CENTRAL BANK OF TRINIDAD & TOBAGO

LIQUIDITY COVERAGE RATIO

Consultation Paper

November 2022

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Abbreviations

BCBS	Basel Committee on Banking Supervision
DIC	Deposit Insurance Corporation
FIA	Financial Institutions Act
HQLA	High Quality Liquid Assets
LCR	Liquidity Coverage Ratio
MDB	Multilateral Development Bank
NSFR	Net Stable Funding Ratio
PSE	Public Sector Entity

1. INTRODUCTION

1.1 Strengthening the prudential framework for institutions licensed under the Financial Institutions Act, 2008 (FIA) continues to be a key strategic priority of the Central Bank of Trinidad and Tobago ("Central Bank"/ "Bank"). In this regard, the Bank has been guided by enhancements to banking regulations espoused by the Basel Committee on Banking Supervision (BCBS) in their Basel II and III frameworks[1].

1.2 Notably, the global financial crisis of 2007-2008 highlighted shortcomings in the prudential framework governing banks. In particular, poor liquidity management was observed by the BCBS to be a major contributor to the failure of the banks during the crisis underscoring the need for effective liquidity risk measurement and management as a complement to robust capital planning and reserving.

1.3 In response, the BCBS developed two minimum standards as part of its Basel III post crisis reforms with the objective of strengthening the liquidity framework, namely, the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR), which were developed with two separate but complementary objectives.

1.4 The LCR was developed as a short-term quantitative prudential measure to ensure banking institutions are able to withstand an acute liquidity stress scenario over a 30-day horizon at both the individual and consolidated level. On the other hand, the NSFR aims to promote resilience over a longer time horizon by creating incentives for banks to fund their activities with more stable sources of funding on an ongoing basis.

1.5 The promulgation of the Financial Institutions (Capital Adequacy) Regulations, 2020 gives legal effect to a number of improved capital standards promoted by the BCBS, which should help to improve local banking sector resilience. Further, in December 2019, the Central Bank's Phase 2 policy proposal document set out the Bank's intention to implement the LCR as one of a range of measures aimed at strengthening the regulatory framework and enhancing banking sector resilience and financial stability.

1.6 Although the NSFR was not included in the Bank's Phase 2 implementation plan, it is being considered for future implementation.

1.7 The LCR is to be implemented to promote short-term resilience of a financial institution's liquidity risk profile by ensuring that it has an adequate stock of unencumbered high quality

[1] Basel II and Basel III are internationally agreed set of measures developed by the BCBS. Basel II focused on minimum capital requirements, and it was revised by Basel III, which was developed in response to the global financial crisis of 2007-09 aimed at strengthening the regulation, supervision and risk management of banks. The Consolidated Basel III Framework can be accessed at https://www.bis.org/basel_framework/index.htm.

liquid assets (HQLA) comprising assets that can be immediately converted into cash to meet its liquidity needs over a 30- calendar day stressed liquidity period.

1.8 Accordingly, this consultation document comprehensively sets out the specific elements of the LCR and associated liquidity monitoring tools to be implemented. It also sets out the Central Bank's expectations with respect to reporting on the LCR.

1.9 The LCR is intended to be a key component of the Central Bank's prudential framework, which should contribute to better liquidity risk measurement and management by financial institutions. However, the standard on its own is insufficient to address all dimensions of an institution's liquidity risk.

1.10 Accordingly, it is expected that institutions supplement the LCR by engaging in continuous, comprehensive assessments of their liquidity risk profile. In this regard, institutions should also be mindful of guidance provided by the Central Bank in the "*Guideline on the Management of Liquidity Risk*" and in managing liquidity risk should also utilise any other liquidity monitoring tools developed internally or set out by the Central Bank.

1.11 The Central Bank may impose any other liquidity measure considered appropriate to treat with the liquidity risk of a particular institution (whether on an individual or consolidated basis), or of the banking sector as a whole.

2. CONSULTATION PROCESS

2.1 This Consultation Paper on the LCR dated October 2022 and the draft reporting framework will be issued to the banking industry for comment by end January 2023.

2.2 Thereafter, revisions to the LCR framework will be made as necessary and a Quantitative Impact Study (QIS) to assess the capacity of financial institutions to meet the LCR will be conducted over the period March - June 2023. The QIS will also help to inform any changes to the LCR, including any transition periods needed to be included in the proposed framework.

2.3 It is proposed that the LCR will be implemented via the use of both Regulations and a guideline made pursuant to section 9(3)(b) and 10(1), respectively, of the Financial Institutions Act. The Regulation will contain inter alia:

a) the requirement to maintain a minimum LCR of 100%;

b) the scope of application i.e. to licensees on both a solo and consolidated basis and to their FHCs on a consolidated basis only;

c) the required frequency of reporting;

d) the requirement for Central Bank to specify the details of the calculation of the LCR in a guideline;

e) any required transition periods; and

f) the enforcement actions for non-compliance with the LCR.

3. DEFINITIONS

bank/ financial institution	means a licensee or its financial holding company (FHC) as per paragraph 4.1 of this consultation document;
Cash management activities	means those products and services provided to a customer to manage its cash flows, assets and liabilities, and conduct financial transactions necessary to the customer's ongoing operations. Such services are limited to payment remittance, collection, and aggregation of funds, payroll administration, and control over the disbursement of funds;
Central Bank/ Bank	means the Central Bank of Trinidad and Tobago;
Clearing relationship	means a service arrangement that enables customers to transfer funds (or securities) indirectly through direct participants in domestic settlement systems to final recipients. Such services are limited to the following activities: transmission, reconciliation and confirmation of payment orders, daylight overdraft, overnight financing and maintenance of post-settlement balances, and determination of intra-day and final settlement positions;
Corporate debt securities (including commercial paper)	means only plain-vanilla assets whose valuation are readily available based on standard methods and does not depend on private knowledge. These do not include complex structured products or subordinated debt;

Correspondent banking	means arrangements under which one bank referred to as the correspondent, holds deposits owned by other banks referred to as the respondents and provides payment and other services in order to settle foreign currency transactions, for example nostro and vostro accounts[2], used to settle transactions in a currency other than the domestic currency of the respondent bank for the provision of clearing and settlement of payments
Custody relationship/Custodial Services	means the provision of safekeeping, reporting, processing of assets or the facilitation of the operational and administrative elements of related activities on behalf of customers in the process of their transacting and retaining financial assets. Such services are limited to the settlement of securities transactions, the transfer of contractual payments, the processing of collateral and the provision of custody related cash management services. This also includes the receipt of dividends and other income, client subscriptions and redemptions. Custodial services can extend to asset and corporate trust servicing, treasury, escrow, funds transfer, stock transfer and agency services, including payment and settlement services (excluding correspondent banking), and depository receipts;
Foreign currency deposits	means deposits denominated in any other currency than the domestic currency in a jurisdiction in which the bank operates;
Master netting agreement	means a written, legally enforceable agreement that creates a single legal obligation for all individual transactions covered by the agreement in an event of default;
Prime brokerage	means a package of services offered to large active investors, particularly institutional hedge funds. These services usually include clearing, settlement and custody, consolidated reporting; financing (margin, repo or synthetic), securities lending; capital introduction; and risk analytics;

[2] "Nostro" and "vostro" are two different terms used to describe the same bank account. The terms are used when one bank has another bank's money on deposit, typically in relation to international trading or other financial transactions. The terms nostro and vostro are used to differentiate between the two sets of accounting records kept by each bank. Nostro and vostro are variations on the Latin words that mean "ours" and "yours," respectively.

Retail deposit	means deposits placed with a bank by a natural person[3];
Unencumbered asset	means an asset free of legal, regulatory, contractual or other restrictions on the ability of the institution to liquidate, sell, transfer, or assign the asset. The asset is not pledged (either explicitly or implicitly) to secure, collateralise or credit-enhance any transaction nor is it designated to cover operational costs (such as rents and salaries).

4. LEGAL FRAMEWORK

4.1 Section 9 (3) (b) of the Financial Institutions Act, 2008 (FIA) provides for the making of prudential regulations for liquidity requirements and ratios. Accordingly, the LCR requirement will be effected via regulations made by the Minister of Finance, subject to negative resolution of Parliament.

4.2 However, given frequent changes to international best practices and standards and to remain agile and responsive to changes in liquidity practices, the Regulations will provide for the Central Bank to specify the details for the calculation of the LCR requirement, that is, how the HQLA and the 30-day cash outflow are to be calculated, in a Guideline.

4.3 Both documents will be subject to industry consultation prior to enactment and/or issue.

5. SCOPE OF APPLICATION

5.1 The LCR will apply to licensees and their financial holding companies (FHCs) under the FIA. Specifically, it will apply: -

a) on a consolidated basis only to FHCs;

b) on a consolidated basis to licensees that are parent companies to include subsidiaries of the licensee, and companies in which the licensee is a significant shareholder; and

c) on an individual basis, to all licensees;

[3] Deposits from legal entities, sole proprietorships or partnerships are captured in wholesale deposit categories.

5.2 Notwithstanding the scope of application of the LCR, financial institutions should actively monitor and control their liquidity risk exposures and funding needs at the level of individual legal entities, foreign branches and subsidiaries and the group as a whole, taking into account legal, regulatory and operational limitations to the transferability of liquidity.

5.3 In addition, the Central Bank may determine, on a case-by-case basis, the entities of financial groups that should be included or excluded from the scope of consolidation for the purposes of the LCR. Further, the scope of the LCR does not include liquidity risks stemming from insurance business conducted within financial groups.

Treatment of liquidity transfer restrictions

5.4 **A financial institution with cross-border operations should not recognize excess liquidity in its consolidated LCR if there is reasonable doubt about the availability of such liquidity**[4]. The consolidated LCR should reflect any restrictions on the transfer of liquidity. For example, eligible HQLA held by a legal entity being consolidated to meet its local LCR requirements (where applicable) can be included in the consolidated LCR to the extent that such HQLA are used to cover the total net cash outflows of that entity, notwithstanding that the assets are subject to liquidity transfer restrictions.

5.5 **If the HQLA held in excess of the total net cash outflows are not transferable, such surplus liquidity should be excluded from the consolidated LCR calculation**. Banking groups should therefore have processes in place to capture all liquidity transfer restrictions to the extent practicable and to monitor the rules and regulations in the jurisdictions in which the group operates and assess their liquidity implications for the group as a whole.

Differences in home / host liquidity requirements

5.6 When calculating the LCR on a consolidated basis, a cross-border banking group with a parent company in Trinidad and Tobago should apply the liquidity parameters stated in this consultation document to all legal entities being consolidated, except for, the treatment of retail / small business deposits that should follow the relevant parameters adopted in host jurisdictions in which the entities operate. This approach will enable the stressed liquidity needs of legal entities in the group operating in host jurisdictions to be more suitably reflected, given that deposit run-off rates in host jurisdictions are more influenced by jurisdiction specific factors such as the type and effectiveness of deposit insurance schemes in place and the behaviour of local depositors.

[4] Liquidity transfer restrictions (e.g. ring-fencing measures, non-convertibility of local currency, foreign exchange controls, etc.) in jurisdictions in which a banking group operates will affect the availability of liquidity by inhibiting the transfer of HQLA and fund flows within the group.

5.7 However, the requirements for retail and small business deposits detailed in this consultation paper should apply to the relevant legal entities operating in host jurisdictions if:

a) there are no host requirements for retail and small business deposits in the particular jurisdictions;

b) those entities operate in host jurisdictions that have not implemented the LCR; or

c) the Central Bank decides that requirements described in this consultation document should be used as they are stricter than the host requirements.

Currencies

5.8 While the LCR must be met and reported in Trinidad and Tobago dollars, institutions should be aware of their liquidity needs **in each significant currency**. The currencies of the stock of HQLA should be similar in composition to the operational needs of the financial institution. Institutions cannot assume that currencies will remain transferable and convertible in a stressed period, even for currencies that in normal times are freely transferable and highly convertible.

6. GENERAL REQUIREMENTS AND CALCULATION

6.1 A financial institution would be required to calculate its minimum LCR as follows: -

$$\text{LCR} = \frac{\text{Stock of HQLA}}{\text{Total net cash outflows over the next 30 calendar days}}$$

6.2 The total net cash outflows for the scenario should be calculated for 30 calendar days into the future. In addition, a financial institution would be required to maintain a minimum LCR of at least 100% on an ongoing basis. This means that the stock of High Quality Liquid Assets (HQLA)[5] should be at least equal to total net cash outflows as the stock of unencumbered HQLA is intended to serve as a defense against the potential onset of liquidity stress.

[5] See section 6 for a discussion on the HQLA requirement.

6.3 The stress scenario for the LCR entails a combined idiosyncratic and market-wide shock that would result in:

a) the run-off of a proportion of retail deposits;

b) a partial loss of unsecured wholesale funding capacity;

c) a partial loss of secured, short-term financing with certain collateral and counterparties;

d) additional contractual outflows that would arise from a downgrade in the bank's credit rating by up to and including three notches, including collateral posting requirements;

e) increases in market volatilities that impact the quality of collateral or potential future exposure of derivative positions and thus require larger collateral haircuts or additional collateral or lead to other liquidity needs;

f) unscheduled draws on committed but unused credit and liquidity facilities that the bank has provided to its clients; and

g) the potential need for the bank to buy back debt or honour non-contractual obligations in the interest of mitigating reputational risk.

6.4 The stress test scenarios referred to at 5.3 above establishes minimum requirements for financial institutions. However, institutions would be expected to conduct their own stress tests that: -

a) assess the level of liquidity they should hold beyond this minimum;

b) incorporate their own scenarios that could cause difficulties for their specific business activities; and

c) incorporate longer time horizons than the one mandated by the LCR.

The results of these stress tests should be shared with the Central Bank.

6.5 **Individual LCRs should be reported to the Central Bank on a monthly basis and consolidated LCRs must be reported quarterly**. However, licensees and their FHCs must have the operational capacity to increase the frequency of LCR reporting to weekly or even daily in stressed situations at the discretion of the Bank. The time lag in reporting should be as short as feasible and ideally should not surpass 10 working days after the end of the reported month. Licensees and FHCs must also notify the Central Bank immediately if their LCR has fallen, or is expected to fall, below 100%.

6.6 During periods of stress, however, it would be entirely appropriate for banks to use their stock of HQLA, thereby falling below the minimum. The Central Bank will assess each situation and will give guidance on usability of HQLA according to the circumstances.

The Central Bank's Role

6.7 The Central Bank's decision regarding an institution's use of its HQLA will be guided by consideration of the core objective and definition of the LCR. The Central Bank will exercise judgement in its assessment and will also take account of prevailing macro-financial conditions as well as forward-looking assessments.

6.8 The Central Bank will assess conditions at an early stage and take action, where necessary, to address potential liquidity risk. The Central Bank will adopt differentiated responses to a reported LCR below 100%. Such responses will be proportionate to the drivers, magnitude, duration and frequency of the reported shortfall. The Central Bank will also assess a number of firm and market-specific factors in determining the appropriate response, as well as other considerations related to both domestic and global frameworks and conditions.

6.9 The Central Bank will use a range of tools at its disposal to address a reported LCR below 100%. Institutions may use their stock of HQLA in both idiosyncratic and systemic stress events, although the Bank's response may differ between the two. At a minimum, a financial institution should present an assessment of its liquidity position, including the factors that contributed to its LCR falling below 100%, the measures that have been or will be taken, and the expectations on the potential length of the situation. Enhanced reporting to the Central Bank will be required, commensurate with the duration of the shortfall.

6.10 Where appropriate, the Central Bank may also require a financial institution to (a.) reduce its exposure to liquidity risk; (b.) strengthen its overall liquidity risk management; or (c.) improve its contingency funding plan. However, in a situation of sufficiently severe system-wide stress, the impact on the entire financial system will be considered. In addition, potential measures to restore liquidity levels will be discussed, and executed over a period of time considered appropriate to prevent additional stress on the institution and on the financial system as a whole.

7. STOCK OF HIGH QUALITY LIQUID ASSETS (HQLA)

7.1 The stock of unencumbered HQLA is intended to serve as a defence against the potential onset of liquidity stress. **Assets should be included as HQLA only if they can be easily and immediately converted into cash at little or no loss of value**.

7.2 In order to qualify as HQLA, assets should be liquid in markets during a time of stress and, ideally, be central bank eligible. In determining whether liquid assets are of "high quality", consideration should be given to their liquidity generating capacity (by way of sale or repo), which should remain intact even in periods of severe idiosyncratic and market stress. Lower-quality assets typically fail to meet that test.

7.3 Financial institutions would be required to maintain a stock of HQLA determined as follows:

Stock of HQLA=Level 1 Assets +Level 2 Assets, where: -

a) Level 1 assets can be included without limit;

b) Level 2 Assets=Level 2A assets +Level 2B assets; and

c) After the application of relevant haircuts -

i. Level 2 assets (Level 2A assets +Level 2B assets) ≤ 40% HQLA; and

ii. Level 2B assets ≤ 15% HQLA.

Characteristics of HQLA

7.4 Liquid assets must exhibit certain fundamental and market characteristics in order to be classified as HQLA. These are detailed in the following sections.

Fundamental Characteristics

i. **Low risk-** assets that are less risky tend to have higher liquidity. High credit standing of the issuer and a low degree of subordination increase an asset's liquidity. Low duration[6], low market risk, low legal risk, low inflation risk and denomination in a convertible currency with low foreign exchange risk all enhance an asset's liquidity.

[6] Duration measures the price sensitivity of a fixed income security to changes in interest rates.

ii. **Ease and certainty of valuation-** an asset's liquidity increases if market participants are more likely to agree on its valuation. Assets with more standardised, homogenous and simple structures tend to be more fungible, promoting liquidity. The pricing formula of a high-quality liquid asset must be easy to calculate and not depend on strong assumptions. The inputs into the pricing formula must also be publicly available. In practice, this should rule out the inclusion of most structured or exotic products.

iii. **Low correlation with risky assets-** the stock of HQLA should not be subject to wrong-way (highly correlated) risk. For example, assets issued by financial institutions are more likely to be illiquid in times of liquidity stress in the banking sector.

iv. **Listed on a developed and recognised exchange-** being listed increases an asset's transparency.

b) Market-Related Characteristics

i. **Active and sizable market-** the asset should have active outright sale or repo markets at all times. This means that:

1. *There should be historical evidence of market breadth and market depth. This could be demonstrated by low bid-ask spreads, high trading volumes, and a large and diverse number of market participants. Diversity of market participants reduces market concentration and increases the reliability of the liquidity in the market.*

2. *There should be robust market infrastructure in place. The presence of multiple committed, market makers, increases liquidity as quotes will most likely be available for buying or selling HQLA.*

ii. **Low volatility**- assets whose prices remain relatively stable and are less prone to sharp price declines over time will have a lower probability of triggering forced sales to meet liquidity requirements. Volatility of traded prices and spreads are simple proxy measures of market volatility. There should be historical evidence of relative stability of market terms (e.g. prices and haircuts) and volumes during stressed periods.

iii. **Flight to quality**- historically, the market has shown tendencies to move into these types of assets in a systemic crisis. The correlation between proxies of market liquidity and banking system stress is one simple measure that could be used.

Operational Requirements for HQLA

7.5 The operational requirements outlined under this section are designed to ensure that the stock of HQLA is managed in such a way that the financial institution can demonstrate that it can immediately use the stock of assets as a source of contingent funds available for use at any time during the 30-day stress period.

7.6 The funds should be available for the institution to convert into cash through outright sale or repo, to fill funding gaps between cash inflows and outflows at any time during the 30-day stress period, with no restriction on the use of the liquidity generated.

7.7 All assets in the stock of HQLA would be subject to the operational requirements outlined below:

a) A financial institution 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. This requirement for periodic monetization may be satisfied by transactions carried out through a bank's normal course of business.

b) All assets in the stock of HQLA should be unencumbered, as defined in the section 2 ('Definitions'). Accordingly,

i. An asset in the stock of HQLA should not be pledged (either explicitly or implicitly) to secure, collateralise or credit-enhance any transaction, nor be designated to cover operational costs (such as rents and salaries).

ii. Assets received in reverse repo and securities financing transactions that are held at the financial institution can be considered as part of the stock of HQLA where they: -

1. *have not been rehypothecated, and*

2. *are legally and contractually available for the institution's use.*

iii. Assets which qualify for the stock of HQLA that have been pre-positioned or deposited with, or pledged to, the central bank[7] or a public sector entity (PSE) but have not been used to generate liquidity may be included in the stock.

[7] This excludes any central bank reserve requirements.

c) Notwithstanding an asset meeting the definition of unencumbered, a financial institution should exclude it from the stock of HQLA where it does not have the operational capability to monetise the asset to meet outflows during the stress period.

d) Operational capability to monetise assets requires financial institutions to have procedures and appropriate systems in place, including providing the function charged with managing the liquidity of the institution access to all necessary information to execute monetisation of any asset at any time. Monetisation of the asset must be executable, from an operational perspective, in the standard settlement period for the asset class in the relevant jurisdiction.

e) The stock of HQLA should be under the control of the function charged with managing the liquidity of the institution (e.g. treasury). Specifically,

   i. the function should have the continuous authority and legal and operational capability to monetise any asset in the stock;

   ii. control must be evidenced either by maintaining assets in a separate pool managed by the function with the sole intent for use as a source of contingent funds or by demonstrating that the function can monetise the 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. For example, an asset should not be included in the stock if the sale of that asset, without replacement throughout the 30-day period, would remove a hedge that would create an open risk position in excess of internal limits.

f) A financial institution may 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 institution 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.

g) A financial institution should monitor the legal entity and physical location where collateral is held and how it may be mobilised in a timely manner. Specifically, it should have a policy in place that identifies legal entities, geographical locations, currencies and specific custodial or bank accounts where HQLA are held. In addition, the financial institution should determine whether any such assets should be excluded for operational reasons and therefore have the ability to determine the composition and hence the availability of its stock of HQLA on a daily basis.

h) Qualifying HQLA held to meet statutory liquidity requirements at the individual entity or sub-consolidated level may only be included in the stock of HQLA at the consolidated (parent) level to the extent that the related risks (as measured by the individual entity's or sub-consolidated group's net cash outflows in the LCR) are also reflected in the consolidated LCR. Any surplus of HQLA held at the individual entity can only be included in the consolidated stock of the parent if those assets would also be freely available to the consolidated (parent) entity in times of stress.

i) In assessing whether assets are freely transferable for regulatory purposes, financial institutions should be aware that assets may not be freely available to the consolidated (parent) entity due to regulatory, legal, tax, accounting or other impediments. Assets held in legal entities without market access should only be included to the extent that they can be freely transferred to other entities that could monetise the assets.

j) Where repo markets are not large, deep and active in a jurisdiction, a financial institution should exclude those assets from the stock of HQLA eligible assets. Such assets are likely to be monetised through outright sale but there are impediments to sale of these assets, such as large fire-sale discounts, which would cause the institution to breach minimum solvency requirements, or requirements to hold such assets, including but not limited to, statutory minimum inventory requirements for market making.

k) A financial institution should not include in the stock of HQLA any assets, or liquidity generated from assets they have received under right of re-hypothecation[8], if the beneficial owner has the contractual right to withdraw those assets during the 30-day stress period.

l) Assets received as collateral for derivatives transactions that are not segregated and are legally able to be re-hypothecated may be included in the stock of HQLA provided that the financial institution records appropriate outflows for risks associated with derivatives positions taken.

m) A financial institution should actively manage its intraday liquidity positions and risks to meet payment and settlement obligations on a timely basis under both normal and stressed conditions and thus contribute to the smooth functioning of payment and settlement systems. It should be noted that the LCR stress scenario does not cover expected or unexpected intraday liquidity needs.

n) While the LCR is expected to be met and reported in Trinidad and Tobago currency, financial institutions are expected to be able to meet their liquidity needs in each

[8] Re-hypothecation refers to the practice of an institution lending securities that its clients have pledged as collateral.

currency and maintain HQLA consistent with the distribution of their liquidity needs by currency.

o) The financial institution should be able to use the stock of HQLA to generate liquidity in the currency and jurisdiction in which the net cash outflows arise. Accordingly, the LCR by currency should be monitored and reported[9] to allow the institution and the Central Bank to track any potential currency mismatch issues that could arise.

p) In managing foreign exchange liquidity risk, the financial institution should take into account the risk that its ability to swap currencies and access the relevant foreign exchange markets may erode rapidly under stressed conditions. It should be aware that sudden, adverse exchange rate movements could sharply widen existing mismatched positions and alter the effectiveness of any foreign exchange hedges in place.

q) To mitigate cliff effects[10] that could arise, if an eligible liquid asset became ineligible (e.g. due to rating downgrade), a financial institution is permitted to keep such assets in its stock of liquid assets for an additional 30 calendar days. This would allow the institution additional time to adjust its stock as needed or replace the asset.

Diversification of the stock of HQLA

7.8 The stock of HQLA should be well diversified within the asset classes themselves (except for sovereign debt of the institution's home jurisdiction-in this case, Trinidad and Tobago-or from the jurisdiction in which the institution operates).

7.9 Financial institutions should therefore have policies and limits in place to avoid concentration with respect to asset types, issue and issuer types, and currency (consistent with the distribution of net cash outflows by currency) within asset classes.

Composition of HQLA

7.10 There are two categories of assets, Level 1 and Level 2, that can be included in the stock of HQLA. Assets to be included in each category are those that the institution is holding on the first day of the stress period, irrespective of their residual maturity.

7.11 There is no limit on the amount of Level 1 assets that can be included in HQLAs. However,

a) Level 2 assets, which are less liquid than Level 1 assets, may count for only as much as 40% of total HQLA;

[9] LCR by currency is discussed under the section "Monitoring Tools" in this consultation document.
[10] The disproportionately positive or negative results of an action.

b) Furthermore, Level 2A assets may count for all Level 2 assets, whereas Level 2B assets can count for only up to 15% of HQLA;

c) The value of the assets that are included in Level 1 and 2 is limited by certain haircuts or market valuation discounts (described in below);

d) The Central Bank has the authority to revise the LCR haircut or market valuation discount prescribed in this document; and

e) The 40% cap on Level 2 assets and the 15% cap on Level 2B assets must be determined after the application of required haircuts.

7.12 The maximum amount of Level 2 assets is equal to two-thirds of the amount of Level 1 assets after haircuts have been applied. The calculation of the 40% cap on Level 2 assets will take into account any reduction in eligible Level 2B assets on account of the 15% cap on Level 2B assets.

7.13 The maximum amount of Level 2B assets is equal to the ratio of 15/85 times the sum of the amounts of Level 1 and Level 2A assets, or in cases where the 40% cap is binding, up to a maximum of 1/4 times the amount of Level 1 assets, both after haircuts have been applied.

7.14 The formula for the calculation of the stock of HQLA is as follows:

$$Stock\ of\ HQLA = Level\,1 + Level\,2A + Level\,2B - adjustment\ for\ 15\%cap - adjustment\ for\ 40\%cap$$

Where the adjustments for the 15% and the 40% caps are calculated as follows:

$$Adjustment\ for\ 15\%\ cap = \left(\left(Level\ 2B - \frac{15}{85}x(Level\ 1 + Level\ 2A)\right), \left(Level\ 2B - \frac{15}{60}x(Level\ 1)\right), 0\right)$$

$$Adjustment\ for\ 40\%\ cap = \left(\left(Level\ 2A + Level\ 2B - \frac{2}{3}x(Level\ 1)\right), \left(Level\ 2B - \frac{15}{85}x(Level\ 1 + Level\ 2A)\right), 0\right)$$

Level 1 Assets

7.15 Level 1 assets can comprise an unlimited share of the pool and in principle would not be subject to a haircut under the LCR. However, the Central Bank reserves the right to require haircuts for some Level 1 securities based on, among other things, their sensitivity to interest rate and market risk, credit and liquidity risk, and typical repo haircuts.

7.16 Level 1 assets in the stock of HQLA should be measured at an amount no greater than their current market value.

7.17 Level 1 assets are limited to:

Asset	Haircut
Coins and banknotes (including cash items in the process of collection)	0%
Marketable securities representing claims on or guaranteed by sovereigns and central banks, the Bank for International Settlements, the International Monetary Fund, the European Central Bank and European Community, or Multilateral Development Banks (MDBs)[11] satisfying all of the following conditions: a) assigned a 0% risk-weight under the credit risk framework in the Financial Institutions (Capital Adequacy) Regulations, 2020; b) traded in large, deep and active repo or cash markets characterised by a low level of concentration; c) have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions; and d) not an obligation of a financial institution or any of its affiliated entities[12].	
Where the sovereign has a non 0% risk weight under the Financial Institutions (Capital Adequacy) Regulations, sovereign or central bank debt securities issued in domestic currencies by the sovereign or central bank in the country in which the liquidity risk is being taken or in the bank's home country. This category includes securities issued by the Government of Trinidad and Tobago and the Central Bank of Trinidad and Tobago in local currency.	

[11] The classification of asset classes (e.g. sovereign and zero risk weighted MDBS) in this section aligns with the classifications in the Financial Institutions (Capital Adequacy) Regulations 2020.

[12] This requires that the holder of the security must not have recourse to the financial institution or any of the financial institution's affiliated entities. In practice, this means that securities, such as government-guaranteed issuance during the financial crisis, which remain liabilities of the financial institution, would not qualify for the stock of HQLA.

Asset	Haircut
Where the sovereign has a non-0% risk weight, domestic sovereign or central bank debt securities issued in foreign currencies are eligible up to the amount of the bank's stressed net cash outflows in that specific foreign currency stemming from the bank's operations in the jurisdiction where the bank's liquidity risk is being taken. This category includes securities issued by the Government of Trinidad and Tobago and the Central Bank of Trinidad and Tobago, in foreign currency.	

Level 2 Assets

7.18 Level 2 assets held in the stock of HQLA would comprise both Level 2A and Level 2B assets.

7.19 Level 2 assets would be subject to a 40 percent cap of the overall stock of HQLA assets after relevant haircuts have been applied.

Level 2A assets

7.20 Level 2A assets held in the stock of HQLA would be subject to a 15% haircut of their current market value.

7.21 Level 2A assets would include the following:

Asset	Haircut
a) Marketable securities representing claims on or guaranteed by sovereigns and central banks, Public Sector Entities, Multilateral Development Banks (MDBs)[13] satisfying all of the following conditions: b) assigned a 20% risk-weight under the credit risk framework in the Financial Institutions (Capital Adequacy) Regulations, 2020;	

[13] The classification of asset classes (e.g. sovereign and zero risk weighted MDBS) in this section aligns with the classifications in the Financial Institutions (Capital Adequacy) Regulations 2020.

Asset	Haircut
c) traded in large, deep and active repo or cash markets characterised by a low level of concentration; d) have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions (i.e. maximum decline of price not exceeding 10% or increase in haircut not exceeding 10 percentage points over a 30-day period during a relevant period of significant liquidity stress); and e) not an obligation of a financial institution or any of its affiliated entities[14].	15%
Corporate debt securities including commercial paper assigned a credit rating of AA- or higher or a short-term rating equivalent in quality to the long-term rating by a credit rating agency as defined in the Financial Institutions (Capital Adequacy) Regulations, 2020.	

Level 2B assets

7.22 Level 2B assets held in the stock of HQLA would be:

a) subject to a 50% haircut of their current market value;

b) subject to a cap of 15% of the stock of HQLA

7.23 Level 2B assets would include the following: -

Asset	Haircut
Corporate debt securities including commercial paper subject to the following conditions: - a) assigned a long-term credit rating between A+ and BBB- (or its equivalent) or in the absence of a long term rating, a short-	

[14] This requires that the holder of the security not have recourse to the financial institution or any of the financial institution's affiliated entities. In practice, this means that securities, such as government-guaranteed issuance during the financial crisis, which remain liabilities of the financial institution, would not qualify for the stock of HQLA.

term rating equivalent in quality to the long-term rating by a credit rating agency as defined in the Financial Institutions (Capital Adequacy) Regulations, 2020; b) traded in large, deep and active repo or cash markets characterised by a low level of concentration; and c) have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions (i.e. maximum decline of price not exceeding 10% or increase in haircut not exceeding 10 percentage points over a 30-day period during a relevant period of significant liquidity stress).	50%
Common equity shares that satisfy all of the following conditions: - a) not issued by a financial institution or any of its affiliated entities; b) exchange traded and centrally cleared; c) a constituent of the major stock index in the home jurisdiction or where the liquidity risk is taken, as decided by the supervisor in the jurisdiction where the index is located; d) denominated in the domestic currency of a bank's home jurisdiction or in the currency of the jurisdiction where a bank's liquidity risk is taken; e) traded in large, deep and active repo or cash markets characterised by a low level of concentration; and f) 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 decline of share price not exceeding 40% or increase in haircut not exceeding 40 percentage points over a 30-day period during a relevant period of significant liquidity stress).	

8. TOTAL NET CASH OUTFLOWS

General Requirements

8.1 Financial institutions would be required to calculate their total net cash outflows[15] as the total expected cash outflows minus total expected cash inflows in the specified stress scenario for the subsequent 30 calendar days.

8.2 Specifically, total net cash outflows are to be calculated as follows: -

Total net cash outflows over the next 30 calendar days = Total expected cash outflows – Min {total expected cash inflows; 75% of total expected cash outflows}

Where:-

a) 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; and

b) 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 up to an aggregate cap of 75% of total expected cash outflows. This imposes an ongoing requirement that institutions must maintain a minimum stock of HQLAs equivalent to at least 25% of expected cash outflows associated with the 30-day stress scenario.

8.3 **Financial institutions would not be permitted to double count items**. Specifically, if an asset is included as part of the "stock of HQLA" (i.e. the numerator of the LCR), the associated cash inflows cannot also be counted as cash inflows (i.e. part of the denominator of the LCR).

8.4 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 financial institution only has to assume up to the maximum contractual outflow for that product.

[15] Where applicable, cash inflows and outflows should include interest that is expected to be received and paid during the 30-day time horizon.

EXPECTED CASH OUTFLOWS

Retail Deposits

8.5 For the purpose of the LCR, retail deposits are defined as deposits placed with an institution by a natural person. Deposits from legal entities, sole proprietorships or partnerships are captured in wholesale deposit categories. Retail deposits subject to the LCR include demand deposits and term deposits, unless otherwise excluded under the criteria set out in 8.13 to 8.18.

8.6 Retail deposits under the LCR are divided into "stable" and "less stable" portions of funds as described below, with minimum run-off rates listed for each category.

Deposit	Run-Off Rate
Stable Deposits	5%
Less Stable deposits	10%

Stable Deposits

8.7 Stable deposits are the amount of the deposits that are fully insured[16] by the Deposit Insurance Corporation, Trinidad and Tobago ("DIC)") or by any other effective deposit insurance scheme or public guarantee that provides equivalent protection and where:

a) the depositors have other established relationships with the institution that make deposit withdrawal highly unlikely; or

b) the deposits are held in transactional accounts.

Effective Deposit Insurance Scheme

8.8 For the purpose of the LCR, an "effective deposit insurance scheme" refers to a scheme: -

a) that guarantees that it has the ability to make prompt payouts;

b) for which the coverage is clearly defined; -

[16] "Fully insured" means that 100% of the deposit amount, up to the deposit insurance limit, is covered by an effective deposit insurance scheme. Deposit balances up to the deposit insurance limit can be treated as "fully insured" even if a depositor has a balance in excess of the deposit insurance limit. Any amount in excess of the deposit insurance limit is to be treated as "less stable".

c) of which public awareness is high, and

d) in which the deposit insurer has formal legal powers to fulfil its mandate an is operationally independent, transparent and accountable.

8.9 For the avoidance of doubt, the DIC will be considered an effective deposit insurance scheme.

8.10 Subject to the approval of the Central Bank, a financial institution may treat an explicit and legally binding sovereign deposit guarantee that effectively functions as deposit insurance as an effective deposit insurance scheme.

8.11 For the purposes of paragraph 8.7 a), a retail deposit would be considered to be part of an "established relationship" where the depositor meets at least one of the following criteria:

a) has an active contractual relationship with the financial institution for at least 12 months duration;

b) has a borrowing relationship with the financial institution for residential mortgage loans or other long term loans;

c) has at least one other active product, other than a loan, with the financial institution.

8.12 For the purposes of paragraph 8.7 b), a retail deposit shall be considered as being "held in a transactional account" where salaries, income or transactions are regularly credited and debited respectively against that account.

Less Stable Deposits

8.13 Retail deposits that do not satisfy the criteria of "stable deposits" should be classified as "less stable deposits".

8.14 Where a financial institution is not able to readily identify which retail deposits would qualify as "stable" it should place the full amount in the "less stable" bucket.

8.15 Foreign currency deposits raised by an institution in Trinidad and Tobago should be considered "less stable" given that they are not covered by deposit insurance. The Central Bank reserves the right to apply a higher run-off rate to less stable deposits in foreign currency where it believes that such deposits are more volatile than domestic currency deposits. Factors affecting the volatility of foreign currency deposits include the type and sophistication of the depositors, and the nature of such deposits (e.g. whether the deposits are linked to business needs in the same currency or whether the deposits are placed in a search for yield).

Retail Term Deposits (residual maturity or withdrawal notice period greater than 30 days)

8.16 Cash outflows related to retail term deposits with a residual maturity or withdrawal notice period of greater than 30 days should be excluded from total expected cash outflows if the depositor has no legal right to withdraw deposits within the 30-day horizon of the LCR.

8.17 A 0% run off rate would therefore be applied to retail term deposits referred to in paragraph 0.

8.18 Where a financial institution allows a depositor to withdraw the deposits referred to in paragraph 8.16, notwithstanding contractual provisions curtailing the depositor's right to withdraw, the entire category of these funds should be subject to deposit run-off rates for retail deposits.

8.19 Term deposits from small business customers should be treated in accordance with the treatment for retail term deposits discussed at 8.16 - 8.18 above.

Unsecured Wholesale Funding

8.20 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. Obligations related to derivative contracts are excluded from this definition. These would include:

a) any liability which the institution expects to fulfil within the next 30 calendar days, notwithstanding its contractual maturity;

b) all wholesale funding that is callable or has an earliest contractual maturity date within the next 30 calendar days (such as maturing term deposits and unsecured debt securities); and

c) funding with an undetermined maturity.

8.21 For the purposes of the LCR, unsecured wholesale funding excludes:

a) wholesale funding that is callable[17] by the funds provider subject to a contractually defined and binding notice period surpassing the 30-day horizon;

b) obligations related to derivative contracts.

8.22 Unsecured wholesale funding should be categorised in accordance with the sections below, based on the assumed sensitivity of the funds providers to the rate offered and the credit quality and solvency of the borrowing institution[18]. The run-off rates for the scenario are listed for each category.

Unsecured wholesale funding provided by small business customers: 5%, 10% and higher

8.23 Unsecured wholesale funding provided by small business customers is to be treated the same way as retail deposits for the purposes of the LCR, effectively distinguishing between a "stable" portion of funding provided by small business customers and the "less stable funding". The same bucket definitions and associated run-off factors apply as for retail deposits (i.e. 5% and 10%)

8.24 This category consists of deposits and other extensions of funds made by **non-financial small business customers**. For the purposes of the run-off rates under this section, small business customers are small business entities defined in accordance with the Financial Institutions (Capital Adequacy) Regulations, 2020 which are: -

a) managed as retail exposures; or

b) generally considered as having similar liquidity risk characteristics to retail accounts provided the total aggregated funding[19] raised from one small business customer is less $2.5 million (on a consolidated basis where applicable).

[17] This takes into account any embedded options linked to the funds provider's ability to call the funding before contractual maturity.

[18] This is determined by the type of funds providers and their level of sophistication, as well as their operational relationships with the bank.

[19] "Aggregated funding" means the gross amount (i.e. not netting any form of credit extended to the legal entity) of all forms of funding (e.g. deposits or debt securities or similar derivative exposure for which the counterparty is known to be a small business customer). In addition, applying the limit on a consolidated basis means that where one or more small business customers are affiliated with each other, they may be considered as a single creditor such that the limit is applied to the total funding received by the financial institution from this group of customers.

Operational deposits generated by clearing, custody and cash management activities (Run-off Rate 25%)

8.25 Certain banking activities lead to financial and non-financial customers needing to place, or leave deposits with a financial institution in order to facilitate their access and ability to use payment and settlement systems and otherwise make payments.

8.26 Operational deposits refer to deposits placed by customers with a financial institution arising from qualifying clearing, custody or cash management activities (subject to the conditions set out in 8.28).

8.27 A financial institution may assign a 25 percent run-off factor to operational deposits only if the customer has a substantive dependency with the institution and the deposit is required for such activities. **Institutions must seek the Central Bank's prior approval for such accounts and the Bank may choose not to allow the institutions to use operational deposit run-off rates in certain cases**.

8.28 For the purposes of the LCR, in order to be considered as qualifying activities, financial institutions should ensure that clearing, custody or cash management activities satisfy the following criteria:

a) The customer is reliant on the financial institution 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 financial institution is aware that the customer has adequate back-up arrangements.

b) These services must be provided under a legally binding agreement to institutional customers.

c) The termination of such agreements should be subject either to a notice period of at least 30 days or significant switching costs (such as those related to transaction, information technology, early termination or legal costs) to be borne by the customer if the operational deposits are moved before 30 days.

8.29 To be considered a qualifying operational deposit, financial institutions should ensure that the operational deposits are:

a) by-products of the underlying services provided by the financial institution and not sought out in the wholesale market in the sole interest of offering interest income; or

b) 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. Where interest rates in a jurisdiction are close to zero, it would be expected that such accounts are non-interest bearing. Financial institutions should be particularly aware that during prolonged periods of low interest rates, excess balances (as defined at 8.30 below) could be significant.

8.30 Any excess balances that could be withdrawn and would still leave enough funds to fulfil these clearing, custody and cash management activities do not qualify for the 25% factor. In other words, only that part of the deposit balance with the service provider that is proven to serve a customer's operational needs can qualify as stable.

8.31 Excess balances should be treated in the appropriate category for non-operational deposits. If institutions are unable to determine the amount of the excess balance, then the entire deposit should be assumed an excess balance and therefore considered non-operational.

8.32 Accordingly, financial institutions must develop a methodology for identifying excess deposits that are excluded from the treatment set out under this section. This assessment should be conducted at a sufficiently granular level to adequately assess the risk of withdrawal in an idiosyncratic stress. The methodology should 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.

8.33 Operational deposits would receive a 0% run-off rate for the depositing institution given that these deposits are required for operational reasons and are therefore not available to the depositing institution to repay other outflows.

8.34 Notwithstanding these operational categories, if the deposit under consideration arises out of correspondent banking or from the provision of prime brokerage services, it should be treated as a non-operational deposit and assigned a 100% run-off rate.

8.35 The following paragraphs set out the type of activity that could constitute clearing, custody and cash management relationships for the purposes of the LCR. However, banks should assess whether the presence of such an activity does indeed generate an operational deposit (as not all such activities qualify due to differences in customer dependency, activity, and practices).

a) A **clearing relationship,** in this context, refers to a service arrangement that enables customers to transfer funds (or securities) indirectly through direct participants in domestic settlement systems to final recipients. Such services are limited to the following activities:

i. transmission, reconciliation and confirmation of payment orders;

ii. daylight overdraft, overnight financing and maintenance of post-settlement balances; and

iii. determination of intraday and final settlement positions.

b) **A custody relationship**, in this context, refers to the provision of safekeeping, reporting, processing of assets, or the facilitation of the operational and administrative elements of related activities on behalf of customers in the process of their transacting and retaining financial assets. Such services are limited to the settlement of securities transactions, the transfer of contractual payments, the processing of collateral, and the provision of custody related cash management services. Also included are the receipt of dividends and other income, client subscriptions and redemptions. Custodial services can furthermore extend to asset and corporate trust servicing, treasury, escrow, funds transfer, stock transfer and agency services, including payment and settlement services (excluding correspondent banking), and depository receipts.

c) A **cash management relationship,** in this context, refers to the provision of cash management and related services to customers. Cash management services, in this context, refers to those products and services provided to a customer to manage its cash flows, assets and liabilities, and conduct financial transactions necessary to the customer's ongoing operations. Such services are limited to payment remittance, collection and aggregation of funds, payroll administration, and control over the disbursement of funds.

8.36 The portion of the operational deposits generated by clearing, custody and cash management activities that is fully covered by deposit insurance may receive the same treatment as "stable" retail deposits, i.e. a 5% run off rate will apply.

Unsecured wholesale funding provided by non-financial corporates and sovereigns, central banks, multilateral development banks, and PSEs (Run-Off Rates 20% and 40%)

8.37 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 public sector entity (PSE) customers, that are not specifically held for operational purposes.

8.38 A 40% run-off rate should apply to funds in this category. However, a 20% run off rate may apply 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.

Unsecured wholesale funding provided by other legal entity customers (Run-off Rate-100%)

8.39 This category consists of all deposits and other funding from other institutions (including banks, securities firms, insurance companies, etc.), fiduciaries[20], beneficiaries[21], conduits and special purpose vehicles, affiliated entities of the financial institution[22] and other entities, that are not specifically held for operational purposes and not included in the prior categories. A 100% run-off rate will apply to such funds.

8.40 All notes, bonds and other debt securities issued by the institution are 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 treated as retail per paragraphs 8.23 to 8.24), in which case the instruments can be treated in the appropriate retail or small business customer deposit category.

8.41 To be treated as "*sold exclusively in the retail market and held in retail accounts*" as discussed in 8.40 above, it is not sufficient that the debt instruments are specifically designed and marketed to retail or small business customers. Rather there should be limitations placed such that those instruments cannot be bought and held by parties other than retail or small business customers.

8.42 Customer cash balances arising from the provision of prime brokerage services, including but not limited to the cash arising from prime brokerage services, should be considered separate from any required segregated balances related to client protection regimes imposed by law, and should not be netted against other customer exposures included for these purposes. These offsetting balances held in segregated accounts are treated as (other wholesale) inflows and excluded from the stock of HQLAs.

Secured Wholesale Funding

8.43 For the purposes of the LCR, "*secured funding*" is defined as those 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. Unless the counterparty is a central bank, secured funding does not include transactions collateralised by assets that are not tradable in financial markets such as property, plant and equipment.

[20] Fiduciary is defined in this context as a legal entity that is authorised to manage assets on behalf of a third party. Fiduciaries include asset management entities such as pension funds and other collective investment vehicles.

[21] Beneficiary is defined in this context as a legal entity that receives, or may become eligible to receive, benefits under a will, insurance policy, retirement plan, annuity, trust, or other contract.

[22] Outflows on unsecured wholesale funding from affiliated entities of the institution are included in this category unless the funding is part of an operational relationship, a deposit in an institutional network of cooperative banks or the affiliated entity of a non-financial corporate.

8.44 Secured funding transactions include:

a) repurchase and reverse repurchase agreements including collateral swaps and any other transaction with similar characteristics;

b) collateral lent to customers to effect short positions[23].

Loss of secured funding on short-term financing transactions

8.45 In this scenario, the ability to continue to transact repurchase, reverse repurchase and other securities financing transactions is limited to transactions backed by HQLA or with the institution's domestic sovereign, PSE or central bank. Collateral swaps must be treated as repurchase or reverse repurchase agreements, as must any other transaction with a similar form. Additionally, collateral lent to the bank's customers to effect short positions must be treated as a form of secured funding.

8.46 A financial institution should apply the run-off factors set out under this section to all outstanding secured funding transactions with maturities within the 30 calendar day stress horizon, including customer short positions that do not have a specified contractual maturity. The amount of outflow should be calculated based on the amount of funds raised through the transaction and not the value of the underlying collateral.

8.47 Due to the high-quality of Level 1 assets, no reduction in funding availability against these assets is assumed to occur. Moreover, no reduction in funding availability is expected for any maturing secured funding transactions with the bank's domestic central bank.

8.48 A reduction in funding availability must be assigned to maturing transactions backed by Level 2 assets equivalent to the required haircuts. A 25% factor should be applied for maturing secured funding transactions with the bank's domestic sovereign, multilateral development banks, or domestic PSEs that have a 20% or lower risk weight, when the transactions are backed by assets other than Level 1 or Level 2A assets[24].

8.49 The treatment referred to at 8.48 above, may be applied only to outstanding secured funding transactions. Unused collateral or merely the capacity to borrow, as determined at the end of the day for the reporting date, would not benefit from this treatment.

[23] A customer short position in this context describes a transaction where a bank's customer sells a security it does not own, and the bank subsequently obtains the same security from internal or external sources to make delivery into the sale. Internal sources include the bank's own inventory of collateral as well as rehypothecatable collateral held in other customer margin accounts. External sources include collateral obtained through a securities borrowing, reverse repo, or like transaction.

[24] This recognizes that these entities are unlikely to withdraw secured funding from banks in a time of market-wide stress.

8.50 For all other maturing transactions, a run-off factor of 100% should be applied, including transactions where a bank has satisfied customers' short positions with its own long inventory.

8.51 The table below summarises the outflow rates applicable to transactions maturing within 30 days.

Categories for outstanding maturing secured funding transactions	Run-Off Rates
Backed by Level 1 assets or with central banks.	0%
Backed by Level 2A assets.	15%
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.)**	25%
Backed by Level 2B assets	50%
All others	100%

Additional Requirements

Derivative Cash Outflows (Run-Off Rate=100%)

8.52 The sum of all net derivative cash outflows should receive a 100% run off factor. Financial institutions should calculate, in accordance with their existing valuation methodologies, expected contractual derivative cash inflows and outflows.

8.53 Cash flows may be calculated on a net basis (i.e. inflows can offset outflows) by counterparty, only where a valid master netting agreement exists.

8.54 Financial institutions should exclude from such calculations those liquidity requirements that would result from valuation changes on collateral posted or market value movements in derivatives or other transactions (see paragraphs 8.60-8.63 and 8.67-8.71, respectively).

Options should be assumed to be exercised when they are 'in the money' to the option buyer.

8.55 A financial institution may calculate cash outflows net of any corresponding cash or collateral inflows that would result from contractual obligations for cash or collateral to be provided to the institution, where:-

a) derivative payments are collateralized by HQLA; and

b) the financial institution is legally entitled and operationally capable of re-using the collateral in new cash raising transactions once the collateral is received.

Increased liquidity needs related to downgrade triggers embedded in financing transactions, derivatives and other contracts (Run-off rate=100%)

8.56 For each contract in which "downgrade triggers" exist, a financial institution should apply 100% of the additional collateral or cash outflow for any downgrade, up to and including a 3-notch downgrade of the institution's long-term credit rating.

8.57 "Downgrade triggers" refer to situations in which a financial institution has contracts governing derivatives and other transactions, which have clauses that require the posting of additional collateral, drawdown of contingent facilities, or early repayment of existing liabilities upon the institution's downgrade by a recognised credit rating agency.

8.58 Triggers linked to an institution's short-term rating should be assumed to be triggered at the corresponding long-term rating in accordance with published ratings criteria.

8.59 The impact of the downgrade should consider impacts on all types of margin collateral and contractual triggers which change re-hypothecation rights for non-segregated collateral.

Increased liquidity needs related to the potential for valuation changes on posted collateral securing derivative and other transactions[25]: (Run-off Rate= 0%, 20%)

8.60 A 0% run off rate will apply where counterparties in a derivative transaction use Level 1 liquid asset securities (including cash or sovereign, central bank, multilateral development banks, or PSE debt securities with a 0% risk weight under the Capital Regulation 2020) to secure the mark to market value of their positions.

8.61 Where counterparties use other forms of collateral to secure the mark-to-market value of the exposure, to cover the potential loss of market value on those securities, a run-off rate

[25]Market practices indicates that most counterparties to derivatives transactions are typically required to secure the mark-to-market valuation of their positions.

equivalent to 20% of the value of all such posted collateral (net of collateral received on a counterparty basis[26]) will be required of the institution posting such collateral.

8.62 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.

8.63 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.

Increased liquidity needs related to excess non-segregated collateral held by the bank that could contractually be called at any time by the counterparty (run-off rate=100%)

8.64 A 100% run off rate should be applied to non-segregated collateral that could contractually be recalled by the counterparty. This is appropriate because the collateral is in excess of the counterparty's current collateral requirements.

Increased liquidity needs related to contractually required collateral on transactions for which the counterparty has not yet demanded the collateral be posted: (run-off rate =100%)

8.65 A 100% run off rate should be applied to collateral that is contractually due but the counterparty has not yet demanded the posting of such collateral.

Increased liquidity needs related to contracts that allow collateral substitution to non-HQLA assets (run-off rate=100%)

8.66 A 100% run off rate should be applied to the amount of HQLA collateral that can be substituted for non-HQLA assets without the institution's consent. This applies to collateral that has been received by the institution to secure transactions that have not been segregated.

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

8.67 As market practice requires collateralisation of mark-to-market exposures on derivative and other transactions, institutions face potentially substantial liquidity risk exposures to these valuation changes.

8.68 Inflows and outflows of transactions executed under the same master netting agreement can be treated on a net basis.

[26]Provided that the collateral received is not subject to restrictions on reuse or re-hypothecation.

8.69 Any outflow generated by increased needs related to market valuation changes should be included in the LCR calculated by identifying the largest absolute net 30-day collateral flow realised during the preceding 24 months.

8.70 The absolute net collateral flow should be based on both realised outflows and inflows.

8.71 The Central bank reserves the right to adjust this treatment according to circumstances.

Loss of funding on asset-backed securities[27], covered bonds and other structured financing instruments (outflow rate-100%)

8.72 A 100% outflow rate should be applied to funding transactions maturing within the 30-day period, when these instruments are issued by the institution itself[28].

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

8.73 Where the structured financing activities of a financial institution are conducted through a special purpose vehicle (SPV)[29] the institution should, in determining the HQLA requirements, look through to the maturity of the debt instruments issued by the SPV and any embedded options in financing arrangements that may potentially trigger the "return" of assets or the need for liquidity, whether or not the SPV is consolidated as set out on in the table below:

Potential Risk Element	HQLA Required
Debt maturing within the calculation period	100% of maturing amount
Embedded options in financing arrangements that allow for the return of assets or potential liquidity support	100% of the amount of assets that could potentially be returned, or the liquidity required

[27] To the extent that sponsored conduits/SPVs are required to be consolidated under liquidity requirements, their assets and liabilities will be taken into account.
[28] This assumes that the re-financing market will not exist.
[29] A special purpose vehicle (SPV) is defined in the Regulations as a corporation, trust, or other entity organised for a specific purpose, the activities of which are limited to those appropriate to accomplish the purpose of the SPV, and the structure of which is intended to isolate the SPV from the credit risk of an originator or seller of exposures. SPVs are commonly used as financing vehicles in which exposures are sold to a trust or similar entity in exchange for cash or other assets funded by debt issued by the trust.

Drawdowns on committed credit and liquidity facilities

8.74 For the purpose of the LCR: -

a) credit and liquidity facilities are defined as explicit contractual agreements or obligations to extend funds at a future date to retail or wholesale counterparties;

b) credit and liquidity facilities only include contractually irrevocable ("committed") or conditionally revocable agreements to extend funds in the future; and

c) unconditionally revocable 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) are excluded from this section and included in "Other Contingent Funding Liabilities".

8.75 These off-balance sheet facilities or funding commitments can have long or short-term maturities, with short-term facilities frequently renewing or automatically rolling-over.

8.76 All facilities that are assumed to be drawn will remain outstanding at the amounts assigned throughout the duration of the stress test regardless of maturity.

8.77 The currently undrawn portion of these facilities should be calculated net of any eligible HQLA, if the: -

a) HQLA have already been posted as collateral by the counterparty to secure the facilities or are contractually obliged to be posted when the counterparty will draw down the facility (e.g. a liquidity facility structured as a repo facility);

b) institution 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; and

c) collateral is not already counted in the stock of HQLA.

8.78 A **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, etc.).

8.79 For the purpose of the LCR, the amount of the commitment to be treated as a 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.

8.80 Any additional capacity of the facility (i.e. the remaining commitment) should be treated as a committed credit facility with its associated drawdown rate as specified in paragraph 8.84 below.

8.81 General working capital facilities for corporate entities (e.g. revolving credit facilities in place for general corporate or working capital purposes) should not be classified as liquidity facilities, but as credit facilities.

8.82 Notwithstanding the above, any facilities provided to hedge funds, money market funds and special purpose funding vehicles, for example, SPVs or conduits or other vehicles used to finance the institution's own assets, should be captured in their entirety as a liquidity facility to other legal entities.

8.83 For that portion of financing programs that are maturing or have liquidity puts that may be exercised in the 30-day horizon, institutions that are providers of associated liquidity facilities do not need to double count the maturing financing instrument and the liquidity facility for consolidated programs.

8.84 Any contractual loan drawdowns from committed facilities[30] and estimated drawdowns from revocable facilities within the 30-day period should be fully reflected as outflows as follows:-

a) *Committed credit and liquidity facilities to retail and small business customers*: Institutions should assume a 5% drawdown of the undrawn portion of these facilities.

b) *Committed credit facilities to non-financial corporates, sovereigns and central banks, PSEs and multilateral development banks*: Institutions should assume a 10% drawdown of the undrawn portion of these credit facilities.

c) *Committed liquidity facilities to non-financial corporates, sovereigns and central banks, PSEs, and multilateral development banks*: Institutions should assume a 30% drawdown of the undrawn portion of these liquidity facilities.

[30] Committed facilities refer to those which are irrevocable.

d) *Committed credit and liquidity facilities extended to banks subject to prudential supervision*: Institutions should assume a 40% drawdown of the undrawn portion of these facilities.

e) *Committed credit facilities to other financial institutions including securities firms, insurance companies, fiduciaries and beneficiaries*: Institutions should assume a 40% drawdown of the undrawn portion of these credit facilities.

f) *Committed liquidity facilities to other financial institutions including securities firms, insurance companies, fiduciaries, and beneficiaries*: Institutions should assume a 100% drawdown of the undrawn portion of these liquidity facilities.

g) *Committed credit and liquidity facilities to other legal entities (including SPVs), conduits and special purpose vehicles and other entities not included in the prior categories*: Institutions should assume a 100% drawdown of the undrawn portion of these facilities.

Contractual obligations to extend funds within a 30-day period

8.85 Any contractual lending obligations to financial institutions not captured elsewhere in this standard should be captured at a 100% outflow rate.

8.86 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 categories) exceeds 50% of the total contractual inflows due in the next 30 calendar days from these clients, the difference should be reported as a 100% outflow.

Trade Finance Instruments-Contingent Funding Obligations

8.87 A run off rate of 5% should apply to contingent funding obligations stemming from trade finance instruments.

8.88 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.

8.89 Lending commitments, such as direct import or export financing for non-financial corporate firms, are excluded from the treatment set out under this section and should be treated in accordance with paragraph 8.84.

Other contingent funding obligations (run-off-100%)

8.90 The contingent funding obligations referred to in this section may be either contractual or non-contractual and are not lending commitments.

8.91 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.

8.92 Non-contractual obligations may be embedded in financial products and instruments sold, sponsored, or originated by the institution 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 institution or otherwise impair ongoing viability.

8.93 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.

8.94 Non-contractual contingent funding obligations related to potential liquidity draws from joint ventures or minority investments in entities, which are not consolidated, should be captured where there is the expectation that the bank will be the main liquidity provider when the entity is in need of liquidity.

8.95 Other contingent funding obligations include products and instruments such as:

a) unconditionally revocable "uncommitted" credit and liquidity facilities;

b) guarantees and letters of credit unrelated to trade finance obligations;

c) non-contractual obligations such as:

i. potential requests for debt repurchases of the institution’s own debt or that of related conduits, securities investment vehicles and other such financing facilities;

ii. structured products where customers anticipate ready marketability, such as adjustable rate notes and variable rate demand notes (VRDNs); and

iii. managed funds that are marketed with the objective of maintaining a stable value such as money market mutual funds or other types of stable value collective investment funds, etc.

d) For issuers with an affiliated dealer or market maker, an amount of the outstanding debt securities (unsecured and secured, term as well as short-term) having maturities greater than 30 calendar days should be included to cover the potential repurchase of such outstanding securities.

e) Non-contractual obligations where customer short positions are covered by other customers' collateral i.e. where institutions have internally matched client assets against other clients' short positions where the collateral does not qualify as Level 1 or Level 2, and where the bank may be obligated to find additional sources of funding for these positions in the event of client withdrawals.

Other Contractual Cash Outflows (run-off rate-100%)

8.96 Any other contractual cash outflows within the next 30 calendar days should be captured in this standard and assigned a 100% run-off rate including outflows to cover unsecured collateral borrowings, uncovered short positions, dividends or contractual interest payments, with explanation given as to what comprises this bucket.

8.97 Outflows related to operating costs, however, are not included in the LCR.

9. EXPECTED CASH INFLOWS

9.1 When considering its available cash inflows, a financial institution should 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 30-day time horizon.

9.2 Contingent inflows should not be included in total net cash inflows.

Cap on total inflows

9.3 In order to prevent institutions from relying solely on anticipated inflows to meet their liquidity requirement and to ensure a minimum level of HQLA holdings, the amount of inflows that can offset outflows is capped at 75% of total expected cash outflows. This requires a financial institution to maintain a minimum stock of HQLA equal to 25% of the total cash outflows.

9.4 Under the LCR, cash inflows are broken down into four broad categories, which are described in the paragraphs below:

a) Secured Lending Inflows;

b) Inflows Relating to Committed Facilities;

c) Inflows from Specified Counterparties; and

d) Other Cash Inflows.

a) Secured lending inflows, including reverse repos and securities borrowing

i. A financial institution must assume that maturing reverse repurchase or securities borrowing agreements secured by Level 1 assets will be rolled-over and will not give rise to any cash inflows (0%).

ii. Maturing reverse repurchase or securities lending agreements secured by Level 2 HQLA will lead to cash inflows equivalent to the relevant haircut for the specific assets.

iii. A financial institution is assumed not to roll-over maturing reverse repurchase or securities borrowing agreements secured by non-HQLA assets, and can assume to receive back 100% of the cash related to those agreements.

iv. Collateralized loans extended to customers for the purpose of taking leveraged trading positions ("margin loans") should also be considered as a form of secured lending. However, for the purpose of the LCR, institutions may recognize no more than 50% of contractual inflows from maturing margin loans made against non-HQLA collateral. This treatment is in line with the assumptions outlined for secured funding in the outflows section.

v. As an exception to paragraph iv. above, if the collateral obtained through reverse repo, securities borrowing, or collateral swaps, which matures within the 30-day horizon, is re-used (i.e. re-hypothecated) and is used to cover short positions that could be extended beyond 30 days, a financial institution should assume that such reverse repo or securities borrowing arrangements will be rolled-over and will not give rise to any cash inflows (0%), reflecting its need to continue to cover the short position or to re-purchase the relevant securities.

vi. Short positions referred to in v. include both instances where in its 'matched book' the institution sold short a security outright as part of a trading or hedging strategy and instances where the institution is short a security in the 'matched' repo book (i.e. it has borrowed a security for a given period and lent the security out for a longer period).

Maturing secured lending transactions backed by the following asset category	Inflow rate (if collateral is not used to cover short positions)	Inflow rate (if collateral is used to cover short positions)
Level 1 assets	0%	0%
Level 2A assets	15%	0%
Level 2B assets	50%	0%
Margin lending backed by all other collateral	50%	0%
Other collateral	100%	0%

vii. In the case of an institution's short positions, if the short position is being covered by an unsecured security borrowing, the institution 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.

viii. Short positions (as referred to at vii.) should be recorded as a 100% other contractual outflow (as discussed at paragraph 7.96 above). If, however, the institution's short position is being covered by a collateralised securities financing transaction, the institution should assume the short position will be maintained throughout the 30-day period and receive a 0% outflow.

ix. Despite the roll-over assumptions in paragraphs i to vi., an institution should 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. This is especially the case for non-HQLA collateral, since such outflows are not captured in the LCR framework.

b) Committed facilities

i. No credit facilities, liquidity facilities or other contingent funding facilities that an institution holds at other institutions for its own purposes are assumed to be able to be drawn. Such facilities receive a 0% inflow rate.

ii. This is to reduce the contagion risk of liquidity shortages at one institution causing shortages at other institutions and to reflect the risk that other institutions may not be in a position to honour credit facilities, or may decide to incur the legal and reputational risk involved in not honouring the commitment, in order to conserve their own liquidity or reduce their exposure to that institution.

c) Other inflows by counterparty

i. For all other types of transactions, either secured or unsecured, the inflow rate should be determined by counterparty. In order to reflect the need for a financial institution to conduct ongoing loan origination/roll-over with different types of counterparties, even during a time of stress, a set of limits on contractual inflows by counterparty type is applied.

ii. When considering loan payments, the institution should only include inflows from fully performing loans. Further, inflows should only be taken at the latest possible date, based on the contractual rights available to counterparties. For revolving credit facilities, this assumes that the existing loan is rolled over and that any remaining balances are treated in the same way as a committed facility in accordance with paragraph 7.84.

iii. Inflows from loans that have no specific maturity (i.e. have non-defined or open maturity) should not be included. Therefore, no assumptions should be applied as to when maturity of such loans would occur. 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 should be captured as inflows at the rates prescribed in paragraphs 8.19 and 8.20 below.

Retail and small business customer inflows

iv. This scenario assumes that institutions may receive all payments (including interest payments and instalments) from retail and small business customers that are fully performing and contractually due within a 30-day horizon. At the same time, however, institutions are assumed to continue to extend loans to retail and small business customers, at a rate of 50% of contractual inflows. This results in a net inflow of 50% of the contractual amount.

Other wholesale inflows

v. This scenario assumes that institutions may receive all payments (including interest payments and instalments) from wholesale customers that are fully performing and contractually due within the 30-day horizon. In addition, institutions are assumed to continue to extend loans to wholesale clients, at a rate of 0% of inflows for financial institutions and central banks, and 50% for all others, including non-financial corporates, sovereigns, multilateral development banks, and PSEs. This will result in an inflow percentage of: -

1. *100% for financial institution and central bank counterparties; and*
2. *50% for non-financial wholesale counterparties.*

vi. Inflows from securities maturing within 30 days not included in the stock of HQLA should be treated in the same category as inflows from financial institutions (i.e. 100% inflow). Institutions may also recognise in this category, inflows from the release of balances held in segregated accounts in accordance with regulatory requirements for the protection of customer trading assets, provided that these segregated balances are maintained in HQLA. This inflow should be calculated in line with the treatment of other related outflows and inflows covered in this standard. Level 1 and Level 2 securities maturing within 30 days should be included in the stock of liquid assets, provided that they meet all operational and definitional requirements set out in this document.

Operational deposits

vii. Deposits held at other financial institutions for operational purposes such as for clearing, custody, and cash management purposes, as defined in sections 7.25-7.36, are assumed to stay at those institutions, and no inflows can be counted for these funds – i.e. they will receive a 0% inflow rate.

viii. As a general principle, if the bank receiving the deposit classifies the deposit as operational, the bank placing it should also classify it as an operational deposit. Notwithstanding, the exclusion of deposit liabilities raised from correspondent banking activities from the treatment of operational deposits, as described in 0, 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 for which the institution is able to determine that the funds are "excess balances" in the sense of 7.30-7.32, i.e. they are not tied to operational purposes and may be withdrawn within 30 days.

d) Other cash inflows

Derivatives cash inflows

i. The sum of all net cash inflows should receive a 100% inflow factor. The amounts of derivatives cash inflows and outflows should be calculated in accordance with the methodology described in the paragraphs 7.52-7.54 of the section 'Derivative Cash Outflows' above.

ii. Where derivatives are collateralised by HQLA, cash inflows should be calculated net of any corresponding cash or contractual collateral outflows that would result, all other things being equal, from contractual obligations for cash or collateral to be posted by the bank, given these contractual obligations would reduce the stock of HQLA. This is in accordance with the principle that banks should not double-count liquidity inflows or outflows.

Other contractual cash inflows

iii. Cash inflows related to non-financial revenues are not taken into account in the calculation of the net cash outflows for the purposes of this standard.

iv. Under the LCR, all other contractual cash inflows not included elsewhere in this document should be ascribed a cash inflow rate of 50%.

[**Note: Paragraph 160 of the BIS document states "*Other contractual cash inflows should be captured here, with explanation given to what comprises this bucket. Inflow percentages should be determined as appropriate for each type of inflow by supervisors in each jurisdiction*." In the absence of data, the Central Bank proposes to ascribe a blanket/median 50%. The institutions may be able to provide further guidance etc. during the consultation/QIS. Your feedback is required on the types of "other contractual cash inflows that may be considered here and the appropriateness of the 50% risk weight**].

10. MONITORING TOOLS

10.1 In addition to the LCR, the monitoring tools discussed in this section capture specific information related to an institution's cash flows, balance sheet structure, available unencumbered collateral and certain market indicators.

10.2 These monitoring tools and metrics together with the LCR standard provide the cornerstone of information that should aid the institution and the Central Bank in assessing liquidity risk. These tools should therefore be monitored consistently by both institutions and the Central Bank.

10.3 Notwithstanding the monitoring tools set out in this section, the Central bank may impose any other liquidity metric or tool that would complement its assessment of liquidity risk of institutions or the system as a whole.

10.4 The Central Bank may take action where, in utilising these metrics, potential liquidity difficulties are signalled through a negative trend in the metrics, a deteriorating liquidity position is identified, or when the absolute result of the metric identifies a current or potential liquidity problem.

10.5 The following monitoring tools are set out under this section, the specifics of which are detailed in the ensuing paragraphs:

a) Contractual maturity mismatch;

b) Concentration of funding;

c) Available unencumbered assets;

d) LCR by significant currency; and

e) Market-related monitoring tools.

a) Contractual Maturity Mismatch

i. 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 an institution would potentially need to raise in each of these time bands if all outflows occurred at the earliest possible date.

ii. This metric provides insight into the extent to which the institution relies on maturity transformation under its current contracts.

iii. This metric considers 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.

iv. A financial institution should report contractual cash and security flows in the relevant time bands based on their residual contractual maturity.

v. The Central Bank will provide a template for reporting on this metric that will, at a minimum, collect data on the contractual maturity mismatch for the categories outlined in the LCR. However, some additional accounting (non-dated) information such as capital or non-performing loans may need to be reported separately.

Contractual cash flow assumptions

vi. No rollover of existing liabilities is assumed to take place. For assets, the institution is assumed not to enter into any new contracts.

vii. 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.

viii. An institution should record all securities flows. This will allow the Bank to monitor securities movements that mirror corresponding cash flows as well as the contractual maturity of collateral swaps and any uncollateralised stock lending/borrowing where stock movements occur without any corresponding cash flows.

ix. A financial institution should report separately the customer collateral received that the institution is permitted to rehypothecate as well as the amount of such collateral that is rehypothecated at each reporting date. This also will highlight instances when the institution is generating mismatches in the borrowing and lending of customer collateral.

Utilisation of the metric

x. Financial institutions should provide raw data to the Central Bank, with no assumptions included in the data[31].

xi. Given that this metric is based solely on contractual maturities with no behavioural assumptions, the data will not reflect actual future forecasted flows under the current, or future, strategy or plans, i.e. under a going-concern view.

xii. Contractual maturity mismatches do not capture outflows that an institution may make in order to protect its franchise, even where contractually there is no obligation to do so.

xiii. For analysis, the Central Bank may apply its own assumptions to reflect alternative behavioural responses in reviewing maturity gaps.

xiv. In keeping with best practices in liquidity risk management[32] institutions should also conduct their own maturity mismatch analyses, based on going-concern behavioural assumptions of the inflows and outflows of funds in both normal situations and under stress.

xv. The analyses referred to at (xiv.) above should be based on strategic and business plans and should be shared and discussed with the Central Bank. The data provided in the contractual maturity mismatch should be utilised as a basis of comparison.

xvi. Where institutions are contemplating material changes to their business models, projected mismatch reports should be provided to the Central Bank. Material changes may include potential major acquisitions or mergers or the launch of new products that have not yet been contractually entered into.

xvii. In assessing such data the Central Bank will be mindful of the assumptions underpinning the projected mismatches and consider whether they are prudent.

xviii. A financial institution should be able to indicate how it plans to bridge any identified gaps in its internally generated maturity mismatches and explain why the assumptions applied differ from the contractual terms.

xix. The Central Bank will challenge explanations provided by institutions and assess the feasibility of the institution's funding plans.

[31] Standardised contractual data submission by institution enables a market-wide view and identifies market outliers vis-à-vis liquidity.
[32] Institutions should review the liquidity risk management guidance outlined in the Central Bank's Guideline on the Management of Liquidity Risk.

b) Concentration of Funding

i. These metrics are meant to identify those sources of funding that are of such significance that withdrawal of this funding could trigger liquidity problems. The metrics thus encourage the diversification of funding sources.

ii. The metrics considered under this monitoring tool include the following: -

A. Funding liabilities sourced from each significant counterparty as a % of total liabilities
B. Funding liabilities sourced from each significant product/instrument as a % of total liabilities
C. List of asset and liability amounts by significant currency

iii. Calculation of the metric

1. *The numerator for A and B should be determined by examining funding concentrations by counterparty or type of instrument/product.*

2. *Financial institutions should monitor both the absolute percentage of the funding exposure, as well as significant increases in concentrations.*

Significant Counterparties

3. *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*[33]*, as well as all other direct borrowings, both secured and unsecured, which the institution can determine arise from the same counterparty*[34] *(such as for overnight commercial paper / certificate of deposit (CP/CD) funding.*

4. *For the purposes of this metric, a "significant counterparty" is to be defined as a single counterparty or group of connected or affiliated counterparties*

[33] Connected and affiliated are to be considered as defined in the Financial Institutions Act, 2008.

[34] 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.

accounting in aggregate for more than 1% of the institution's total balance sheet.

5. *A group of connected counterparties is to be defined as set out in the Central Bank's "Guideline for the Reporting of Large Credit Exposures". 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.*

Significant instruments / products

6. *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.*
7. *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 institution's total balance sheet.*

Significant currencies

8. *In order to capture the amount of structural currency mismatch in an institution's assets and liabilities, institutions are required to provide a list of the amount of assets and liabilities in each significant currency.*
9. *A currency is considered "significant" if the aggregate liabilities denominated in that currency amount to 5% or more of the institution's total liabilities.*

Time buckets

10. *The 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.*

iv. Utilisation of the metric

1. *In utilising this metric to determine the extent of funding concentration to a certain counterparty, financial institutions must recognise that currently it*

is not possible to identify the actual funding counterparty for many types of debt.[35]

2. *The actual concentration of funding sources could therefore likely be higher than this metric indicates. The list of significant counterparties could change frequently, particularly during a crisis.*

3. *The Central Bank will consider the potential for herding behaviour on the part of funding counterparties in the case of an institution-specific problem.*

4. *In addition, under market-wide stress, multiple funding counterparties and the institution itself may experience concurrent liquidity pressures making it difficult to sustain funding even if sources appear well diversified.*

5. *In interpreting this metric, institutions must recognise that the existence of bilateral funding transactions may affect the strength of commercial ties and the amount of the net outflow.*[36]

6. *These metrics do not indicate how difficult it would be to replace funding from any given source.*

7. *To capture potential foreign exchange risks, the comparison of the amount of assets and liabilities by currency will provide the Central Bank with a baseline for discussions with the institutions about how they manage any currency mismatches through swaps, forwards, etc. It is meant to provide a base for further discussions with the institutions rather than to provide a snapshot view of the potential risk.*

c) Available Unencumbered Assets

i. This metric will provide the Central Bank with data on the quantity and key characteristics of the institution's available unencumbered assets including currency denomination and location.

[35] 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.

[36] For example, where the monitored institution also extends funding or has large unused credit lines outstanding to the "significant counterparty".

ii. 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 institution.

iii. The following are considered for this metric: -

A. Available unencumbered assets that are marketable as collateral in secondary markets
B. Available unencumbered assets that are eligible for central banks' standing facilities

iv. A financial institution 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.

v. A financial institution should also 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.

vi. For assets to be counted in this metric, the financial institution must have already put in place the operational procedures that would be needed to monetise the collateral.

vii. A financial institution should report separately the customer collateral received that the institution 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.

viii. A financial institution must also report the estimated haircut that the secondary market or relevant central bank would require for each asset. In the case of the central bank, an institution would be expected to reference, under business as usual, the haircut required by the respective central bank that it would normally access (which likely involves matching funding currency – e.g. ECB for euro-denominated funding, Bank of Japan for yen funding, etc.).

ix. As a second step after reporting the relevant haircuts, a financial institution should report the expected monetised value of the collateral (rather than the notional amount) and where the assets are actually held.

x. **Utilisation of the metric**

1. *These metrics are useful for examining the potential for a financial institution to generate an additional source of HQLA or secured funding. They will provide a standardised measure of the extent to which the LCR can be quickly replenished after a liquidity shock either via raising funds in private markets or utilising central bank standing facilities.*

2. *The metrics do not, however, capture potential changes in counterparties' haircuts and lending policies that could occur under either a systemic or idiosyncratic event and could provide false comfort that the estimated monetised value of available unencumbered collateral is greater than it would be when it is most needed.*

3. *The Central Bank would keep in mind that these metrics do not compare available unencumbered assets to the amount of outstanding secured funding or any other balance sheet scaling factor. To gain a more complete picture, the Central Bank will use a combination of information including information generated by these metrics complemented with the maturity mismatch metric and other balance sheet data.*

d) LCR by significant currency

i. While the LCR is required to be met in one single currency, in order to better capture potential currency mismatches, financial institutions should also monitor the LCR in significant currencies. This will allow the institutions to track potential currency mismatch issues that could arise.

ii. The following is considered for this metric:

Foreign Currency LCR = Stock of HQLA in each significant currency / Total net cash outflows over a 30-day time period in each significant currency

(Note: Amount of total net foreign exchange cash outflows should be net of foreign exchange hedges)

iii. The definition of the stock of high-quality foreign exchange assets and total net foreign exchange cash outflows should mirror those of the LCR for common currencies.[37]

iv. A currency is considered "significant" if the aggregate liabilities denominated in that currency amount to 5% or more of the institution's total liabilities.

v. **Utilisation of the metric**

1. *This metric is meant to allow the institution and Central Bank to track potential currency mismatch issues that could arise in a time of stress.*

e) Market-related monitoring tools

i. High frequency market data with little or no time lag can be used as early warning indicators in monitoring potential liquidity difficulties at financial institutions.

ii. While there are many types of data available in the market, the Central Bank will monitor data at the following levels to focus on potential liquidity difficulties:

1. *Market-wide information*
2. *Information on the financial sector*
3. *Institution-specific information*

iii. **Market-wide Information**

1. *The Central Bank will monitor information on both the absolute level and direction of major markets. It will also consider their potential impact on the financial sector and the specific institution. Market-wide information is also crucial when evaluating assumptions behind an institution's funding plan.*
2. *Valuable market-wide 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 institution), debt markets (money markets, medium-term notes, long term debt, derivatives, government bond markets, credit default spread indices, etc.), foreign*

[37] Cash flows from assets, liabilities and off-balance sheet items will be computed in the currency that the counterparties are obliged to deliver to settle the contract, independent of the currency to which the contract is indexed (or "linked"), or the currency whose fluctuation it is intended to hedge.

exchange markets, commodities markets, and indices related to specific products, such as for certain securitised products (e.g. the ABX[38]).

iv. **Information on the financial sector**

1. *To track whether the financial sector as a whole is mirroring broader market movements or is experiencing difficulties, information including equity and debt market information for the financial sector broadly and for specific subsets of the financial sector would be monitored.*

v. **Bank-specific information**

1. *To monitor whether the market is losing confidence in a particular institution or has identified risks at an institution, it would be 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.*

[38] The ABX family of indices consists of a series of equally weighted, static portfolios of credit default swaps (CDS) referencing 20 subprime residential mortgage-backed securities (RMBS) transactions. ABX helps market participants assess the performance of subprime RMBS. Its liquidity and standardization enable investors to accurately gauge market sentiment around the asset class, and to take short or long positions accordingly.

APPENDIX I

High Quality Liquid Assets

Category	Asset	Haircut
Level 1 Assets	Coins and banknotes	0%
	Securities issued by or guaranteed by i. the Central Bank of Trinidad and Tobago; or Government of Trinidad and Tobago	
	ii. Qualifying marketable securities representing claims on or guaranteed by sovereigns and central banks, the Bank for International Settlements, the International Monetary Fund, the European Central Bank and European Community, or Multilateral Development Banks (MDBs)[39] that are 0% risk weighted	
	Qualifying non-0% risk weight sovereign or central bank debt securities[40]	
Level 2A Assets	Qualifying marketable securities representing claims on or guaranteed by foreign sovereigns and foreign central banks, Public Sector Entities, Multilateral Development Banks (MDBs)[41] that are 20% risk weighted.	15%
	Qualifying corporate debt securities including commercial paper conditions rated AA- or higher.	
Level 2B Assets	Qualifying corporate debt securities including commercial paper conditions rated A+ and BBB	50%
	Qualifying common equity shares	

[39] The classification of asset classes (e.g. sovereign and zero risk weighted MDBS) in this section aligns with the classifications in the Financial Institutions (Capital Adequacy) Regulations 2020.
[40] See section 6.15 – 6.17 on Level 1 assets.
[41] The classification of asset classes (e.g. sovereign and zero risk weighted MDBS) in this section aligns with the classifications in the Financial Institutions (Capital Adequacy) Regulations 2020.

ASSET	LIMIT
LEVEL 1	UNLIMITED
LEVEL 2A AND 2B	In aggregate, no more than 40% of total HQLA
LEVEL 2B	No more than 15% of the total HQLA held