of RSF is measured based on the broad characteristics of the liquidity risk profile of a bank's assets and OBS exposures. The amount of RSF is calculated by first assigning the carrying value of a bank's assets to the categories listed in the NSFR Table 2 below. The amount assigned to each category is then multiplied by its associated RSF factor, and the total RSF is the sum of the weighted amounts added to the amount of OBS activity (or potential liquidity exposure) multiplied by its associated RSF factor (NSFR Table 3). Definitions mirror those outlined in the LCR requirements in Part II, unless otherwise specified

**NSFR Table 2**

No.	Components of RSF category	Associated RSF Factor
(i)	<ul style="list-style-type: none"> <li>• Coins and banknotes</li> <li>• Central bank reserves</li> <li>• All claims on central banks with residual maturities of less than six months</li> <li>• "Trade date" receivables arising from sales of financial instruments, foreign currencies and commodities</li> </ul>	0%
(ii)	<ul style="list-style-type: none"> <li>• Unencumbered Level 1 assets, as per paragraph 13.1 of the LCR requirements, excluding coins, banknotes and CRR</li> </ul>	5%
(iii)	<ul style="list-style-type: none"> <li>• Unencumbered loans to financial institutions with residual maturities of less than six months, where the loan is secured against Level 1 assets as defined in paragraph 13.1 of the LCR requirements, and where the bank has the ability to freely re-hypothecate the received collateral for the life of the loan</li> </ul>	10%

<b>No.</b>	<b>Components of RSF category</b>	<b>Associated RSF Factor</b>
(iv)	<ul style="list-style-type: none"> <li>• All other unencumbered loans to financial institutions with residual maturities of less than six months not included in the above categories</li> <li>• Unencumbered Level 2A assets</li> </ul>	15%
(v)	<ul style="list-style-type: none"> <li>• Unencumbered Level 2B assets</li> <li>• HQLA encumbered for a period of six months or more and less than one year</li> <li>• Loans to financial institutions and central banks with residual maturities between six months and less than one year</li> <li>• Deposits held at other financial institutions for operational purposes</li> <li>• All other assets not included in the above categories with residual maturity of less than one year, including loans to non-financial corporate clients, to retail and small business customers, and loans to sovereigns and PSEs</li> </ul>	50%
(vi)	<ul style="list-style-type: none"> <li>• Unencumbered residential mortgages with a residual maturity of one year or more and with the minimum risk weight permitted as per the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I)</li> <li>• Other unencumbered loans not included in the above categories, excluding loans to financial institutions, with a residual maturity of one year or more and with a risk weight of less than or equal to 35% as per the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I)</li> </ul>	65%
(vii)	<ul style="list-style-type: none"> <li>• Cash, securities or other assets posted as initial margin for derivative contracts</li> <li>• Other unencumbered performing loans with risk weights greater than 35% as per the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I) and residual maturities of one year or more, excluding loans to financial institutions</li> <li>• Unencumbered securities that are not in default and do not qualify as HQLA with a remaining maturity of one year or more and exchange-traded equities</li> <li>• Physical traded commodities, including gold</li> </ul>	85%

No.	Components of RSF category	Associated RSF Factor
(viii)	<ul style="list-style-type: none"> <li>• All assets that are encumbered for a period of one year or more</li> <li>• NSFR derivative assets net of NSFR derivative liabilities if NSFR derivative assets are greater than NSFR derivative liabilities</li> <li>• 20% of derivative liabilities as calculated according to paragraphs 24.14 and 24.15</li> <li>• All other assets not included in the above categories, including non-performing loans, loans to financial institutions with a residual maturity of one year or more, non-exchange-traded equities, fixed assets, items deducted from regulatory capital, retained interest, insurance assets, subsidiary interests and defaulted securities</li> <li>• All restructured loans which attract higher risk weight and additional provision</li> </ul>	100%

**NSFR Table 3**

No.	Off-balance Sheet Items which require stable Funding	Associated RSF
(i)	<ul style="list-style-type: none"> <li>• Irrevocable and conditionally revocable credit and liquidity facilities to any client</li> <li>• Unconditionally revocable credit and liquidity facilities</li> </ul>	5% of the currently undrawn portion
(ii)	<p>Other contingent funding obligations, including products and instruments such as:</p> <ul style="list-style-type: none"> <li>• Trade finance-related obligations (including guarantees and letters of credit)</li> <li>• Guarantees and letters of credit unrelated to trade finance obligations</li> <li>• Non-contractual obligations such as: <ul style="list-style-type: none"> <li>– potential requests for debt repurchases of the bank’s own debt or that of related conduits, securities investment vehicles and other such financing facilities</li> <li>– structured products where customers anticipate ready marketability, such as adjustable rate notes and variable rate demand notes (VRDNs)</li> <li>– managed funds that are marketed with the objective of maintaining a stable value</li> </ul> </li> </ul>	100% of the currently undrawn portion

## 26. Specific considerations for inclusion in RSF

### Assets assigned a 0% RSF factor

26.1. Coins and banknotes immediately available to meet obligations.

26.2. Central Bank reserves (including required reserves and excess reserves).

26.3. All claims on central banks with residual maturities of less than six months.

- 26.4. "Trade date" receivables arising from sales of financial instruments, foreign currencies and commodities that (i) are expected to settle within the standard settlement cycle or period that is customary for the relevant exchange or type of transaction, or (ii) have failed to, but are still expected to, settle.

Assets assigned a 5% RSF factor

- 26.5. Assets assigned a 5% RSF factor comprise unencumbered Level 1 assets as defined in the LCR requirements in Part II, excluding assets receiving a 0% RSF as specified above, and including:
- a) marketable securities representing claims on or guaranteed by sovereigns, central banks, PSEs, the Bank for International Settlements, the International Monetary Fund, the European Central Bank and the European Community, or MDBs that are assigned a 0% risk weight under the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I); and
  - b) certain non-0% risk-weighted sovereign or central bank debt securities as specified in the LCR requirements in Part II.

Assets assigned a 10% RSF factor

- 26.6. Unencumbered loans to financial institutions with residual maturities of less than six months, where the loan is secured against Level 1 assets as defined in the LCR requirements in Part II, and where the bank has the ability to freely re-hypothecate the received collateral for the life of the loan.

Assets assigned a 15% RSF factor

- 26.7. Unencumbered Level 2A assets as defined in the LCR requirements in Part II, including:
- a) marketable securities representing claims on or guaranteed by sovereigns, central banks, PSEs or MDBs that are assigned a 20% risk weight under the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I); and
  - b) corporate debt securities (including commercial paper) and covered bonds with a credit rating equal or equivalent to at least AA-.
- 26.8. All other standard unencumbered loans to financial institutions with residual maturities of less than six months not included in paragraph 26.6 above.

Assets assigned a 50% RSF factor

- 26.9. Unencumbered Level 2B assets as defined and subject to the conditions set forth in the LCR requirements in this document, including:
- a) RMBS with a credit rating of at least AA;
  - b) corporate debt securities (including commercial paper) with a credit rating of between A+ and BBB-; and
  - c) exchange-traded common equity shares not issued by financial institutions or their affiliates.
- 26.10. Any HQLA as defined in the LCR requirements in Part II that are encumbered for a period of between six months and less than one year.
- 26.11. All loans to financial institutions and central banks with residual maturity of between six

months and less than one year.

26.12. Deposits held at other financial institutions for operational purposes, as outlined in the LCR requirements in Part II, that are subject to the 50% ASF factor in paragraphs 24.6 to 24.9. Non-operational deposits held at other financial institutions must be treated equivalently to loans to financial institutions, taking into account the term of the deposit.

26.13. All other non-HQLA not included in the above categories that have a residual maturity of less than one year, including loans to non-financial corporate clients, loans to retail customers (i.e. natural persons) and small business customers, and loans to sovereigns and PSEs.

Assets assigned a 65% RSF factor

26.14. Unencumbered residential mortgages with a residual maturity of one year or more that would qualify for the minimum risk weight under the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I).

26.15. Other unencumbered loans not included in the above categories, excluding loans to financial institutions, with a residual maturity of one year or more that would qualify for a 35% or lower risk weight under the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I).

Assets assigned an 85% RSF factor

26.16. Cash, securities or other assets posted as initial margin for derivative contracts. Where securities or other assets posted as initial margin for derivative contracts would otherwise receive a higher RSF factor, they should retain that higher factor.

26.17. For the purposes of paragraph 26.16 above, initial margin posted on behalf of a customer, where the bank does not guarantee performance of the third party, would be exempt from this requirement.

26.18. For the purpose of paragraph 26.17 above, performing loans are considered to be those that are not past due for more than 90 days in accordance with paragraph 74 of the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I). Conversely, non-performing loans are considered to be loans that are more than 90 days past due.

26.19. Other unencumbered performing loans that do not qualify for the 35% or lower risk weight under the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I) and have residual maturities of one year or more, excluding loans to financial institutions.

26.20. Unencumbered securities with a remaining maturity of one year or more and exchange-traded equities, that are not in default and do not qualify as HQLA according to the LCR requirements in this document.

26.21. Physical traded commodities, including gold.

Assets assigned a 100% RSF factor

- 26.22. All assets that are encumbered for a period of one year or more.
- 26.23. NSFR derivative assets as calculated according to paragraphs 24.16 and 24.17 net of NSFR derivative liabilities as calculated according to paragraphs 24.14 and 24.15, if NSFR derivative assets are greater than NSFR derivative liabilities; such that:

$$RSF = 100\% \times \text{MAX} ((NSFR \text{ derivative assets} - NSFR \text{ derivative liabilities}), 0)$$

- 26.24. All other assets not included in the above categories, including non-performing loans, loans to financial institutions with a residual maturity of one year or more, non-exchange-traded equities, fixed assets, items deducted from regulatory capital, retained interest, insurance assets, subsidiary interests and defaulted securities.
- 26.25. 20% of derivative liabilities (i.e. negative replacement cost amounts) as calculated according to paragraphs 24.14 and 24.15 (before deducting variation margin posted).

Encumbered assets

- 26.26. Assets on the balance sheet that are encumbered for one year or more receive a 100% RSF factor. Assets encumbered for a period of between six months and less than one year that would, if unencumbered, receive an RSF factor lower than or equal to 50% receive a 50% RSF factor. Assets encumbered for between six months and less than one year that would, if unencumbered, receive an RSF factor higher than 50% retain that higher RSF factor. Where assets have less than six months remaining in the encumbrance period, those assets may receive the same RSF factor as an equivalent asset that is unencumbered. In addition, for the purposes of calculating the NSFR, assets that are encumbered for exceptional central bank liquidity operations may receive a reduced RSF factor from the Authority, which must not be lower than the RSF factor applied to the equivalent asset that is unencumbered.
- 26.27. Encumbered assets include but are not limited to assets backing securities or covered bonds and assets pledged in securities financing transactions or collateral swaps. "Unencumbered" is defined in paragraph 13.1.

Secured financing transactions

- 26.28. For secured funding arrangements, use of balance sheet and accounting treatments should generally result in banks excluding, from their assets, securities which they have borrowed in securities financing transactions (such as reverse repos and collateral swaps) where they do not have beneficial ownership. In contrast, banks should include securities they have lent in securities financing transactions where they retain beneficial ownership. Banks should also not include any securities they have received through collateral swaps if those securities do not appear on their balance sheets. Where banks have encumbered securities in repos or other securities financing transactions, but have retained beneficial ownership and those assets remain on the bank's balance sheet, the bank should allocate such securities to the appropriate RSF category.
- 26.29. Securities financing transactions with a single counterparty may be measured net when calculating the NSFR, provided that the netting conditions set out in paragraph 26.30 below are met.

#### Netting Conditions for SFTs

- 26.30. Cash payables and cash receivables in SFTs with the same counterparty may be measured net if all the following criteria are met:
- a) Transactions have the same explicit final settlement date;
  - b) The right to set off the amount owed to the counterparty with the amount owed by the counterparty is legally enforceable both currently in the normal course of business and in the event of: (a) default; (b) insolvency; and (c) bankruptcy; and
  - c) The counterparties intend to settle net, settle simultaneously, or the transactions are subject to a settlement mechanism that results in the functional equivalent of net settlement, that is, the cash flows of the transactions are equivalent, in effect, to a single net amount on the settlement date. To achieve such equivalence, both transactions are settled through the same settlement system and the settlement arrangements are supported by cash and/or intraday credit facilities intended to ensure that settlement of both transactions will occur by the end of the business day and the linkages to collateral flows do not result in the unwinding of net cash settlement.

#### Cash Variation margin

- 26.31. In the treatment of derivative exposures, the cash portion of variation margin exchanged between counterparties may be viewed as a form of pre-settlement payment, if the following conditions are met:
- a) Variation margin is calculated and exchanged on a daily basis based on mark-to-market valuation of derivatives positions.
  - b) The cash variation margin is received in the same currency as the currency of settlement of the derivative contract.
  - c) Variation margin exchanged is the full amount that would be necessary to fully extinguish the mark-to-market exposure of the derivative subject to the threshold and minimum transfer amounts applicable to the counterparty.
  - d) Derivatives transactions and variation margins are covered by a single master netting agreement (MNA) between the legal entities that are the counterparties in the derivatives transaction. The MNA must explicitly stipulate that the counterparties agree to settle net any payment obligations covered by such a netting agreement, taking into account any variation margin received or provided if a credit event occurs involving either counterparty. The MNA must be legally enforceable and effective in all relevant jurisdictions, including in the event of default and bankruptcy or insolvency.

#### Off-balance sheet exposures

- 26.32. Many potential OBS liquidity exposures require little direct or immediate funding but can lead to significant liquidity drains over a longer time horizon. The NSFR assigns an RSF factor to various OBS activities in order to ensure that banks hold stable funding for the portion of OBS exposures that may be expected to require funding within a one-year horizon.
- 26.33. Consistent with the LCR, the NSFR identifies OBS exposure categories based broadly on whether the commitment is a credit or liquidity facility or some other contingent funding

obligation. NSFR Table 3<sup>3</sup> identifies the specific types of OBS exposures to be assigned to each OBS category and their associated RSF factor.

#### Other Requirements

- 26.34. The RSF factors assigned to various types of assets are intended to approximate the amount of a particular asset that would have to be funded, either because it will be rolled over, or because it would not be monetised through sale or used as collateral in a secured borrowing transaction over the course of one year without significant expense. Under the standard, such amounts are expected to be supported by stable funding.
- 26.35. Assets should be allocated to the appropriate RSF factor based on their residual maturity or liquidity value. When determining the maturity of an instrument, investors should be assumed to exercise any option to extend maturity. For assets with options exercisable at the bank's discretion, The Authority may take into account reputational factors that may limit a bank's ability not to exercise the option and prescribe higher RSF Factor. In particular, where the market expects certain assets to be extended in their maturity, banks should assume such behaviour for the purpose of the NSFR and include these assets in the corresponding RSF category. For amortising loans, the portion that comes due within the one-year horizon can be treated in the less-than-one- year residual maturity category.
- 26.36. For purposes of determining its required stable funding, a bank should
- a) include financial instruments, foreign currencies and commodities for which a purchase order has been executed; and
  - b) exclude financial instruments, foreign currencies and commodities for which a sales order has been executed, even if such transactions have not been reflected in the balance sheet under a settlement-date accounting model, provided that
    - i. such transactions are not reflected as derivatives or secured financing transactions in the bank's balance sheet; and
    - ii. the effects of such transactions will be reflected in the bank's balance sheet when settled.

## **PART IV – Additional Monitoring Tools**

### **27. Background and Overview**

- 27.1. In addition to the measures outlined in the previous parts to be used as a standard, this section outlines metrics to be used as consistent monitoring tools. These metrics capture specific information related to a bank's cash flows, balance sheet structure, available unencumbered collateral and certain market indicators.
- 27.2. These metrics, along with the LCR and NSFR rules, provide the cornerstone of information that aid a bank's management and the Authority in assessing the liquidity risk of a Category "A" Retail bank.

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- 27.3. The metrics discussed in this section include the following:
- a) Contractual maturity mismatch;
  - b) Concentration of funding;
  - c) Available unencumbered assets; and
  - d) Market-related monitoring tools.
- 27.4. [All Category "A" Retail banks are required to calculate and report the additional monitoring tools included in this Part of the Rules and Guidelines.](#)

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## 28. Contractual Maturity Mismatch

- 28.1. The contractual maturity mismatch profile identifies the gaps between the contractual inflows and outflows of liquidity for defined time bands. These maturity gaps indicate how much liquidity a bank would potentially need to raise in each of these time bands if all outflows occurred at the earliest possible date. This metric provides insight into the extent to which the bank relies on maturity transformation under its current contracts.
- 28.2. The contractual maturity mismatch is defined as the contractual cash and security inflows and outflows from all on- and off-balance sheet items, mapped to defined time bands based on their respective maturities.
- 28.3. A bank should report contractual cash and security flows in the relevant time bands based on their residual contractual maturity.
- 28.4. Instruments that have no specific maturity (non-defined or open maturity) should be reported separately, with details on the instruments, and with no assumptions applied as to when maturity occurs. Information on possible cash flows arising from derivatives such as interest rate swaps and options should also be included to the extent that their contractual maturities are relevant to the understanding of the cash flows.
- 28.5. Contractual cashflow assumptions
- a) No rollover of existing liabilities is assumed to take place. For assets, the bank is assumed not to enter into any new contracts.
  - b) Contingent liability exposures that would require a change in the state of the world (such as contracts with triggers based on a change in prices of financial instruments or a downgrade in the bank's credit rating) need to be detailed, grouped by what would trigger the liability, with the respective exposures clearly identified.
  - c) A bank should record all securities flows.
  - d) A bank should report separately the customer collateral received that the bank is permitted to re-hypothecate as well as the amount of such collateral that is rehypothecated at each reporting date. This also will highlight instances when the bank is generating mismatches in the borrowing and lending of customer collateral.

## 29. Concentration of Funding

- 29.1. This metric intends to identify those sources of wholesale funding that are of such significance that withdrawal of this funding could trigger liquidity problems. The metric thus encourages the diversification of funding sources.

- 29.2. Concentration of funding is defined as:
- a) A = Funding liabilities sourced from each significant counterparty as a % of total liabilities.
  - b) B = Funding liabilities sourced from each significant product/instrument as a % of total liabilities.
  - c) C = List of asset and liability amounts by significant currency.
- 29.3. The numerator for A and B is determined by examining funding concentrations by counterparty or type of instrument/product. Banks should monitor both the absolute percentage of the funding exposure, as well as significant increases in concentrations.
- 29.4. The numerator for counterparties is calculated by aggregating the total of all types of liabilities to a single counterparty or group of connected or affiliated counterparties, as well as all other direct borrowings, both secured and unsecured, which the bank can determine arise from the same counterparty<sup>4</sup> (such as for overnight commercial paper / certificate of deposit (CP/CD) funding).
- 29.5. A "significant counterparty" is defined as a single counterparty or group of connected or affiliated counterparties accounting in aggregate for more than 1% of the bank's total balance sheet.
- 29.6. A group of connected counterparties means two or more individual counterparties whose exposures constitute a single exposure because the counterparties have:
- a) a group relationship; or
  - b) a business interdependency that is so close that it cannot be quickly unwound and in which financial problems of one counterparty is likely to cause repayment difficulties for another counterparty within the group.
- 29.7. Intra-group deposits and deposits from related parties should be identified specifically under this metric, regardless of whether the metric is being calculated at a legal entity or group level, due to the potential limitations to intra-group transactions in stressed conditions.
- 29.8. The numerator for type of instrument/product should be calculated for each individually significant funding instrument/product, as well as by calculating groups of similar types of instruments/products.
- 29.9. A "significant instrument/product" is defined as a single instrument/product or group of similar instruments/products that in aggregate amount to more than 1% of the bank's total balance sheet.
- 29.10. In order to capture the amount of structural currency mismatch in a bank's assets and liabilities, banks are required to provide a list of the amount of assets and liabilities in each significant currency.

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<sup>4</sup> For some funding sources, such as debt issues that are transferable across counterparties (such as CP/CD funding dated longer than overnight, etc.), it is not always possible to identify the counterparty holding the debt.

- 29.11. A currency is considered "significant" if the aggregate liabilities denominated in that currency amount to 5% or more of the bank's total liabilities.
- 29.12. The above metrics should be reported separately for the time horizons of less than one month, 1-3 months, 3-6 months, 6-12 months, and for longer than 12 months.

### 30. Available Unencumbered Assets

- 30.1. This metric provides the Authority with data on the quantity and key characteristics, including currency denomination and location, of banks' available unencumbered assets. These assets have the potential to be used as collateral to raise additional HQLA or secured funding in secondary markets or are eligible at central banks and as such may potentially be additional sources of liquidity for the bank.
- 30.2. The metric is defined as all available unencumbered assets that are marketable as collateral in secondary markets, and available unencumbered assets that are eligible for central bank's standing facilities.
- 30.3. A bank is to report the amount, type and location of available unencumbered assets that could serve as collateral for secured borrowing in secondary markets at prearranged or current haircuts at reasonable costs.
- 30.4. Likewise, a bank should report the amount, type and location of available unencumbered assets that are eligible for secured financing with relevant central banks at prearranged (if available) or current haircuts at reasonable costs, for standing facilities only (i.e. excluding emergency assistance arrangements). This would include collateral that has already been accepted at the central bank but remains unused. For assets to be counted in this metric, the bank must have already put in place the operational procedures that would be needed to monetise the collateral.
- 30.5. A bank should report separately the customer collateral received that the bank is permitted to deliver or re-pledge, as well as the part of such collateral that it is delivering or re-pledging at each reporting date.
- 30.6. In addition to providing the total amounts available, a bank should report these items categorised by significant currency. A currency is considered "significant" if the aggregate stock of available unencumbered collateral denominated in that currency amounts to 5% or more of the associated total amount of available unencumbered collateral (for secondary markets or central banks).
- 30.7. In addition, a bank must report the estimated haircut that the secondary market or relevant central bank would require for each asset. In the case of the latter, a bank would be expected to reference, under business as usual, the haircut required by the central bank that it would normally access (which likely involves matching funding currency).
- 30.8. As a second step after reporting the relevant haircuts, a bank should report the expected monetised value of the collateral (rather than the notional amount) and where the assets are actually held, in terms of the location of the assets and what business lines have access to those assets.

## 31. Market-related Monitoring Tools

- 31.1. High frequency market-wide data with little or no time lag can be used as early warning indicators in monitoring potential liquidity difficulties at banks.
- 31.2. While there are many types of data available in the market, banks can monitor data at the following levels to focus on potential liquidity difficulties:
  - a) Market-wide information;
  - b) Information on the financial sector; and
  - c) Bank-specific information.
- 31.3. Valuable market information to monitor includes, but is not limited to, equity prices (i.e. overall stock markets and sub-indices in various jurisdictions relevant to the activities of the supervised banks), debt markets (money markets, medium-term notes, long term debt, derivatives, government bond markets, credit default spread indices, etc.); foreign exchange markets, commodities markets, and indices related to specific products, such as for certain securitised products.
- 31.4. Banks should track whether the financial sector, as a whole, is mirroring broader market movements or is experiencing difficulties. Information to be monitored includes equity and debt market information for the financial sector broadly and for specific subsets of the financial sector, including indices.
- 31.5. Banks should monitor whether the market is losing confidence in an institution or has identified risks at an institution. It is useful to collect information on equity prices, CDS spreads, money-market trading prices, the situation of roll-overs and prices for various lengths of funding, the price/yield of bank debenture or subordinated debt in the secondary market.

## Part V – Minimum Liquidity Ratio

### 32. Introduction

- 32.1. Parts II and III of these Rules and Guidelines specify the minimum requirements for the LCR and NSFR, respectively. The Authority has determined that the LCR and NSFR are more applicable for Category “A” Retail banks. In order to ensure all banks in the Cayman Islands use a regulatory measurement for liquidity risk, the Authority developed the Minimum Liquidity Ratio (MLR) for all Category “A” Non-Retail and Category “B” banks.
- 32.2. The requirements of the MLR include a refined definition of liquid assets. The MLR differs from the requirements of the LCR as it does not have a tier structure for these liquid assets. The MLR requirements also define a bank’s liability items that qualify for the minimum MLR ratio.
- 32.3. [All Category “A” Non-Retail banks and Category “B” banks are required to meet the minimum requirements of the MLR as stipulated in this Part of the Rules and Guidelines.](#)

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### 33. Calculation of Minimum MLR Requirements

- 33.1. All Category "A" Non-Retail banks and Category "B" banks shall hold at all times, Liquid Assets, as defined in section 34, denominated in any currency, amounting to no less than 15% of the value of its Qualifying Liabilities, as defined in section 35, denominated in all currencies.

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### 34. Liquid Assets

- 34.1. This section describes the assets that meet the characteristics and operational requirements for inclusion in a bank's liquid assets. When computing the minimum amount of liquid assets to be held by it, a bank shall use the marked-to-market value of those liquid assets. Each liquid asset shall be free from any prior encumbrances.
- a) currency notes and coins;
  - b) withdrawable central bank reserves;
  - c) deposit balances with and Certificates of Deposit (CDs) issued by the bank's Group Bank – Parent, Branch, Subsidiary or Affiliate. However, in order for these exposures to be considered as a liquid asset for the calculation of the MLR, a bank must have an explicit agreement with its Group Bank stating that the assets will be available should the bank encounter a liquidity issue. Any such explicit agreement is required to be approved by the Authority;
  - d) any debt securities representing claims on or guaranteed by sovereigns, central banks, PSEs, or MDBs, which is assigned a 0% or 20% risk weight under the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I), and includes any such debt securities held under a reverse repurchase agreement;
  - e) any corporate debt security (including commercial paper) and covered bonds, which satisfy the following conditions:
    - i. in the case of a corporate debt security: it is not issued by a financial institution or any of its affiliated entities;
    - ii. in the case of a covered bond: it is not issued by the bank itself or any of its affiliated entities; and
    - iii. it is assigned a 20% risk weight under the Authority's credit risk requirements in its Rules, Conditions and Guidelines on Minimum Capital Requirements (Pillar I).
  - f) any other asset assessed and determined to be liquid assets approved by the Authority at its sole discretion, subject to any restrictions or conditions specified by the Authority.

### 35. Qualifying Liabilities

- 35.1. This section defines the qualifying liabilities banks should include in the calculation of its MLR. The qualifying liabilities are the aggregate of:
- a) all liabilities of the bank, excluding any contingent liabilities, due to non-bank customers, computed on a gross basis (i.e. a bank shall not net with any claims to the non-bank customers);
  - b) all liabilities of the bank due to other banks (whether licensed in the Cayman Islands or not, including intragroup banking entities) maturing within one month of the computation day (the day the MLR is calculated), computed on a net basis (i.e. after the deduction of all claims by the bank on the other bank maturing within

one month from the computation day). Where this is a net asset, the net asset amount shall not be deducted from qualifying liabilities and shall be treated as zero; and

- c) 15% of all undrawn commitments.
- d) any other liabilities assessed and determined to be qualifying liabilities approved by the Authority at its sole discretion, subject to any restrictions or conditions specified by the Authority.