CENTRAL BANK OF THE BAHAMAS

IMPLEMENTING BASEL III: LIQUIDITY COVERAGE RATIO (LCR) & NET STABLE FUNDING RATIO (NSFR)

DISCUSSION PAPER

24th December, 2018

Table of Contents

1. INTRODUCTION

1.1 Overview

The Central Bank of The Bahamas ("the Central Bank") is responsible for licensing, registering, regulating and supervising banks, trust companies and co-operative credit unions, collectively referred to as supervised financial institutions (SFIs), operating in and from within The Bahamas. Additionally, the Central Bank has the duty, in collaboration with SFIs, to set prudent and appropriate liquidity risk management requirements that reflect the risks SFIs undertake and the markets in which they operate.

In 2012, the Central Bank undertook a fundamental review of the Central Bank's liquidity risk guidelines, in order to conform with the Basel Committee's *"Principles for Sound Liquidity Risk Management and Supervision, September 2008." ("Sound Principles")*

In January 2013 and October 2014, the Basel Committee further strengthened the liquidity framework through two papers outlining two minimum standards for both funding and liquidity, entitled *"Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools,"* and *"Basel III: the net stable funding ratio,"* respectively. These reforms seek to (i) ensure that a bank maintains sufficient amounts of high quality liquid assets to survive a material short-term liquidity stress event, lasting thirty (30) calendar days, and (ii) limit a bank's reliance on volatile sources of funding, by ensuring that long-term or illiquid assets are funded by a minimum amount of stable funding.

1.2 Becoming Basel III compliant

Liquidity management is a key banking function and Bahamian domestic banks play a critical role in our economy through the supply of credit and financial intermediation. Historically, Bahamian banks have been comfortably liquid. Any disruption to the banking sector, however, could have widespread adverse effects on the economy, from both bank-specific and systemic standpoints.

Bahamian internationally licensed banks have less direct effect on the local economy, but also require strong liquidity risk management, both for their own preservation, and the preservation of the Bahamian reputation for financially sound banks.

For these reasons, it is important that our regulatory framework for liquidity risk keeps pace with international standards. The proposals in this paper will improve our existing liquidity standards, monitoring tools and risk management systems, consistent with the Basel III international standard.

Reaching Basel III compliance will require revisions to the current liquidity risk management framework, the Central Bank's "*Guidelines for the Management of Liquidity Risk*" ("Liquidity Guidelines"), "*The Central Bank of The Bahamas Act, 2000*," ("CBA"), and the "*Banks and Trust Companies (Liquidity Risk Management) Regulations, 2012*" ("LRMR").

Specifically, these proposals detail:

- What qualifies as High Quality Liquid Assets (HQLA);
- The Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) requirements; and,
- The Central Bank's approach to implementing enhanced liquidity monitoring metrics.

2. INTENDED FRAMEWORK UPDATES

The Bahamas currently has three separate liquidity regimes for domestic commercial banks, international banks and credit unions. None of these regimes is necessarily Basel III compliant. With these proposals, the Central Bank seeks to improve efficiencies that will result in one liquidity regime for all banks, while limiting costs where possible. Preliminary analysis suggests that this will be feasible for all or nearly all banks.

The Central Bank has also considered the appropriateness of applying the new liquidity requirements to less complex SFIs such as credit unions. As a supervisory matter, the Central Bank has determined that the applicability of the new liquidity framework will be deferred for credit unions, until the LCR and NSFR have been implemented for the commercial and international banks.

For the moment, these requirements will therefore apply to all public banks and/or trust companies, subsidiaries, and branches of foreign banks and trust companies[1]. These proposals exclude pure trust companies.

2.1 Feedback on the Discussion Paper

A summary of the Central Bank's proposals on proposed new funding liquidity minimum standards and enhanced monitoring metrics are provided below. We invite comments and/or questions from industry stakeholders and the general public.

The Central Bank is particularly interested in assessing the impact of these new requirements on bank liquidity buffers. As part of the consultation process, we encourage SFIs to review and complete the attached **Liquidity QIS Template** in Appendix 9, and consult with the Central Bank on any material liquidity concerns.

We request that all feedback on this Discussion paper be provided by **28th February, 2019** and should be submitted to the following electronic address:

Policy Unit
Bank Supervision Department
policy@centralbankbahamas.com

[1]The liquidity proposals are aligned with and support the recommendations of the Basel Committee (via the 1975 Basel Concordat) for shared supervisory responsibility with respect to foreign bank branches and subsidiaries between home and host supervisory authorities. In managing liquidity risk, responsibility for supervising liquidity rests (in the first instance) with the host authority.

3. THE CURRENT BAHAMIAN LIQUIDITY FRAMEWORK

In The Bahamas, each class of SFI has a separate liquidity framework as summarized below.

As part of monetary policy, domestic commercial banks are regulated under a liquidity regime requiring these banks to hold a Primary Statutory Reserve and a Secondary Reserve. In contrast, International SFIs are subject to a minimum liquidity ratio of 20% of total deposit liabilities.

All banks will be required to implement the LCR and NSFR requirements. These proposals are not intended, in the first instance, to replace the Primary Statutory Reserve requirements for the commercial banks. The new liquidity framework will replace the current secondary reserve requirements for commercial banks and the liquidity ratio requirement for international banks.

These proposals will align Bahamian requirements with the new global liquidity standards. This alignment will not necessarily increase banking system liquidity, which is already sufficient, but will materially improve Bahamian minimum standards for liquidity risk management, and will create a more flexible regime for liquidity management under stress.

3.1 Commercial Banks

Relative to international benchmarks, Bahamian commercial banks have historically maintained high surpluses of liquid assets. As at June 30th, 2018 the liquidity surplus exceeded the statutory minimum by approximately 170% (i.e. Surplus/Minimum Required Liquid Assets).[2] International SFIs are compliant with their liquidity requirements, but with a smaller surplus than that applying domestically.

3.1.1 Reserve Requirements

In accordance with Sections 19 and 20 of the Central Bank of The Bahamas Act (CBA) (Ch.351), Commercial Banks are required to maintain a primary reserve, referred to as the 'Statutory Reserve,' of 5%, against their Bahamian dollar liabilities. The Central bank has the ability to raise the reserve requirement to 20% in need.

The Central Bank also imposes a secondary reserve, called the Liquid Asset Ratio (LAR), which mandates commercial banks to maintain an average ratio of liquid assets in relation to their Bahamian dollar deposit liabilities. The LAR is currently set at 20% of demand deposits, 15% of savings and fixed deposits, and 15% of borrowings due to or from the Central Bank, as well as inter-bank deposits.

As part of the move to the LCR and NSFR, the Central Bank proposes to remove the LAR or secondary reserve requirement, but continue with the primary reserve requirement. In addition to the reserve requirements, as a supervisory matter, the Central Bank will expect each relevant

---

[2] "Quarterly Economic Review, June 2018 - The Central Bank of the Bahamas." Central Bank of The Bahamas News RSS, The Central Bank of The Bahamas, 25 Sept. 2018, www.centralbankbahamas.com/publications.php?cmd=view&id=16913.

bank to establish an internal liquidity ratio and buffers, in order to control the level of the bank's liquidity risk.

<u>Reserve Requirements: Will these requirements remain?</u>

The Central Bank is proposing to maintain the primary reserve requirements for Domestic Financial Institutions. The Central bank will retain the right to adjust the primary reserve requirement to a maximum of 20% for any or all domestic banks in need.

Once the new liquidity regime has been fully implemented (and its impact monitored), the Central Bank will consider whether it should recommend any legislative amendments to the Statutory Reserve.

The LAR (or Secondary Reserve) requirement, will lapse upon adoption of the LCR/NSFR regime.

3.1.2 **Commercial Banks: Definition of Liquid Assets**

All commercial banks must maintain a specified amount of eligible liquid assets, as required by the Central Bank. In accordance with Section 20 (3), of "*The Central Bank of The Bahamas Act*, 2000," (CBA") liquid assets are defined as:

a) Notes and coins;
b) Any cash balance held at the Central Bank;
c) Money at call and demand balances at any financial institution carrying on business in The Bahamas;
d) Treasury Bills;
e) Stock of the Government;
f) Any instrument or security of a kind referred to in subsection (1)(f)(ii) of Section 29 of the CBA;
g) Any freely convertible foreign currency;
h) Money at call and demand balances at any financial institution abroad being money at call or demand balances held in freely convertible foreign currency; and,
i) Any other asset designated for the purposes of this subsection by the Central Bank.

3.2 International Banks

3.2.1 **The Liquidity Ratio**

Pursuant to Regulation 6 of the *Bank and Trust Companies (Liquidity Risk Management) Regulations, 2012 (LRMR),* and as detailed in paragraph 7.7 of the Central Bank's *"Guidelines for* *the Management of Liquidity Risk," (Liquidity Guidelines)*, every licensee shall maintain a liquidity ratio of not less than twenty (20) percent, with the exception of commercial banks who are subject to reserve requirements.

The liquidity ratio is the ratio of the sum of a bank's liquid assets, in all currencies, expressed as a percentage of the sum of its deposit liabilities in all currencies, and is calculated per the equation below:

$$\textbf{Liquidity Ratio} = \frac{\text{Total Liquid Assets}}{\text{Deposit Liabilities}}$$

3.2.2 International Banks: Definition of Liquid Assets

In accordance with the "*Banks and Trust Companies (Liquidity Risk Management) Regulations, 2012*," and the Central Bank's Liquidity Guidelines, for all SFIs who are not subject to the provisions of sections 19 and 20 of the CBA, liquid assets are currently defined as:

a) cash, including notes and coins held together with precious metal coins, which qualify as legal tender;

b) gold and silver bullion and other precious metals;

c) market loans, and includes:
    i. balances with, and loans and advances to Zone A[3] banks including correspondent or clearing balances and committed facilities with residual maturity up to one hundred and eighty days;
    ii. money at call and demand balances at Zone A banks held in Bahamian dollars and or freely convertible foreign currency;
    iii. negotiable paper issued by Zone A banks, including negotiable certificates of deposits, promissory notes and other negotiable paper;
    iv. bills, including
        A. bills accepted by Zone A banks;
        B. public sector bills including Treasury bills and notes and other negotiable paper issued by Zone A country[4] central governments, any other bills guaranteed and or underwritten by Zone A country central governments,

[3] Zone A banks mean a bank located in The Bahamas or in a Zone A country whose credit rating is investment grade and excludes (a) any bank whose credit rating has been downgraded to lower than investment grade in the preceding twelve months; or (b) any bank which has no rating.

[4] Zone A country is (a) The Bahamas; (b) a country that is a full member of the Organization for Economic Co-operation and Development; (c) a country which has concluded special lending arrangements with the International Monetary Fund associated with the General Agreement to Borrow, and excludes (i) a country which has rescheduled its external debt during the preceding five years; (ii) a country whose rating for long-term liabilities in foreign currencies is lower than investment grade, or which has no rating, and whose yield to maturity and remaining duration are not comparable with those of long-term liabilities with an investment grade rating.

or any other bills that constitute an obligation of a Zone A country central government;

v. marketable Zone A country central government securities; and,

vi. any other asset designated for the purposes of these Regulations by the Inspector.

3.3 Credit Unions

Credit Unions are subject to numerous liquidity requirements, namely, a Statutory Reserve, a Liquidity fund, a Stabilization fund, and a Liquidity Ratio requirement.

The Central Bank has elected to defer the new liquidity regime for Credit Unions, post implementation of the LCR and NSFR for domestic and international banks. More lead time will benefit Credit Unions as we move towards full implementation of the new liquidity framework.

In the interim, the current prudential requirements as outlined under Section 65 of the *Bahamas Co-operative Credit Unions Act, 2015* and *Regulations 15 and 16 of the Bahamas Co-operative Credit Unions Regulations, 2015* will apply to these institutions.

4. BASEL III: DEFINITION OF HIGH-QUALITY LIQUID ASSETS (HQLA)

The Liquidity Coverage Ratio (LCR) allows banks to assess whether they have an adequate stock of unencumbered high-quality liquid assets (HQLA) that can be converted easily and immediately in private markets into cash to meet their liquidity needs for a 30-calendar day liquidity stress scenario. The purpose of these assets is to offset the net cash outflows that a bank would encounter during a period of stress.

Under the Basel III standard, the stock of HQLA should comprise assets that have the following fundamental characteristics: (i) low risk; (ii) ease and certainty of valuation; (iii) low correlation with risky assets; (iv) listed on a developed and recognized exchange; (v) active and sizable market; (vi) low volatility; and (vii) flight to quality. In addition to possessing those characteristics, HQLA assets should also satisfy certain operational requirements.

HQLA are assets that the SFI is holding on the first day of the stress period, irrespective of their residual maturity. Basel further breaks down HQLA into two categories of assets: "Level 1" (can be included without limit), and "Level 2" (can only comprise up to 40% of the stock). "Level 2" assets are further broken down into two sub-categories; "Level 2A" and "Level 2B" assets.

The table below provides an illustrative summary of what comprises Basel HQLA and the various percentage factors applied to each item.

Item	Factor
Stock of HQLA	
A. Level 1 assets:	
• Coins and bank notes • Qualifying marketable securities from sovereigns, central banks, PSEs, and multilateral development banks • Qualifying central bank reserves • Domestic sovereign or central bank debt for non-0% risk-weighted sovereigns	100%
B. Level 2 assets (maximum of 40% of HQLA):	
Level 2A assets	
• Sovereign, central bank, multilateral development banks, and PSE assets qualifying for 20% risk weighting • Qualifying corporate debt securities rated AA- or higher • Qualifying covered bonds rated AA- or higher	85%
Level 2B assets (maximum of 15% of HQLA)	
• Qualifying RMBS	75%
• Qualifying corporate debt securities rated between A+ and BBB-	50%
• Qualifying common equity shares	50%
Total value of stock of HQLA	

**PSE – Public Sector Entity*
**RMBS – Residential Mortgage Backed Securities*

5. Basel III: Liquidity Coverage Ratio & Net Stable Funding Ratio

As noted in Section 1.1 of this discussion paper, the Basel Committee has further strengthened its liquidity framework by developing two minimum calculations for funding liquidity. The LCR promotes the short-term resilience of the liquidity risk profiles of banks, and the NSFR constrains structural funding risks over a time horizon of one year.

5.1 Liquidity Coverage Ratio (LCR)

The LCR standard establishes a minimum level of liquidity for internationally active banks, by ensuring SFIs have sufficient HQLA to survive significant stress scenarios lasting for 30 days.

The LCR has two components:

a) Value of the stock of HQLA in stressed conditions; and,
b) Modeled net cash outflows over 30 days

$$\frac{\text{Stock of HQLA}}{\text{Total net cash outflows over the next 30 calendar days}} \geq 100\%$$

SFIs are required to maintain a LCR of greater than or equal to 100% on an on-going basis.

5.1.1 **Stock of HQLA**

For a bank's assets to qualify as HQLA, the asset must be able to be converted into cash easily and meet funding needs at any time during the 30-day stress period.

The Stock of HQLA is calculated using the equation below:

Stock of HQLA	=	Level 1 Assets + Level 2A Assets + Level 2B Assets – Adjustment for 15% cap – Adjustment for 40% cap

Where:

Adjustment for 15% cap	=	Max (Adjusted Level 2B – 15/85*(Adjusted Level 1 + Adjusted Level 2A), Adjusted Level 2B – 15/60*Adjusted Level 1,0)
Adjustment for 40% cap	=	Max ((Adjusted Level 2A + Adjusted Level 2B – Adjustment for 15% cap) – 2/3*Adjusted Level 1 assets, 0)

5.1.2 Net Cash Outflows

For the purposes of calculating a SFI's LCR, Basel defines Net Cash Outflows as the total of expected cash outflows minus total expected cash inflows in the specified stress scenario for the subsequent 30 calendar days. Total Net Cash Outflows are calculated using the formula below:

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}

The difference between the stressed cash outflows and inflows determines the minimum size of the HQLA stock.

- **Cash Outflows**

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. Appendix 5, an excerpt from the Basel LCR paper, provides a summary of the various cash outflows and applicable run off rates.

Cash Outflows include the following:

a) *Retail Deposits* – Deposits placed with a bank by a natural person. Retail deposits are divided into "stable" and "less stable" portions of funds.

  - *Stable Deposits* are deposits that are fully insured by an effective deposit insurance scheme or by a public guarantee that provides equivalent protection and where the depositors have other established relationships with the bank that make deposit withdrawal highly unlikely; or, the deposits are in transactional accounts[5].
  - *Less Stable Deposits*[6] could include deposits that are not fully covered by an effective deposit insurance scheme or sovereign deposit guarantee, high-value deposits, deposits from sophisticated or high net worth individuals, deposits that can be withdrawn quickly (e.g. internet deposits) and foreign currency deposits[7], as determined by each jurisdiction.

---

[5] E.g. accounts where salaries are automatically deposited.

[6] If a bank is not able to readily identify which retail deposits would qualify as "stable" according to the definition outlined in the discussion paper (e.g. the bank cannot determine which deposits are covered by an effective deposit insurance scheme or a sovereign deposit guarantee), it should place the full amount in the "less stable" buckets as established by the Central Bank.

[7] Foreign currency deposits will be considered "less stable" if there is a reason to believe that such deposits are more volatile than domestic currency deposits.

b) *Term Deposits* – Deposits with a fixed/specified residual maturity. Term deposits with a residual maturity or withdrawal notice period of greater than 30 days will 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, or if the early withdrawal results in a significant penalty that is materially greater than the loss of interest.[8]

c) *Unsecured wholesale funding*[9] – Liabilities and general obligations raised from non-natural persons (i.e. legal entities, including sole proprietorships and partnerships, small business customers[10], etc.) that are not collateralized by legal rights to specifically designated assets owned by the borrowing institution in the case of bankruptcy, insolvency, liquidation or resolution.

d) *Secured funding* – Liabilities and general obligations collateralized by legal rights to specifically designated assets owned by the borrowing institution in the case of bankruptcy, insolvency, liquidation or resolution.

- **Cash Inflows**

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 a stressed scenario. To prevent banks from solely relying on expected cash inflows to meet liquidity demands, the amount of aggregated inflows is capped at 75% of total expected cash outflows.

SFIs are not allowed to double count assets/inflows when calculating total cash inflows for that month. Therefore, the SFI's total cash inflows (the denominator) should be net of any assets/corresponding inflows that are included as a part of the stock of HQLA (the numerator).

Appendix 6, an excerpt from the Basel LCR paper, provides a summary of the various cash inflows and applicable rates.

5.2 Net Stable Funding Ratio

The NSFR is a balance sheet-driven measure, as opposed to the LCR, which is based on a stressed cash flow scenario. As outlined in the Basel Paper entitled *"Basel III: the net stable funding ratio, October 2014,"* ("NSFR paper") the NSFR will require banks to fund their activities with sufficiently stable liabilities in order to mitigate the risk of future funding stress. The NSFR is the amount of available stable funding (ASF) relative to the amount of required stable funding (RSF).

---

[8] If a portion of the term deposit can be withdrawn without incurring such a penalty, only that portion should be treated as a demand deposit. The remaining balance of the deposit should be treated as a term deposit.

[9] Obligations related to derivative contracts are explicitly excluded from the definition of unsecured wholesale funding.

[10] Loans extended to small businesses and managed as retail exposures are eligible for retail treatment provided the total exposure of the banking group to a small business borrower (on a consolidated basis where applicable) is less than €1 million. Small business loans extended through or guaranteed by an individual are subject to the same exposure threshold.

The NSFR aims to limit a bank's reliance on volatile sources of funding by ensuring that long-term or illiquid assets are funded by a minimum amount of stable funding. According to the Basel III requirements, it is expected that SFIs maintain a NSFR greater than or equal to 100% on an ongoing basis. SFIs are required to report their NSFR on a quarterly basis.

$$\frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} \geq 100\%$$

5.2.1 **Available Stable Funding (ASF)**

ASF is the portion of capital and liabilities expected to be available over the one year time horizon considered by the NSFR. Appendix 7, an excerpt from the Basel NSFR paper, provides a summary of the liability categories, and the associated ASF factors that define the proportion of a liability that is deemed stable.

5.2.2 **Required Stable Funding (RSF)**

The RSF of a bank is a function of the liquidity characteristics and residual maturities of the various assets held by that bank, as well as those of its off-balance sheet (OBS) exposures. The RSF factors are intended to approximate the amount of a particular asset that the bank will be unable to roll over, monetize through a sale or use as collateral.

Appendix 8, an excerpt from the Basel NSFR paper, provides a summary of the asset categories and the associated RSF factors.

6. CENTRAL BANK PROPOSALS REGARDING LCR & NSFR IMPLEMENTATION

The Central Bank is proposing to implement both the LCR and NSFR. The Basel standards are intended for much more complex banking systems in much more complex capital markets than exist in The Bahamas. Accordingly, and similarly to the Central Bank's proposed implementation of Basel III capital standards, the proposed liquidity standards will be much simpler and cheaper to comply with than the full Basel rules text. The outcome will be equivalent or super-equivalent to the full Basel rules text.

These standards will replace the current secondary reserve or LAR requirements imposed on commercial banks, and the liquidity ratio requirement imposed on other banks and trust companies.

These proposals will not replace the primary ("Statutory") reserve requirements for commercial banks. Instead, these SFIs will be required to maintain a 5.0% statutory reserve against their Bahamian dollar liabilities, outside of their LCR and NSFR requirements.

6.1 Proposal for LCR: HQLA

The Central Bank is proposing to adopt a simplified but fully Basel III-compliant liquidity regime for SFIs.

- *Domestic SFIs*

  Only Level 1 assets will be considered as HQLA for Domestic SFIs. These will comprise:

  a) Coins and Bank Notes;
  b) Qualifying Marketable Securities from sovereigns, central banks, PSEs, and multilateral development banks[11];
  c) Qualifying Central Bank reserves[12];
  d) Non-0% risk weighted sovereign: 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[13]; and,
  e) Non-0% risk weighted domestic sovereign or central bank debt securities issued in foreign currencies are eligible up to the amount of the bank's stressed cash outflows in that specific currency stemming from the bank's operations in the jurisdiction where the bank's liquidity risk is being taken.

---

[11] Securities are considered qualified, if all of the following conditions are satisfied: (i) assigned a 0% risk-weight under the Basel II Standardized Approach for credit risk; (ii) traded in large, deep and active repo or cash markets characterized by a low level of concentration; (iii) have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions; and (iv) not an obligation of a financial institution or any of its affiliated entities.

[12] These include overnight and term deposits with the Central Bank that: (i) are explicitly and contractually repayable on notice from the depositing bank; or (ii) that constitute a loan against which the bank can borrow on a term basis or on an overnight but automatically renewable basis (only where the bank has an existing deposit with the relevant central bank). Other term deposits with central banks are not eligible for the stock of HQLA; however if the term expires within 30 days, the term deposit could be considered as other wholesale inflow, as per paragraph 154 of the Basel LCR paper. Also, for commercial banks, this does not include the Primary Reserve, of 5.0%, against their Bahamian dollar liabilities, which commercial banks are and will be required to maintain.

[13] These include Bahamian Government Registered Stock, Treasury Bills, etc.

The LCR is calculated on a consolidated, all-currencies basis, but the Basel rules text allows supervisors to require calculation and reporting at the individual currency level. The Central Bank intends that all domestic banks meet their LCR both on a consolidated and Bahamian Dollar basis. The practical effect of this intention, which reflects current industry practice, is that domestic banks will need to hold substantial HQLA denominated in Bahamian Dollars.

- *International SFIs*

  Due to the nature, structure and types of liabilities associated with these financial institutions, particularly the currencies in which they are denominated, the Central Bank intends to allow international SFIs to include Level 2A assets in addition to Level 1 assets in the computation of their HQLA. See Dialogue box below.

<u>Proposal for Consideration: Inclusion/Exclusion of Level 2 Assets</u>

Experience has shown that Government securities tend to represent the largest portion of Level 1 assets in most jurisdictions. Although the domestic banks will be required to hold high-quality Level 1 assets, the Central Bank is considering whether to allow HQLA Level 2A assets for International banks (i.e. Home and Host SFIs).

The following rules for HQLA would apply:

- For Domestic SFIs that deal in B$ and foreign currencies, the HQLA requirement must be met by Level 1 assets only; and
- For International SFIs that deal in foreign currencies (i.e. non-B$ currency), the HQLA requirement must be met by Level 1 assets and Level 2A assets only. Level 2 assets will comprise of no more than 40% of the stock of HQLA. Level 2B assets will not be counted for HQLA purposes.

If adopted, the proposed calculation for International SFIs for the LCR would be:

$$\frac{\text{Stock of HQLA } = \text{Level 1} + \text{Adjusted Level 2A}}{\text{Total Net Cash Outflows}}$$

Subsequent to receipt of the completed QIS responses, the Central Bank will be able to better determine the impact of the inclusion and/or exclusion of these assets on international SFI HQLA levels. In this regard, we encourage all SFIs, especially those who would be impacted by the inclusion and/or exclusion of Level 2 assets, to complete the attached QIS, and return same to the Central Bank on or before the end of the consultative period, 28th February, 2019.

6.2 Proposal for LCR: Net Cash Outflows

Bahamian domestic banks are largely funded by deposits. As at 30th September 2018. Deposit liabilities accounted for 35% of Total Liabilities in the Bahamian banking system. For Domestic SFIs, deposit liabilities account for 67% of their total funding. Conversely, International SFI deposit liabilities accounted for only 32% of their total funding.

Breakdown of Deposit Liabilities *(as at 30th September, 2018)*					
	Domestic SFIs		**International SFIs**		**All Banks**
($ in millions)	**Total**	**BSD**	**Total**	**BSD**	**Total**
Total Liabilities	19,374.10	9,907.00	162,927.10	1,711.00	182,301.20
of which : **Deposit Liabilities**	13,063.10	6,682.80	51,428.30	-	64,491.40
% of Total Liabilities	**67.4%**		**31.6%**		**35.4%**

The second component in the LCR formula requires SFIs to calculate their Total Net Cash Outflows (over a 30-day modeled stressed period). The Basel III standards provide very grandular cashflow assumptions to be used to calculate net cash outflows. However, the Central Bank proposes to streamline and greatly simplify the Basel III cashflow assumptions, to better align the assumption categories with the profiles of Bahamian banks. To give an idea of how this realignment has been achieved, the Basel III cash outflows and cash inflow categories and their associated factors total around 35 and 13 respectively. The Central Bank proposes to adopt 13 cash outflow categories and 12 cash inflow categories and factors.

Appendices 5 and 6 outline the Basel III cashflow assumptions and rates to be applied for each category. Appendices 1 and 2 summarizes the cash outflow and inflow categories and rates the Central Bank proposes to adopt.

- **Cash Outflows**

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 they are expected to run off or be drawn down. For example, stable deposits will attract an outflow rate of 5%, whereas unsecured wholesale funding provided by other legal entity customers, such as financial institutions (i.e. other banks, securities firms, insurance companies) will attract a run-off factor of 100%.

- **Cash Inflows**

Total expected cash inflows are calculated by multiplying the outstanding balances of various categories or contractual receivables by the rates they are expected to flow in during the stress period – up to an aggregate cap of 75% of total cash outflows. For example, credit lines and liquidity facilities will attract an inflow rate of 0%, while other retail inflows are assumed to be received, but will attract an inflow rate of 50%. Contingent inflows are not included.

- **Total Net Cash Outflows**

Total net cash outflows is defined as total expected cash outflows *less* total expected cash inflows over the next 30 calendar days:

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}

6.3 Proposed Calculation for LCR and NSFR

This section outlines the proposed calculations for the LCR and NSFR for prudential reporting purposes:

6.3.1 **Liquidity Coverage Ratio (LCR)**

The Central Bank is proposing to calculate the LCR by taking HQLA as a percentage of the SFI's total net cash outflows over a thirty (30) day period, as suggested by the Basel Committee. The calculation would be as follows:

$$\frac{\text{Stock of HQLA}}{\text{Total Net Cash Outflows}^{14}}$$

Although the above formula is identical to the Basel LCR calculation, the Bahamian components to this formula are intended to considerably simplify from the full Basel rules text.

6.3.2 **Net Stable Funding Ratio (NSFR)**

The Central Bank is proposing to adopt the formula prescribed by the Basel Committee, noted in Section 5.2 of this paper. The Central Bank is also proposing to adjust the factors and simplify some of the categories that will constitute Available amount of Stable Funding (ASF) and Required amount of Stable Funding (RSF).

Appendices 3 and **4** outline the proposed funding categories and ASF factors, and the proposed asset categories and RSF factors the Central Bank intends to adopt for the calculation of the NSFR. The calculation would be as follows:

---

[14] Appendices 1 and 2 outline the proposed cash outflows, cash inflows and the applicable runoff rates.

$$\frac{\text{Available Stable Funding}}{\text{Required Stable Funding}}$$

Each category (asset and liabilities) is to be calculated by multiplying their outstanding balances by the relevant ASF factor or RSF factors.

6.4 Proposed Requirements

6.4.1 **Liquidity Coverage Ratio (LCR)**

All SFIs will be required to maintain a LCR of greater than or equal to 100% at all times. Should the LCR fall below 100%, the errant SFI will need to immediately inform the Central Bank, and swiftly reach agreement on how the LCR will be restored to an acceptable level. The LCR will be reported regularly to the Central Bank, but banks must be able to estimate their LCR on any business day to an acceptable degree of accuracy. The Central Bank notes that its proposed simplification from the Basel rules text will aid in any off-quarter LCR calculation.

6.4.2 **Net Stable Funding Ratio (NSFR)**

All SFIs will be required to maintain a NSFR of a least 100% at all times. As with the LCR, any SFI falling below 100% NSFR will need to immediately inform the Central Bank, and swiftly develop a remediation plan acceptable to the Central Bank. As with the LCR, the NSFR will be reported regularly, but banks will need to be able to calculate their NSFRs and report the result to the Central Bank for any business day.

The Central Bank will reserve the right to require an SFI to maintain a higher minimum LCR and/or NSFR. This is analogous to the Pillar 2 supervisory power to adjust minimum capital requirements, and will be deployed when the Central Bank considers that an SFI displays an unusually high liquidity risk profile, or a less than impressive ability to manage liquidity risk.

6.5 Quantitative Analysis

The Central Bank has undertaken preliminary quantitative analysis on the balance sheet impacts associated with the LCR and NSFR. The relevant information was sourced from the March 2018 Quarterly Financial ORIMS returns.

The results of the preliminary analysis suggest that Bahamian domestic banks should be able to meet both the LCR and NSFR requirements without undue difficulty. For domestic banks sourcing substantial funds from offshore parents, some rearrangement of current maturities may be necessary.

Data from international SFIs, however, was insufficient to make the same generalization. The operations of international banks tend to be broader in scope, and these SFIs are typically more reliant on wholesale funding.

To this end, we wish to emphasize the importance of bank participation in the QIS exercise. It is anticipated that the findings from this exercise will help us to better understand:

- banks' liquidity profiles and funding structures;
- the composition of banks' wholesale vs. retail funding (and their duration); and
- the direct impact of the LCR and NSFR proposals on bank liquidity operations and level of compliance.

The Central Bank would be particularly interested in receiving quantitative impact surveys from banks that consider they might need to materially adjust their balance sheets for LCR or NSFR compliance.

The current regime, the liquidity ratio in particular, focuses solely on short term retail deposits. The planned regime takes into account all future cash outflows at their respective run-off rates, allowing supervisors and SFIs alike to better prepare and account for potential liquidity risks under stress.

6.6 Request for Additional Information

The Central Bank's current quarterly financial returns do not collect sufficiently granular data to accurately calculate the LCR and NSFR for SFIs. In that regard, supplementary to this discussion paper, the Central Bank has provided a **Liquidity QIS template** attached in **Appendix 9**. SFIs may calculate their pro forma LCR and NSFR, to test their compliance with the Central Bank's proposed liquidity regime.

We invite SFIs to complete the QIS template, and provide copies of the completed forms, in addition to any comments or concerns regarding the Central Bank's proposals, either on or before the end of the Consultative Period, **28th February, 2019**. SFIs are encouraged to complete the QIS template on a best efforts basis.

Although the QIS exercise is focused upon banks, the Central Bank would be happy to receive QIS returns from any credit unions wishing to report on how they would fare under internationally accepted bank liquidity requirements.

7. REPORTING

The Central Bank proposes that all banks will report their LCR and NSFR positions to the Central Bank in line with the current ORIMS weekly, monthly and quarterly financial submissions. Implementation of the LCR and NSFR will also necessitate changes to reporting templates for affected SFIs.

Additionally, all SFIs, with the exception of Host International SFIs, will be required to report their LCR to the Central Bank on a weekly and/or monthly basis. Host International SFIs will be required to report their LCR positions quarterly, in line with the ORIMS quarterly financial returns. The LCR position reported in the quarterly returns must represent the LCR for the last month in that quarter, i.e. for the March quarterly submissions the LCR reported would only be representative of that which was calculated for the month of March. Nonetheless, All SFIs will need to be able to calculate and continuously monitor their LCR and NSFR positions, which must exceed 100% at all times.

SFIs must notify the Central Bank immediately if their LCR or NSFR has fallen below, or is expected to fall below 100%. The Central Bank reserves the right to request an SFI's liquidity position at any point in time.

8. Fire Drill

The Central Bank is proposing to implement a "fire drill" requirement, which will test how quickly and how well a bank can project its cash flows under severe stress.

Specifically, the Central Bank will have the right to require any relevant bank to provide its LCR and NSFR calculations on any business day. Requests issued by the Central Bank before close of business must be met for that day, with the projections delivered before opening of business the next day. SFIs will still be required to maintain internal stress testing assessments required under Paragraphs 7.21-7.25 of the Central Bank's Liquidity Guidelines.

The Central Bank expects banks to be able to meet this "fire drill" requirement without undue effort, particularly given the simplified nature of the proposed Bahamian LCR and NSFR regimes. Where banks are unable to provide adequate same/next day crisis liquidity reporting, this will be considered a material prudential issue. The Central Bank proposes to initially conduct fairly frequent fire drills, especially on D-SIBs and the larger international banks, to ensure initial compliance. Over time as SFIs prove their capability, the frequency of the fire drills will likely reduce.

9. Risk Management and Monitoring

In addition to the introduction of the LCR and NSFR minimum liquidity standards, Basel introduced five monitoring metrics to aid supervisors in assessing an SFI's liquidity risk. The following metrics capture specific information related to a bank's cash flows, balance sheet structure, available unencumbered collateral and certain market indicators:

a) Contractual maturity mismatch;
b) Concentration of funding;
c) Available unencumbered assets;
d) LCR by significant currency; and,
e) Market-related monitoring tools.

These monitoring metrics are further detailed in paragraphs 174-220 of Basel's LCR paper.

Section 7 of the Central Bank's Liquidity Guidelines detail the various liquidity risk measurement and monitoring tools currently imposed on SFIs. We do not envision that adopting the five metrics will be burdensome on SFIs, because they are currently required or expected to have in place some variation of the aforementioned monitoring tools. The Central Bank's proposals regarding these metrics are detailed below.

9.1 Contractual Maturity Mismatch

Contractual maturity mismatch identifies the gaps between SFI contractual cash and security inflows and outflows from all on- and off-balance sheet items for defined time bands. As outlined in Section 7.1-7.5 of the Central Bank's Liquidity Guidelines, the Central Bank currently requires SFIs to produce a maturity profile to project future cash flows arising from assets, liabilities and off-balance sheet commitments and other contingent liabilities. This is reported to the Central Bank via the maturity-wise analysis of liabilities and assets form, as a part of the Quarterly ORIMS Financial Return.

Paragraph 179 of Basel's LCR paper suggests that, at a minimum, the data collected from the contractual maturity mismatch should provide data on the categories outlined in the LCR. The Central Bank proposes to revamp its current maturity-wise analysis form to obtain more granular data on the maturity of an SFI's cash flows, and add more short term maturity buckets, such as overnight, 7 day, 14 day, etc.

9.2 Concentration of Funding

Concentration of Funding identifies those sources of wholesale funding that are of such significance that withdrawal of that funding could trigger liquidity problems. This metric encourages the diversification of funding sources recommended in the Committee's *Sound Principles* and in Paragraphs 7.11-7.14 of the Central Bank's Liquidity Guidelines.

The Central Bank's Liquidity Guidelines suggest SFIs should establish a funding strategy that provides effective diversification in the sources and tenor of funding. To further enhance the diversified funding requirements, the adoption of this metric will encourage SFIs to examine their funding concentrations by counterparty or type of instrument/product as a percentage of total liabilities. Furthermore, SFIs will be required to provide a list of the amount of assets and liabilities in each significant currency, so that the amount of structural currency mismatch in a bank's assets and liabilities would be captured.

The Central Bank notes that some host-supervised SFIs rely in part upon material funding from parents and affiliates. Currently this funding may be repayable on demand. To meet the LCR, some or all of this funding may need to move to longer tenors, say 31 day notice.

9.3 Available unencumbered assets

This metric will provide the Central Bank with data on the quantity and key characteristics, including currency denomination and location, of SFIs' available unencumbered assets. SFIs can potentially utilize these assets as additional sources of liquidity.

SFIs will be required to report:

(i) 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;
(ii) 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[15];
(iii) The customer collateral received, that the bank is permitted to deliver or re-pledge, as well as the part of such collateral that it is delivering or repledging at each reporting date;
(iv) The total amount of unencumbered assets available, categorized by significant currency[16];
(v) The estimated haircut that the secondary market or relevant central bank would require for each asset[17]; and,
(vi) The expected monetized value of collateral (rather than the notional amount) and where the assets are actually held, in terms of the location of the assets and what business lines have access to those assets.

This metric will provide a standardized measure of the extent to which the LCR can be quickly replenished after a liquidity shock either via raising funds in private markets or utilizing central bank standing facilities.

9.4 LCR by significant currency

Monitoring the LCR in significant currencies[18] will allow the SFI and the Central Bank to track potential currency mismatch issues that could arise in a time of stress. The Central Bank intends to adopt this metric to supplement the foreign currency liquidity management tools that are currently in place and outlined in paragraph 7.10 of the Central Bank's Liquidity Guidelines.

SFIs should monitor its LCR in significant currencies using the calculation below:

$$\textbf{Foreign Currency LCR} = \frac{\text{Stock of HQLA in each significant currency}}{\text{Total net cash outflows over 30-day time period in each significant currency}^{19}}$$

The foreign currency LCR is not a standard but a monitoring tool. No internationally defined minimum required threshold has been set. In that regard, not all SFIs will be required to implement this monitoring tool. Based upon the type of SFI and an assessment of the SFI's ability

[15] This would include collateral that has already been accepted at the central bank but remains unused. For assets to be counted in this metric, the SFI must have already put in place the operational procedures that would be needed to monetize the collateral.

[16] A currency is considered significant if the aggregate stock of available unencumbered collateral denominated in that currency amounts to 5% or more of the associated total amount of available unencumbered collateral (for secondary markets or central banks).

[17] In the case of the latter, a SFI would be expected to reference, under business as usual, the haircut required by the central bank that it would normally access (which likely involves matching currency – e.g. ECB for euro-denominated funding, Bank of Japan for yen funding, etc.).

[18] A currency is "significant" if the aggregate liabilities denominated in that currency total 5% or more of the SFIs total liabilities.

[19] The Amount of total net foreign exchange cash outflows should be net of foreign exchange hedges.

to raise funds in foreign currency markets or the ability to transfer a liquidity surplus from one currency to another and across jurisdictions and legal entities, the SFI's supervisory team will determine whether a minimum required threshold would need to be set at the currency level.

The Central Bank expects and in need will require that all domestic banks maintain a $B LCR comfortably in excess of 100% in normal times, and in excess of 100% under stress.

9.5 Market-related monitoring tools

High frequency market data with little or no time lag can be used as early warning indicators on monitoring potential liquidity difficulties at SFIs. This metric suggests the monitoring of market data at three levels: (i) Market-wide information; (ii) Information on the financial sector; and, (iii) Bank-specific information.

The Central Bank intends to adopt this metric to further enhance the Central Bank's off-site regulatory liquidity risk supervision framework.

10. Contingency Funding Plan and Retail Run Management Plan[20]

In accordance with section 7.26 of the *Liquidity Guidelines*, all SFIs are currently required to maintain a comprehensive, Board approved Contingency Funding Plan (CFP), detailing each SFI's strategies for addressing liquidity shortfalls in crises. The CFP must be consistent with an SFI's business continuity plan and should be operational under situations where business continuity arrangements have been activated.

In addition to a CFP, the Central Bank is proposing that all Bahamian retail deposit taking institutions must develop and maintain a plan for a **retail deposit runs** in its CFP.

The retail run management plan will ensure that in the event of a loss of market confidence in an SFI, the SFI is prepared, logistically and financially, to enable retail depositors to retrieve their deposits as quickly and conveniently as is feasible. The retail run contingency plan can be an attachment to the CFP or a separate document.

SFIs must develop a sound plan that:

i. Does not rely on upon closing distribution channels or restricting cash outlays, physically or electronically, to retail depositors;
ii. Estimates and makes arrangements to accommodate the reasonably foreseeable physical and electronic cash required by clients and the locations and channels from which demand would be likely to arise;
iii. Pays particular attention to the need for near-instant and effective internal and external communications, in the event of a retail run;
iv. Recognizes and facilitates basic logistical issues such as ATM capacity and resupply, extended branch hours, staffing requirements and expanded internet and telephone capacity;

---

[20] APRA. "Prudential Practice Guide, APG 210 Liquidity." APRA, APRA, Dec. 2016, www.apra.gov.au/file/6301.

v. Anticipates unusually high demand for electronic and mobile banking services; and,
vi. Considers load sharing to aid in avoiding system shutdown.

In the event that an SFI is facing or believes it is about to encounter a retail run, the SFI is required to notify the Central Bank immediately.

Each domestic bank's retail run management plan must also consider the contingency that one or more of its competitors are suffering a run, which has not yet fully impacted upon the bank in question.

11. Transitional Arrangements

The Basel Committee introduced the LCR on 1st January, 2015, where the minimum requirement was set at 60% and raised equal steps annually, with aims of reaching 100% on 1st January, 2019. With regards to the NSFR, the Committee implemented this minimum standard on 1st January, 2018.

In line with the intended implementation of the Basel III reforms, the Central Bank is proposing to implement these liquidity funding minimum standards and monitoring tools effective **1st January, 2020,** with minimum requirements set at 100%.

12. Appendices

<u>APPENDIX 1 – THE CENTRAL BANK'S APPROACH: PROPOSED LCR CASH OUTFLOWS & APPLICABLE RUN-OFF RATES (DURING 30-DAY HORIZON)</u>

Cash Outflows	
Retail deposits:	
Demand deposits and term deposits (less than 30 days maturity)	
- Stable deposits (Covered by the Deposit Insurance)	5%
- Less stable retail deposits	10%
Term Deposits with residual maturity greater than 30 days	0%
Unsecured wholesale funding:	
Demand and term deposits (less than 30 days maturity) provided by small business customers	
- Stable deposits (Covered by Deposit Insurance)	5%
- Less stable deposits	10%
Cooperative banks in an institutional network (qualifying deposits with the centralised institution)	25%
Non-financial corporates, sovereigns, central banks, multilateral development banks, and PSEs	40%
- If the entire amount is covered by Deposit Insurance	20%
Other legal entity customers	100%
Secured Funding:	
Secured funding transactions with a central bank counterparty or backed by Level 1 assets with any counterparty.	0%
All other secured funding transactions	100%
Additional Requirements:	
Currently undrawn committed credit and liquidity facilities provided to:	
- retail and small business clients	5%
- non-financial corporates, sovereigns and central banks, multilateral development banks, and PSEs	10%
- banks subject to prudential supervision	40%
- other financial institutions (include securities firms, insurance companies)	40%
- other legal entity customers, credit and liquidity facilities	100%
Any additional contractual outflows	100%
Net derivative cash outflows	100%
Any other contractual cash outflows	100%
Total Cash Outflows	

APPENDIX 2 – THE CENTRAL BANK'S APPROACH: PROPOSED LCR CASH INFLOWS & APPLICABLE RUN-OFF RATES

	Cash Inflows	
	Maturing secured lending transactions backed by the following collateral:	
	Level 1 assets	0%
	Level 2A assets	15%
	Level 2B assets	
	- Eligible RMBS	25%
	- Other assets	50%
	Margin lending backed by all other collateral	50%
	All other assets	100%
	Credit or liquidity facilities provided to the reporting bank	0%
	Other inflows by counterparty:	
	- Amounts to be received from retail counterparties	50%
	- Amounts to be received from non-financial wholesale counterparties, from transactions other than those listed in above inflow categories	50%
	- Amounts to be received from financial institutions and central banks, from transactions other than those listed in above inflow categories.	100%
	Net derivative cash inflows	100%
	Other contractual cash inflows	100%
Total cash inflows		

APPENDIX 3 – THE CENTRAL BANK'S APPROACH: PROPOSED NSFR LIABILITY CATEGORIES & ASF FACTORS

	Components of ASF Category	ASF Factor
▪	Total regulatory capital (excluding Tier 2 instruments with residual maturity of less than one year)	100%
▪	Other capital instruments and liabilities with effective residual maturity of one year	
▪	Stable non-maturity (demand) deposits and term deposits with residual maturity of less than one year provided by retail and small business customers	95%
▪	Less stable non-maturity deposits and term deposits with residual maturity of less than one year provided by retail and small business customers	90%
▪	Funding with residual maturity of less than one year provided by non-financial corporate customers	50%
▪	Funding with residual maturity of less than one year from sovereigns, PSEs, and multilateral and national development banks	
▪	Other funding with residual maturity between six months and less than one year not included in the above categories, including funding provided by central banks and	
▪	All other liabilities and equity not included in the above categories, including liabilities without a stated maturity	0%

APPENDIX 4 – THE CENTRAL BANK'S APPROACH: PROPOSED ASSET CATEGORIES & RSF FACTORS

On Balance Sheet:

	Components of RSF Category	RSF Factor
▪	Coins and banknotes	0%
▪	All central bank reserves	
▪	All claims on central banks with residual maturities of less than six months	
▪	Unencumbered Level 1 assets, excluding coins, banknotes and central bank reserves	
▪	Unencumbered loans to financial institutions with residual maturities of less than six months, where the loan is secured against Level 1 assets as defined in LCR paragraph 50, and where the bank has the ability to freely rehypothecate the received collateral for the life of the loan	10%
▪	All other unencumbered loans to financial institutions with residual maturities of less than six months not included in the above categories	15%
▪	HQLA encumbered for a period of six months or more and less than one year	50%
▪	Loans to financial institutions and central banks with residual maturities between six months and less than one year	
▪	All other assets not included in the above categories with residual maturity of less than one year, including loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns and PSEs	
▪	Unencumbered residential mortgages with a residual maturity of one year or more and with a risk weight of less than or equal to 50% under the Standardised Approach	65%
▪	Other unencumbered loans not included in the above categories, excluding loans to financial institutions, with a residual maturity of one year or more and with a risk weight of less than or equal to 50% under the standardised approach	
▪	Other unencumbered performing loans with risk weights greater than 50% under the standardised approach and residual maturities of one year or more, excluding loans to financial institutions	100%
▪	Unencumbered securities that are not in default and do not qualify as HQLA with a remaining maturity of one year or more and exchange-traded equities	
▪	Physical traded commodities, including gold	
▪	All assets that are encumbered for a period of one year or more	
▪	All other assets not included in the above categories, including non-performing loans, loans to financial institutions with a residual maturity of one year or more, non-exchange-traded equities, fixed assets, items deducted from regulatory capital, retained interest, insurance assets, subsidiary interests and defaulted securities	

Off Balance Sheet:

Components of RSF Category	RSF Factor
Irrevocable and conditionally revocable credit and liquidity facilities to any client	**5% of the currently undrawn portion**
Other contingent funding obligations, including products and instruments	**0%**
▪ Unconditionally revocable credit and liquidity facilities	
▪ Trade finance-related obligations (including guarantees and letters of	
▪ Guarantees and letters of credit unrelated to trade finance obligations	
▪ Non-contractual obligations such as:	
- potential requests for debt repurchases of the bank's own debt or that of related conduits, securities investment vehicles and other such financing facilities	
- structured products where customers anticipate ready marketability, such as adjustable rate notes and variable rate demand notes (VRDNs)	
- managed funds that are marketed with the objective of maintaining a stable value	

APPENDIX 5 – FOR REFERENCE: BASEL III APPROACH, LCR: CASH OUTFLOWS & APPLICABLE RUN-OFF RATES

Cash Outflows	
A. Retail deposits:	
Demand deposits and term deposits (less than 30 days maturity) • Stable deposits (deposit insurance scheme meets additional criteria) • Stable deposits • Less stable retail deposits	 3% 5% 10%
Term deposits with residual maturity greater than 30 days	0%
B. Unsecured wholesale funding:	
Demand and term deposits (less than 30 days maturity) provided by small business customers: • Stable deposits • Less stable deposits	 5% 10%
Operational deposits generated by clearing, custody and cash management activities • Portion covered by deposit insurance	25% 5%
Cooperative banks in an institutional network (qualifying deposits with the centralised institution)	25%
Non-financial corporates, sovereigns, central banks, multilateral development banks, and PSEs • If the entire amount fully covered by deposit insurance scheme	40% 20%
Other legal entity customers	100%
C. Secured funding:	
• Secured funding transactions with a central bank counterparty or backed by Level 1 assets with any counterparty. • Secured funding transactions backed by Level 2A assets, with any counterparty	0% 15%

• Secured funding transactions backed by non-Level 1 or non-Level 2A assets, with domestic sovereigns, multilateral development banks, or domestic PSEs as a counterparty	25%
• Backed by RMBS eligible for inclusion in Level 2B	25%
• Backed by other Level 2B assets	50%
• All other secured funding transactions	100%
D. Additional requirements:	
Liquidity needs (eg collateral calls) related to financing transactions, derivatives and other contracts	3 notch downgrade
Market valuation changes on derivatives transactions (largest absolute net 30-day collateral flows realised during the preceding 24 months)	Look back approach
Valuation changes on non-Level 1 posted collateral securing derivatives	20%
Excess collateral held by a bank related to derivative transactions that could contractually be called at any time by its counterparty	100%
Liquidity needs related to collateral contractually due from the reporting bank on derivatives transactions	100%
Increased liquidity needs related to derivative transactions that allow collateral substitution to non-HQLA assets	100%
ABCP, SIVs, conduits, SPVs, etc:	
• Liabilities from maturing ABCP, SIVs, SPVs, etc (applied to maturing amounts and returnable assets)	100%
• Asset Backed Securities (including covered bonds) applied to maturing amounts.	100%
Currently undrawn committed credit and liquidity facilities provided to:	
• retail and small business clients	5%
• non-financial corporates, sovereigns and central banks, multilateral development banks, and PSEs	10% for credit 30% for liquidity
• banks subject to prudential supervision	40%
• other financial institutions (include securities firms, insurance companies)	40% for credit 100% for liquidity
• other legal entity customers, credit and liquidity facilities	100%
Other contingent funding liabilities (such as guarantees, letters of credit, revocable credit and liquidity facilities, etc)	National discretion
• Trade finance	0-5%
• Customer short positions covered by other customers' collateral	50%
Any additional contractual outflows	100%
Net derivative cash outflows	100%
Any other contractual cash outflows	100%
Total cash outflows	

Source: The Basel Committee's paper entitled *"Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools," (January 2013) - https://www.bis.org/publ/bcbs238.pdf*

Appendix 6 – For Reference: Basel III Approach, LCR: Cash Inflows & Applicable Rates

Cash Inflows	
Maturing secured lending transactions backed by the following collateral:	
Level 1 assets	0%
Level 2A assets	15%
Level 2B assets • Eligible RMBS • Other assets	 25% 50%
Margin lending backed by all other collateral	50%
All other assets	100%
Credit or liquidity facilities provided to the reporting bank	0%
Operational deposits held at other financial institutions (include deposits held at centralised institution of network of co-operative banks)	0%
Other inflows by counterparty: • Amounts to be received from retail counterparties • Amounts to be received from non-financial wholesale counterparties, from transactions other than those listed in above inflow categories • Amounts to be received from financial institutions and central banks, from transactions other than those listed in above inflow categories.	 50% 50% 100%
Net derivative cash inflows	100%
Other contractual cash inflows	National discretion
Total cash inflows	
Total net cash outflows = Total cash outflows minus min [total cash inflows, 75% of gross outflows]	
LCR = Stock of HQLA / Total net cash outflows	

Source: The Basel Committee's paper entitled *"Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools," (January 2013)* - https://www.bis.org/publ/bcbs238.pdf

APPENDIX 7 – FOR REFERENCE: BASEL III APPROACH, NSFR: SUMMARY OF LIABILITY CATEGORIES & ASF FACTORS

Summary of liability categories and associated ASF factors — Table 1

ASF factor	Components of ASF category
100%	• Total regulatory capital (excluding Tier 2 instruments with residual maturity of less than one year) • Other capital instruments and liabilities with effective residual maturity of one year or more
95%	• Stable non-maturity (demand) deposits and term deposits with residual maturity of less than one year provided by retail and small business customers
90%	• Less stable non-maturity deposits and term deposits with residual maturity of less than one year provided by retail and small business customers
50%	• Funding with residual maturity of less than one year provided by non-financial corporate customers • Operational deposits • Funding with residual maturity of less than one year from sovereigns, PSEs, and multilateral and national development banks • Other funding with residual maturity between six months and less than one year not included in the above categories, including funding provided by central banks and financial institutions
0%	• All other liabilities and equity not included in the above categories, including liabilities without a stated maturity (with a specific treatment for deferred tax liabilities and minority interests) • NSFR derivative liabilities net of NSFR derivative assets if NSFR derivative liabilities are greater than NSFR derivative assets • "Trade date" payables arising from purchases of financial instruments, foreign currencies and commodities

Source: The Basel Committee's paper entitled *"Basel III: the net stable funding ratio," (October 2014)* - *https://www.bis.org/bcbs/publ/d295.pdf*

Appendix 8 – For Reference: Basel III Approach, NSFR: Summary of Asset Categories & RSF Factors

Summary of asset categories and associated RSF factors — Table 2

RSF factor	Components of RSF category
0%	• Coins and banknotes • All central bank reserves • All claims on central banks with residual maturities of less than six months • "Trade date" receivables arising from sales of financial instruments, foreign currencies and commodities.
5%	• Unencumbered Level 1 assets, excluding coins, banknotes and central bank reserves
10%	• Unencumbered loans to financial institutions with residual maturities of less than six months, where the loan is secured against Level 1 assets as defined in LCR paragraph 50, and where the bank has the ability to freely rehypothecate the received collateral for the life of the loan
15%	• All other unencumbered loans to financial institutions with residual maturities of less than six months not included in the above categories • Unencumbered Level 2A assets
50%	• Unencumbered Level 2B assets • HQLA encumbered for a period of six months or more and less than one year • Loans to financial institutions and central banks with residual maturities between six months and less than one year • Deposits held at other financial institutions for operational purposes • All other assets not included in the above categories with residual maturity of less than one year, including loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns and PSEs
65%	• Unencumbered residential mortgages with a residual maturity of one year or more and with a risk weight of less than or equal to 35% under the Standardised Approach • Other unencumbered loans not included in the above categories, excluding loans to financial institutions, with a residual maturity of one year or more and with a risk weight of less than or equal to 35% under the standardised approach
85%	• Cash, securities or other assets posted as initial margin for derivative contracts and cash or other assets provided to contribute to the default fund of a CCP • Other unencumbered performing loans with risk weights greater than 35% under the standardised approach and residual maturities of one year or more, excluding loans to financial institutions • Unencumbered securities that are not in default and do not qualify as HQLA with a remaining maturity of one year or more and exchange-traded equities • Physical traded commodities, including gold
100%	• All assets that are encumbered for a period of one year or more • NSFR derivative assets net of NSFR derivative liabilities if NSFR derivative assets are greater than NSFR derivative liabilities • 20% of derivative liabilities as calculated according to paragraph 19 • All other assets not included in the above categories, including non-performing loans, loans to financial institutions with a residual maturity of one year or more, non-exchange-traded equities, fixed assets, items deducted from regulatory capital, retained interest, insurance assets, subsidiary interests and defaulted securities

Source: The Basel Committee's paper entitled *"Basel III: the net stable funding ratio," (October 2014)* - *https://www.bis.org/bcbs/publ/d295.pdf*

Summary of off-balance sheet categories and associated RSF factors — Table 3

RSF factor	RSF category
5% of the currently undrawn portion	Irrevocable and conditionally revocable credit and liquidity facilities to any client
National supervisors can specify the RSF factors based on their national circumstances	Other contingent funding obligations, including products and instruments such as: • Unconditionally revocable credit and liquidity facilities • Trade finance-related obligations (including guarantees and letters of credit) • Guarantees and letters of credit unrelated to trade finance obligations • Non-contractual obligations such as: – potential requests for debt repurchases of the bank's own debt or that of related conduits, securities investment vehicles and other such financing facilities – structured products where customers anticipate ready marketability, such as adjustable rate notes and variable rate demand notes (VRDNs) – managed funds that are marketed with the objective of maintaining a stable value

Source: The Basel Committee's paper entitled *"Basel III: the net stable funding ratio," (October 2014)* - *https://www.bis.org/bcbs/publ/d295.pdf*

APPENDIX 9 – LIQUIDITY QIS TEMPLATE

Please see QIS Template Attached.