Oracle Financial Services Liquidity Risk Regulatory Calculations for Hong Kong Monetary Authority

User Guide

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OFS Liquidity Risk Regulatory Calculations for Hong Kong Monetary Authority User Guide

Document Control

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1.0	Created: June 2020	Captured updates for 8.1.0.0.0 release.

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1 Preface

This section provides a brief description of the scope, the audience, the references, the organization of the user guide, and conventions incorporated into the user guide.

Topics:

1.1 Scope of the Guide

The objective of this user guide is to provide comprehensive knowledge about the regulatory calculations supported in the Oracle Financial Services Liquidity Risk Regulatory Calculations for Hong Kong Monetary Authority, Release 8.1.0.0.0. This document is intended to help you understand the methodologies involved in the computation of LCR, NSFR, LMR, and CFR as prescribed by liquidity guidelines published by HKMA.

This User Guide should be used in conjunction with the documents listed in the Related Information Sources section to get a complete view of how the general capabilities of OFS Liquidity Risk Regulatory Calculations for Hong Kong Monetary Authority (LRRCHKMA) have been leveraged, and the configurations required for addressing the regulatory requirements.

1.2 Intended Audience

Welcome to Release 8.1.0.0.0 of the Oracle Financial Services Liquidity Risk Regulatory Calculations for the Hong Kong Monetary Authority. This manual is intended for the following audience:

- **Business Users**: This user reviews the functional requirements and information sources, such as reports.
- **Strategists**: This user identifies strategies to maintain an ideal liquidity ratio and liquidity gap, based on the estimated inflow and outflow of cash.
- **Data Analysts**: This user would be involved with cleaning, validation, and importing of data into the OFSAA Download Specification format.

1.3 Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info

Or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

1.4 Related Information Sources

We strive to keep this document and all other related documents updated regularly; visit the OHC Documentation Library to download the latest version available. The list of related documents is provided here:

OHC Documentation Library **for OFS Liquidity Risk Solution**

- OFS Liquidity Risk Solution Application Pack 8.1.0.0.0 Release Notes
- OFS Liquidity Risk Solution Application Pack 8.1.0.0.0 Installation Guide
- OFS Liquidity Risk Solution Release 8.1.0.0.0 Analytics User Guide
- OFS Liquidity Risk Measurement and Management Release 8.1.0.0.0 User Guide

OHC Documentation Library **for OFS AAAI Application Pack:**

- OFS Advanced Analytical Applications Infrastructure (OFS AAAI) Application Pack Installation and Configuration Guide
- OFS Analytical Applications Infrastructure User Guide

Additional Reference Documents:

- OFSAA Licensing User Manual, Release 8.1.0.0.0
- OFS Analytical Applications 8.1.0.0.0 Technology Matrix
- OFS Analytical Applications Infrastructure Security Guide
- OFS LRS Security Guides Release 8.1.x
- Oracle Financial Services Analytical Applications Infrastructure Cloning Guide
- OFS LRS Cloning Guide Release 8.0.x
- OFS LRS Cloning Guide Release 8.1.x
- OFSAAI FAQ Document

1.5 Abbreviations

The following table lists the abbreviations used in this document.

Table 1: Abbreviations

Abbreviation	Description
LRS	Liquidity Risk Solution
LRMM	Liquidity Risk Measurement and Management
LRRCHKMA	Liquidity Risk Regulatory Calculations for the Hong Kong Monetary Authority
LRRCEBA	Liquidity Risk Regulatory Calculations for the European Banking Authority
LRRCRBI	Liquidity Risk Regulatory Calculations for Reserve Bank of India
LRRCUSFED	Liquidity Risk Regulatory Calculations for US Federal Reserve

Abbreviation	Description
DICLRM	Deposit Insurance Calculations for Liquidity Risk Management
OFS	Oracle Financial Services
LCR	Liquidity Coverage Ratio
NSFR	Net Stable Funding Ratio
LMR	Liquidity Maintenance Ratio
CFR	Core Funding Ratio

1.6 What is New in this Release

The Oracle Financial Services Liquidity Risk Regulatory Calculations for Hong Kong Monetary Authority Release 8.1.0.0.0 is an enhancement of the existing Oracle Financial Services Liquidity Risk Regulatory Calculations for Hong Kong Monetary Authority Release 8.0.8.0.0 and includes bug fixes.

1.6.1 Installing this Major Release

For detailed instructions to install this Major Release, see the Oracle Financial Services Liquidity Risk Solution Installation Guide Release 8.1.0.0.0.

2 Introduction

Various parameters in Liquidity Risk Management help in analyzing the liquidity status of the bank. Liquidity ratios are one such parameter prescribed by the Basel III Guidelines. In addition to Liquidity Coverage Ratio (LCR) and Net Stable funding Ratio (NSFR), the HKMA has also identified the Liquidity Maintenance Ratio (LMR) and Core funding Ratio (CFR) for Category 2 institutions.

Oracle Financial Services Liquidity Risk Regulatory Calculations for the Hong Kong Monetary Authority (LRRCHKMA) application calculates the following ratios:

Topics:

2.1 Liquidity Coverage Ratio (LCR)

This ratio addresses the short-term liquidity needs of a bank or financial institution during a stressful situation. It estimates whether the stock of high-quality liquid assets is sufficient to cover the net cash outflows under stress situations over a specified future period, in general, lasting 30 calendar days (or LCR horizon). LCR is calculated at the legal entity level, on a standalone and consolidated basis.

The LCR as prescribed by the HKMA is required to be reported by all institutions designated as Category 1 by the Hong Kong Monetary Authority.

2.2 Net Stable Funding Ratio (NSFR)

This ratio addresses the medium and long-term liquidity needs of a bank, or financial institution during a stressful situation. It specifies the minimum amount of stable funding required to be maintained to promote stable long term funding.

2.3 Liquidity Maintenance Ratio (LMR)

This ratio is a simplified form of the LCR for institutions designated as Category 2 by the HKMA.

2.4 Core Funding Ratio (CFR)

This ratio is one of the two minimum standards developed to promote funding and liquidity management in financial institutions. CFR assesses the bank's liquidity risks over a longer time horizon.

3 Liquidity Coverage Ratio Calculation

LCR is the first standard that assesses the short term liquidity challenges of a bank. The two standards - LCR and NSFR, complement each other, are aimed at providing a holistic picture of a bank's funding risk profile, and aid in better liquidity risk management practices. The LCR as prescribed by the HKMA is required to be reported by all institutions designated as Category 1 by the Hong Kong Monetary Authority.

Topics:

3.1 General Inputs

The LRRCHKMA application requires the following inputs for LCR calculation:

- Liquidity haircut for each asset level should be provided through business assumptions, with the assumption category as valuation change, and assumption subcategory as the haircut.
- Scenarios which define the outflow percentage should be defined through appropriate business assumptions. For example, Retail Deposit Runoff is defined through a business assumption with the assumption category as Incremental Cash Flow, and subcategory as Run-off.
- Scenarios which define the inflow percentage should be defined through appropriate business assumptions. For example, Rollover Reverse Repo is defined through a business assumption with the assumption category as Cash Flow Movement, and subcategory as Roll Over.
- Liquidity Horizon is specified as the Runtime execution parameter.

3.2 HKMA Specific Input - Credit Quality Grade

Credit Quality Grade is one of the dimensions used in the LCR Rules and Business Assumptions and is computed per Capital Rules (Cap. 155. sub. leg. L) as issued by the HKMA. The grade is a reclassification of credit quality ratings into a number or a score based on the issuer type, the domicile, the Rating Agency, and so on.

The grade reclassification is done for ratings on Issuer, Guarantor, and Issue (Security).

- For Issuer and Guarantor, only Long term Ratings are considered and reclassified.
- For Security, both Long term and Short term ratings are reclassified. The following table illustrates the logic of reclassification, and displays the credit grade based on long term ratings.

Table 2: Credit Grade Based on Long Term Ratings

Standard Party Type (of Issuer or Guarantor)	Issuer Domicile	S&P Global Rating	Moody's Investor Service	Fitch Ratings	Rating and Investment Information Inc	Japan Credit Rating Agency Inc	Credit Analysis and Research ltd	CRISIL	ICRA	Credit Quality Grade (Processing)
Sovereign		AAA	Aaa	AAA	AAA	AAA				1
		AA+	Aa1	AA+	AA+	AA+				
		AA	Aa2	AA	AA	AA				
		AA-	Aa3	AA-	AA-	AA-				
Banks, Financial Institutions, Securities Firms		AAA	Aaa	AAA	AAA	AAA				
		AA+	Aa1	AA+	AA+	AA+				
		AA	Aa2	AA	AA	AA				
		AA-	Aa3	AA-	AA-	AA-				
Corporates	Other than India	AAA	Aaa	AAA	AAA	AAA				
		AA+	Aa1	AA+	AA+	AA+				
		AA	Aa2	AA	AA	AA				
		AA-	Aa3	AA-	AA-	AA-				
	India						CARE AAA	CRISIL AAA	[ICRA] AAA	
							CARE AAA (Is)		IrAAA	
Sovereign		A+	A1	A+	A+	A+				2
		A	A2	A	A	A				
		A-	A3	A-	A-	A-				
Banks, Financial Institutions, Securities Firms		A+	A1	A+	A+	A+				
		A	A2	A	A	A				
		A-	A3	A-	A-	A-				
Corporates		A+	A1	A+	A+	A+				
		A	A2	A	A	A				

	Other than India	A-	A3	A-	A-	A-				
	India						CARE AA+	CRISIL AA+	[ICRA]AA+	
							CARE AA	CRISIL AA	[ICRA]AA	
							CARE AA-	CRISIL AA-	[ICRA]AA-	
							CARE AA+(Is)		IrAA+	
							CARE AA(Is)		IrAA	
							CARE AA-(Is)		IrAA-	
Sovereign		BBB+	Baa1	BBB+	BBB+	BBB+				
		BBB	Baa2	BBB	BBB	BBB				
		BBB-	Baa3	BBB-	BBB-	BBB-				
Banks, Financial Institutions, Securities Firms		BBB+	Baa1	BBB+	BBB+	BBB+				
		BBB	Baa2	BBB	BBB	BBB				
		BBB-	Baa3	BBB-	BBB-	BBB-				
Corporates	Other than India	BBB+	Baa1	BBB+	BBB+	BBB+				
		BBB	Baa2	BBB	BBB	BBB				3
		BBB-	Baa3	BBB-	BBB-	BBB-				
Corporates	India						CARE A+	CRISIL A+	[ICRA]A+	
							CARE A	CRISIL A	[ICRA]A	
							CARE A-	CRISIL A-	[ICRA]A-	
							CARE A+(Is)		IrA+	
							CARE A(Is)		IrA	
							CARE A-(Is)		IrA-	
Sovereign		BB+	Ba1	BB+	BB+	BB+				4

		BB	Ba2	BB	BB	BB				
		BB-	Ba3	BB-	BB-	BB-				
Banks, Financial Institutions, Securities Firms		BB+	Ba1	BB+	BB+	BB+				
		BB	Ba2	BB	BB	BB				
		BB-	Ba3	BB-	BB-	BB-				
		B+	B1	B+	B+	B+				
		B	B2	B	B	B				
		B-	B3	B-	B-	B-				
Corporates	Other than India	BB+	Ba1	BB+	BB+	BB+				
		BB	Ba2	BB	BB	BB				
		BB-	Ba3	BB-	BB-	BB-				
Corporates	India						CARE BBB+	CRISIL BBB+	[ICRA]BBB+	
							CARE BBB	CRISIL BBB	[ICRA]BBB	
							CARE BBB-	CRISIL BBB-	[ICRA]BBB-	
							CARE BBB+(Is)		IrBBB+	
							CARE BBB(Is)		IrBBB	
							CARE BBB-(Is)		IrBBB-	
Sovereign		B+	B1	B+	B+	B+				5
		B	B2	B	B	B				
		B-	B3	B-	B-	B-				
Banks, Financial Institutions, Securities Firms		CCC+	Caa1	CCC	CCC+	CCC				
		CCC	Caa2	CC	CCC	CC				
		CCC-	Caa3	C	CCC-	C				
		CC	Ca	D	CC	D				
		C	C		C					

		D			D				
Corporates	Other than India	B+	B1	B+	B+	B+			
		B	B2	B	B	B			
		B-	B3	B-	B-	B-			
		CCC+	Caa1	CCC	CCC+	CCC			
		CCC	Caa2	CC	CCC	CC			
		CCC-	Caa3	C	CCC-	C			
		CC	Ca	D	CC	D			
		C	C		C				
		D			D				
Corporates	India						CARE BB+	CRISIL BB+	[ICRA] BB+
							CARE BB	CRISIL BB	[ICRA] BB
							CARE BB-	CRISIL BB-	[ICRA] BB-
							CARE B+	CRISIL B+	[ICRA] B+
							CARE B	CRISIL B	[ICRA] B
							CARE B-	CRISIL B-	[ICRA] B-
							CARE C+	CRISIL C+	[ICRA] C+
							CARE C	CRISIL C	[ICRA] C-
							CARE C-	CRISIL C-	[ICRA] D
							CARE D	CRISIL D	IrBB+
							CARE BB+(Is)		IrBB
							CARE BB(Is)		IrBB-
							CARE BB-(Is)		IrB+
							CARE B+ (Is)		IrB
							CARE B (Is)		IrB-
							CARE B-(Is)		IrC+

							CARE C+ (Is)		IrC	
							CARE C(Is)		IrC-	
							CARE C-(Is)			
							CARE D (Is)			
Sovereign		CCC+	Caa1	CCC	CCC+	CCC				6
		CCC	Caa2	CC	CCC	CC				
		CCC-	Caa3	C	CCC-	C				
		CC	Ca	D	CC	D				
		C	C		C					
		D			D					

The following table displays the credit grade based on short term ratings.

Table 3: Credit Grade Based on Short Term Ratings

Standard Party Type (of Issuer or Guarantor)	Issuer Domicile	S&P Global Rating	Moody's Investor Service	Fitch Ratings	Rating and Investment Information Inc	Japan Credit Rating Agency Inc	Credit Analysis and Research ltd	CRISIL	ICRA	Credit Quality Grade (Processing)
Banks, Financial Institutions, Securities Firms, Corporates	Other than India	A-1+	P-1	F-1+	a-1+	J-1+				**1s**
		A-1		F-1	a-1	J-1				
	India						CARE A1+	CRISIL A1+	[ICRA]A1+	
Banks, Financial Institutions, Securities Firms, Corporates	Other than India	A-2	P-2	F2	a-2	J-2				**2s**
	India						CARE A1	CRISIL A1	[ICRA]A1	

Standard Party Type (of Issuer or Guarantor)	Issuer Domicile	S&P Global Rating	Moody's Investor Service	Fitch Ratings	Rating and Investment Information Inc	Japan Credit Rating Agency Inc	Credit Analysis and Research ltd	CRISIL	ICRA	Credit Quality Grade (Processing)
Banks, Financial Institutions, Securities Firms, Corporates	Other than India	A-3	P-3	F3	a-3	J-3				**3s**
	India						CARE A2+	CRISIL A2+	[ICRA]A2+	
							CARE A2	CRISIL A2	[ICRA]A2	
Banks, Financial Institutions, Securities Firms, Corporates	Other than India	B	NP	B	b	NJ				**4s**
		B-1		C	c	D				
		B-2		D						
		B-3								
		C								
		D								
	India						CARE A3+	CRISIL A3+	[ICRA]A3+	
							CARE A3	CRISIL A3	[ICRA]A3	
Banks, Financial Institutions, Securities Firms, Corporates	India						CARE A4+	CRISIL A4+	[ICRA]A4+	**5s**
							CARE A4	CRISIL A4	[ICRA]A4	
							CARE D	CRISIL D	[ICRA]D	

3.3 Ratio Constituents

The application supports an out-of-the-box HKMA LCR, which has the regulatory scenario with associated HQLA haircuts, inflow, and outflow percentage/rates preconfigured in the form of rules and business assumptions.

Topics:

3.3.1 Identification of Asset Levels

High-Quality Liquid Assets (HQLA) are unencumbered high-quality liquid assets, that can be easily sold or used as collaterals to obtain funds at little or no loss of value even under stress scenarios. All assets, whether owned by the bank or received from counterparties as collaterals, that meet the high quality liquid asset criteria specified by Hong Kong Monetary Authority (HKMA), are classified by the application as follows:

- Level 1 Assets
- Level 2A Assets
- Level 2B RMBS Assets
- Level 2B Non-RMBS Assets

Level1 assets can be included without limit, and Level 2 assets can only comprise 40% of the stock of HQLA. Of this, Level 2B assets can only comprise 15% of the stock of HQLA. Any asset not classified as an HQLA is considered as an Other Asset.

Topics:

3.3.1.1 Identifying and Treating Level 1 Assets

The application identifies the following as HQLA Level 1 assets:

- Cash in all currencies, including deposits and reserves at central banks.
- Central bank reserves (including required reserves), to the extent that the central bank policies allow them to be drawn down in times of stress. These include the following:
  - **a.** Banks' overnight deposits with the central bank.
  - **b.** Term deposits with the central bank that satisfy the following conditions:
    - They are explicitly and contractually repayable on notice from the depositing bank.
    - They constitute a loan against which the bank can borrow on a term basis or overnight but automatically renewable basis (only where the bank has an existing deposit with the relevant central bank).
- Marketable debt securities that are issued or guaranteed by a sovereign, central bank, public sector entity, relevant international organization, or multilateral development bank. These securities should also satisfy the following criteria:
  - **a.** It qualifies, in the calculation of credit risk under the standardized (credit risk) approach, for 0% risk weight.
  - **b.** It is traded in large, deep and active markets, characterized by a low level of concentration, and where debt securities of that type can be monetized through direct sale or repo-style transactions.
  - **c.** It has a proven record as a reliable source of liquidity in those markets, even during a period of financial stress.
  - **d.** It is not an obligation of a financial institution or an associated entity of a financial institution.
- Marketable debt securities that are issued by the sovereign or central bank of a country and denominated in the local currency of that country, which, under the standardized (credit risk) approach which does not qualify for 0% risk-weight. These securities should also satisfy the following criteria:
  - **a.** The Category 1 institution holding the debt security is incorporated in that country, or carries on a banking business, through a branch or subsidiary, in that country.
- Marketable debt securities that are issued by the sovereign or central bank of a country and denominated in a currency that is not the local currency of that country and which do not,

under the standardized (credit risk) approach, qualify for 0% risk-weight as laid out in the Capital Rules. These securities should also satisfy the following criteria:

a. It is issued by the sovereign or central bank of a country in which the Category 1 institution holding the debt security is incorporated or carries on a banking business through a branch or subsidiary.

b. The amount of the Category 1 institution's holding in the debt security that may be eligible for inclusion in the institution's HQLA does not exceed the amount of total net cash outflows in the currency of the debt security arising from the institution's banking business in the country in which the debt security is issued.

> **NOTE** The process of identifying the value to be included in the stock of HQLA up to the extent of a bank stressed net cash outflows in a particular currency is documented in the Account Country Liquidity Risk Flag section.

Account Country Liquidity Risk Flag:

1. The flag identifies the existence of a bank's operations in a particular jurisdiction. If the bank holds either liabilities or non-marketable assets in that jurisdiction, the application assumes that the bank has operations in that specific jurisdiction. This is identified in a country and currency combination.
2. The application then identifies whether the asset is held to meet the bank's net stressed cash outflows in that currency arising from the bank's operations in that specific jurisdiction by checking the following conditions:
   a. Is the issuer's country is the same as the account country.
   b. If the issuer's country is the same as the country in which local operations are present in a particular jurisdiction as identified in Step 1.
   c. If the account currency is the same as the currency in which local operations are present in a particular jurisdiction as identified in Step 1.

   If all the criteria are met, the account country's liquidity risk flag is updated as **Yes**. This indicates that the particular asset is held to meet the net cash outflows in a particular jurisdiction.
3. Finally, the application identifies the amount to be included in the stock of HQLA when the Account Country Liquidity Risk flag = **Yes** using the following calculation:

$$\textit{Amount to be Included in Stock Due to Local Operations Related Restrictions} = \textit{Minimum}\left(\textit{Haircut Adjusted Market Value of Asset}_{Currency,Country},\ \textit{Net Cash Outflows}_{Currency,Country}\right)$$

Assets classified as HQLA Level 1 which are denominated in HKD are assigned a 0% haircut under the regulatory scenario as prescribed by HKMA. Level 1 securities denominated in other currencies are applied haircuts as follows:

Table 4: Haircuts Applied to Level 1 Securities Denominated in Other Currencies

Currency	Haircut
USD	2%
Euro/ JPY/ GBP	8%
Others	10%

3.3.1.2 Identifying and Treating Level 2A Assets

The application identifies the following assets as HQLA Level 2A assets:

1. Marketable securities which satisfy the following conditions:

- Issuer type or guarantor type is one of the following:
  - Sovereign
  - Governments
  - Central Banks
  - Public Sector Entity (PSE)
  - Multi-Lateral Development Bank (MDB)
- Assigned a 20% risk-weight under the standardized Approach of Basel II,
- Not an obligation of a financial institution or any of its affiliated entities.
- Price has not decreased or haircut has not increased by more than 10% over 30 days during a relevant period of significant liquidity stress specified by the bank.

2. Corporate debt securities and covered bonds (including commercial papers), which satisfy the following conditions:

- Issuer type is not a financial institution or its affiliated entities.
- Issuer type is not the bank itself for which the computations are being carried out or any of its affiliated entities (for covered bonds).
- Price has not decreased or haircut has not increased by more than 10% over 30 days during a relevant period of significant liquidity stress which is specified by the bank.
- Has either a long-term credit score of 1, or if the long-term rating is not available, then a short-term credit score of 1.

> **NOTE** The credit score is a computed value based on the Credit ratings of the Instrument or Issuer or Guarantor of the securities. This classification process is documented in the Credit Quality Grade section.

Assets classified as HQLA Level 2A are assigned a 15% haircut under the regulatory scenario prescribed by HKMA.

3.3.1.3 Identifying and Treating Level 2B RMBS Assets

The application identifies the following assets as HQLA Level 2B RMBS assets:

Residential Mortgage-Backed Securities which are marketable and satisfy the following criteria:

- Issuer type is not the bank itself for which the computations are being carried out or any of its affiliated entities (in case of covered bonds).
- Price has not decreased or haircut has not increased by more than 20% over 30 days during a relevant period of significant liquidity stress which is specified by the bank.
- Has an underlying Loan to Value Ratio of less than or equal 80%.
- Has either a long-term credit score of 1, or if the long-term rating is not available, then a short-term credit score of 1.

> **NOTE** The credit score is a computed value based on the Credit ratings of the Instrument or Issuer or Guarantor of the securities. This classification process is documented in the Credit Quality Grade section.

Assets classified as HQLA Level 2B RMBS are assigned a 25% haircut under the regulatory scenario prescribed by HKMA.

3.3.1.4 Identifying and Treating Level 2B Non-RMBS Assets

The application identifies the following assets as HQLA Level 2B Non-RMBS assets:

Marketable securities which satisfy the following conditions:

- Issued by Corporates.
- Not an obligation of a financial institution or any of its affiliated entities.
- Price has not decreased or haircut has not increased by more than 20% over 30 days during a relevant period of significant liquidity stress.
- Has either a long-term credit score of 2, or if the long-term rating is not available, then a short-term credit score of 2.

> **NOTE** The credit score is a computed value that is based on Credit ratings of the Instrument or Issuer or Guarantor of the securities. This classification process is documented in Credit Quality Grade.

Assets classified as HQLA Level 2B Non-RMBS are assigned a 50% haircut under the regulatory scenario prescribed by HKMA.

3.3.2 Identifying Eligible HQLA

The application identifies whether a bank's asset or a mitigant received under re-hypothecation rights meets all the operational requirements prescribed by HKMA. If an asset classified as HQLA meets all the relevant operational criteria, it is identified as eligible HQLA and included in the stock of HQLA. The application checks for the following operational criteria:

1. **Operational Capability to Monetize HQLA**

   An asset is considered HQLA only if the bank has demonstrated the operational capability to monetize such an asset, and has periodically monetized such an asset. The application captures this information for each asset as a flag.

2. **Unencumbered**

   The application looks at the encumbrance status and includes only those assets in the stock which are unencumbered. If partially encumbered, then the portion of the asset that is unencumbered is considered as HQLA and included in the stock. If an asset is pledged to the central bank, or a PSE, but is not used, the unused portion of such an asset is included in the stock. The application assigns the usage of a pledged asset in the ascending order of asset quality. The lowest quality collateral is marked as used first.

3. **Inclusion and Exclusion of Certain Rehypothecated Assets**

   Assets received under rehypothecation rights as part of the reverse repo and securities financing transactions are considered as eligible HQLA if they are not rehypothecated. An asset pledged to central banks or PSEs, but not used, is considered eligible HQLA. Any asset that a bank receives under a rehypothecation right is not considered eligible HQLA if the counterparty or beneficial owner of the asset has a contractual right to withdraw the asset at any time within 30 calendar days.

4. **Unsegregated Assets**

   The application includes unsegregated assets, received as collateral under rehypothecation rights, for derivative transactions, in the stock of HQLA. Conversely, it excludes all segregated assets from the stock of HQLA.

5. **HQLA Under the Control of the Treasurer**

   To be considered eligible HQLA, the asset is required to be under the control of the management function of the bank that manages liquidity for example, Treasurer. The application captures this information for each asset as a flag.

6. **Termination of Transaction Hedging HQLA**

   If an HQLA is hedged by a specific transaction, then the application considers the impact of closing out the hedge to liquidate the asset that is, the cost of terminating the hedge while computing the stock of HQLA. The hedge termination cost is deducted from the market value of the asset and the difference is included in the stock of HQLA.

3.3.3 Calculating Stock of High-Quality Liquid Assets

All unencumbered assets classified as Level 1, 2A, or 2B, which meet the HQLA eligibility criteria, are included in the Stock of High-Quality Liquid Assets (SHQLA). The formula for calculating SHQLA is as follows:

$$SHQLA = Min[(SHQLA)_1, (SHQLA)_2]$$

$$(SHQLA)_1 = Level\ 1 + Level\ 2A + Level\ 2B - (Adjustment\ for\ 15\%\ Ceiling)_1 - (Adjustment\ for\ 40\%\ Ceiling)_1$$

where

$$(Adjustment\ for\ 15\%\ Ceiling)_1 = Max[Level\ 2B\ Assets - 15/85 * (Level\ 1 + Level\ 2A\ Assets), Level\ 2B\ Assets - 15/60 * Level\ 1\ assets, 0]$$

$$(Adjustment\ for\ 40\%\ Ceiling)_1 = Max[(Level\ 2A + Level\ 2B - (Adjustment\ for\ 15\%\ Ceiling)_1) - 2/3 * Level\ 1\ Assets, 0]$$

$$(SHQLA)_2 = Level\ 1 + Level\ 2A + Level\ 2B - (Adjustment\ for\ 15\%\ Ceiling)_2 - (Adjustment\ for\ 40\%\ Ceiling)_2$$

where

$$(Adjustment\ for\ 15\%\ Ceiling)_2 = Max[Adjusted\ Level\ 2B - 15/85 * (Adjusted\ Level\ 1 + Adjusted\ Level\ 2B), Adjusted\ Level\ 2B - 15/60 * Adjusted\ Level\ 1, 0]$$

$$(Adjustment\ for\ 40\%\ Ceiling)_2 = Max[(Adjusted\ Level\ 2A + Adjusted\ Level\ 2B - (Adjustment\ for\ 15\%\ Ceiling)_2) - 2/3 * Adjusted\ Level\ 1\ Assets, 0]$$

The Application applies the relevant liquidity haircuts to the fair value of each eligible HQLA based on the haircuts specified as part of a business assumption. The sum of haircut adjusted market value of all assets which are not 'other assets' and which are classified as 'eligible HQLA' is considered in the stock of HQLA. The stock includes the bank's assets which are unencumbered, i.e. not placed as collateral; as well as assets received from counterparties where the bank has a re-hypothecation right and where such assets are not rehypothecated.

> **NOTE** All calculations are based on the fair value of assets.

The following steps are involved in computing the stock of HQLA:

Topics:

- Calculating Stock of Liquid Assets
- Identifying Eligible HQLA on Unwind
- Unwinding of Transactions Involving Eligible HQLA
- Calculating SHQLA with and without Adjustments

3.3.3.1 Calculating Stock of Liquid Assets

The process for calculation of stock of liquid assets is as follows.

1. **Calculating Stock of Level 1 Assets**

   The stock of level 1 assets equals the haircut adjusted fair value of all level 1 liquid assets held by the bank as on the calculation date that is eligible HQLA, less the amount of the minimum/mandatory reserves, less hedge termination costs (if any), less withdrawal penalty on time deposits (if any).

2. **Calculating Stock of Level 2A Assets**

   The stock of level 2A liquid assets equals the haircut adjusted fair value of all level 2A liquid assets held by the bank as on the calculation date that are eligible HQLA, less hedge termination costs (if any).

3. **Calculating Stock of Level 2B- RMBS Assets**

The stock of level 2B liquid assets equals the haircut adjusted fair value of all level 2B RMBS liquid assets held by the bank as on the calculation date that are eligible HQLA, less hedge termination costs (if any).

4. **Calculating Stock of Level 2B- Non-RMBS Assets**

   The stock of level 2B Non-RMBS liquid assets equals the haircut adjusted fair value of all level 2B non-RMBS liquid assets held by the bank as on the calculation date that are eligible HQLA, less hedge termination costs (if any).

3.3.3.2 Identifying Eligible HQLA on Unwind

The application identifies the assets placed as collateral which are eligible HQLA if they are not encumbered. Placed collateral is marked as eligible HQLA on unwinding if it fulfills all of the following criteria:

- Asset level is level 1, 2A or 2B RMBS/Non-RMBS asset
- Meets HQLA operational requirements on unwind

3.3.3.3 Unwinding of Transactions Involving Eligible HQLA

The application identifies all transactions maturing within the LCR horizon where HQLA is placed or received. These transactions include repos, reverse repos, secured lending transactions, collateral swaps, and so on. Such transactions are unwound; that is, the original position is reversed and the cash or stock of HQLA has adjusted accordingly. This is done to avoid including any asset in the stock that should be returned to its owner before the end of the LCR horizon. The unwinding of transactions results in adjustments to the stock of HQLA, such as additions to or deductions from the stock of HQLA.

3.3.3.4 Calculating SHQLA with and without Adjustments

The total stock of HQLA is determined as a minimum of two Stocks. The formula for this calculation is as follows:

$$SHQLA = \text{Min}[\ (SHQLA)_1,\ (SHQLA)_2]$$

$$(SHQLA)_1 = \text{Level 1} + \text{Level 2A} + \text{Level 2B} - (\text{Adjustment for 15\% Ceiling})_1 - (\text{Adjustment for 40\% Ceiling})_1$$

where

$$(\text{Adjustment for 15\% Ceiling})_1 = \text{Max}[\text{Level 2B Assets} - 15/85 * (\text{Level 1} + \text{Level 2A Assets}),\ \text{Level 2B Assets} - 15/60 * \text{Level 1 assets},\ 0]$$

$$(\text{Adjustment for 40\% Ceiling})_1 = \text{Max}[(\text{Level 2A} + \text{Level 2B} - (\text{Adjustment for 15\% Ceiling})_1) - 2/3 * \text{Level 1 Assets},\ 0]$$

$$(SHQLA)_2 = \text{Level 1} + \text{Level 2A} + \text{Level 2B} - (\text{Adjustment for 15\% Ceiling})_2 - (\text{Adjustment for 40\% Ceiling})_2$$

where

$$(\text{Adjustment for 15\% Ceiling})_2 = \text{Max}[\text{Adjusted Level 2B} - 15/85 * (\text{Adjusted Level 1} + \text{Adjusted Level 2B}),\ \text{Adjusted Level 2B} - 15/60 * \text{Adjusted Level 1},\ 0]$$

$$(\text{Adjustment for 40\% Ceiling})_2 = \text{Max}[(\text{Adjusted Level 2A} + \text{Adjusted Level 2B} - (\text{Adjustment for 15\% Ceiling})_2) - 2/3 * \text{Adjusted Level 1 Assets},\ 0]$$

3.3.4 Classifying Operational Deposits

Operational deposits are those deposits placed by customers with a bank or balances kept by the bank with other financial institutions to meet their payment and settlement needs and other operational requirements. The application classifies accounts as operational if they meet the following criteria:

1. They are held in specifically designated accounts that are held as operational accounts by the customers at the bank.
2. They are priced without giving economic incentives to the customer to leave excess funds in the account.
3. They arise as a result of a clearing, custody, or cash management relationship with the bank.
4. They do not arise out of correspondent banking services or in the context of prime brokerage services.
5. The termination of such agreements requires a minimum notice period of 30 days.
6. If the agreement can be terminated within 30 days, the customer must pay significant switching or termination costs to the bank.

Any excess balances held in an account classified as an operational deposit over and above that which is required to meet the operational needs of the customer is assigned a higher outflow rate by the regulator. The application supports a methodology for computing the portion of the balance held for operational purposes which are truly required to meet the operational needs of the customer. For details see Calculating Operational Amount.

3.3.5 Insurance Allocation

This section provides the steps involved in insurance allocation.

Topics:

3.3.5.1 Identifying Insurance Eligible Accounts

The identification of insurance eligible accounts involves looking at the inclusion as well as the exclusion criteria. The application requires users to provide the following inclusion criteria:

- **Ownership Category**

  OFS LRRCHKMA allocates the insurance limit separately for each ownership category level. Ownership categories include single accounts, joint accounts, trusts, and Business accounts. As per the HKMA insurance agency, a separate limit is assigned to a depositor combination based on the ownership category of accounts. Users are required to provide the ownership categories that get a separate limit. The coverage per Legal Entity - Customer-Ownership category combination is HK$ 500,000.

- **Product Type**

  This is a list of product types that are covered under the respective jurisdiction's deposit insurance scheme. The insurance limit is allocated to only those customer accounts whose product types match those covered by the deposit insurance. For HKMA, deposit Protection Scheme (DPS) covers the following:

  - Current and Savings accounts
  - Term Deposits with contract maturity less than 5 years

  The following products are not covered by deposit insurance:

- Structured Deposits
- Certificate of Deposit
- Term Deposits with contract maturity exceeding 5 years

- **Product Type Prioritization**

  While allocating insured amounts from the customer level to customer-account level, priority is given on the following basis:

Table 5: Product Type Prioritization Criteria

Basis	Description
Standard Product Type	Current Account and Savings accounts = Priority 1; Time deposits = Priority 2.
Balance	If the Product types of two or more accounts are the same, the priority is given to account with highest EOP balance.
Account number	In the rare case that the product type and balances between accounts are the same, allocate priority to the lowest account number.

3.3.5.2 Allocating Deposit Insurance

As part of the HKMA Run, the application allocates the deposit insurance to accounts based on the guidelines specified by the DPS. The insurance limit captured against each deposit insurance scheme is allocated to the insurance-eligible accounts under that scheme based on the ownership category and the depositor combination. The customer under consideration should not be an Excluded party. An excluded party is one where the party's deposits are not eligible to be covered under the deposit insurance scheme. As per the Hong Kong Deposit Protection Scheme (DPS), licensed banks, senior management, controllers and directors of the Scheme member and its related companies are not eligible for deposit insurance.

3.3.6 Identifying Deposit Stability

Once the insurance limit is allocated at an account level, the application determines the deposit stability as follows:

1. **Stable Deposits**

   A stable deposit is the portion of a deposit which is covered by deposit insurance provided by an effective deposit insurance scheme or a public guarantee that provides equivalent protection and which satisfies one of the following conditions:

   - It is held in a transactional account by the depositor.

   Or

   - The depositor has an established relationship with the reporting legal entity.

   The application identifies the existence of an established relationship if the depositor meets one of the following criteria:

   - The depositor holds more than one account with the bank, with at least one account of a type other than a deposit.

   Or

   - The bank has assigned a customer relationship manager to the depositor.

   If a deposit is partially covered by insurance and meets the other criteria, the insured portion of such deposits is treated as stable while the uninsured portion is treated as less stable. Stable deposits receive a 5% Run-off rate.

2. **Less Stable Deposits**

   All insured and uninsured deposit or funding balances that do not meet the stable deposits criteria are classified as less stable deposits. This includes the following:

   - Uninsured balance of deposits meeting stable deposits criteria.
   - Insured balance of deposits which are not transactional account and the customer has no established relationship with the bank.
   - Deposit balance where the insurance coverage status is Uninsured.

   Less stable deposits receive a 10% Run-off rate.

3.3.7 Treating Lien Marked Deposits

A bank does lien marking of a deposit when the bank's deposit or deposits is placed as a security against a loan or loans extended by the bank. It indicates that when a customer receives a loan from a bank and contractually places the deposits held within the same bank as collateral, then the bank marks the respective deposits as lien marked deposits.

For lien marked deposits, the deposit proceeds are paid out only when the loan against the deposit is repaid in full. This indicates that the deposit placed against the loan is encumbered for the entire term of the loan until it is repaid. Multiple deposits can be placed against multiple liens, such as loans, line of credit, guarantees, and so on, forming many-to-many relationships.

The outflows for lien marked deposits which will not mature within the LCR horizon may be excluded from LCR calculation if the following conditions are met:

- The loan will not mature or settle in the next 30 days.
- The pledge arrangement is subject to a legally enforceable contract disallowing withdrawal of the deposit before the loan is fully settled or repaid.
- The amount of deposit to be excluded cannot exceed the outstanding balance of the loan.

Topics:

- Identifying Lien Marked Deposits
- Treating Lien Marked Deposits

3.3.7.1 Identification of Lien Marked Deposits

Lien marked deposits are identified against deposits in the staging area by the Lien Marked Indicator flag. The mapping between deposits which are lien marked and the lien against it is many to many and is a download for the application.

3.3.7.2 Treatment of Lien Marked Deposits

When all the guideline conditions are satisfied, the encumbered portion of lien marked deposits are excluded and receives a 0% factor. The unencumbered portion of the lien marked deposits is included and receives an appropriate run-off rate as applicable.

To cater to lien marked deposits, the following based measures are used in the business assumptions.

- Unencumbered stable balance: This measure populates the portion of a stable amount, which is unencumbered.
- Unencumbered less stable balance: This measure populates the portion of the less stable amount, which is unencumbered.
- Encumbered balance: This measure populates the encumbered amount of the deposit.

See Regulations Addressed through Business Assumptions for details of the preseeded assumptions on lien marked deposits.

3.3.8 Secured Funding

For Secured Accounts involving collateral placed or collateral received, there is an option to compute balances and cash flows in two granularities:

- Account-level
- Account-collateral level

This option enables the treatment of partially secured accounts and granular processing of an account with multiple collaterals. By default, secured funding computations happen at the account level for partially secured accounts. This can be changed to the Account-collateral level by updating the value of the SETUP_MASTER table entry for SEC_TRANS_TREATMENT_PURPOSE_VAL to YES.

Account-level

By default, all computations are done at the account level. This means that if multiple collaterals are securing an account, the collateral level information will be aggregated and processed at an account level.

Account-collateral level

Collateral level measures, such as the ones at the HQLA Asset level, encumbrance period, and so on, are computed at the account-collateral level. This means that if multiple collaterals are securing an account, the collateral level information is processed at the same account-collateral level without aggregating any data.

3.3.9 Calculating Contractually Required Collateral

Contractually required collateral is the amount of collateral that is contractually due from one party to the other based on the current exposure and collateral position. This amount must be paid to the party soon and results in outflow for the party owing the collateral and inflow to the party to whom the collateral is due. It can be of two types based on the direction of the exposure, Excess Collateral Due or Excess Collateral Receivable.

Topics:

- For Derivatives
- For Other Assets and Liabilities

3.3.9.1 For Derivatives

This section details the calculation of contractually due collateral and contractually receivable collateral for derivatives.

Topics:

- Calculating Contractually Due Collateral
- Calculating Contractually Receivable Collateral

3.3.9.1.1 Calculating Contractually Due Collateral

The application computes the value of the collateral that a bank is required to post contractually to its derivative counterparty as follows, if one of the following conditions are met.

1. If Secured Indicator is No, then the contractually due collateral is 0.
2. If Secured Indicator is Yes and CSA Type is One way, then the contractually due collateral is 0.
3. If Secured Indicator is Yes, CSA Type is Two way and Gross Exposure is greater than or equal to 0, then the contractually due collateral is 0.
4. If Secured Indicator is Yes, CSA Type is Two way and Gross Exposure is less than 0, the application computes the contractually due collateral as follows:

$$\textit{Contractually Due Collateral} = \textit{Max}[0, \{\textit{Abs}(\textit{Gross Exposure}) - \textit{Threshold} - \textit{Collateral Posted}\}]$$

Where,

Threshold is the unsecured exposure that a party to a netting agreement is willing to assume before making collateral calls.

The contractually due collateral is assumed to be posted and therefore receives the relevant outflow rate specified by the regulator as part of the pre-configured business assumptions for LCR calculations.

3.3.9.1.2 Calculating Contractually Receivable Collateral

The application computes the value of the collateral that a derivative counterparty is required to post contractually to the bank as per the below procedure:

1. If Secured Indicator = No, then the contractually receivable collateral is 0. Else,
2. If Secured Indicator = Yes and Gross Exposure is <= 0, then the contractually receivable collateral is 0. Else,
3. If Secured Indicator = Yes and Gross Exposure is >0, then the application computes the contractually receivable collateral as follows:

$$Contractually\ Receivable\ Collateral = Max[0, \{Abs(Gross\ Exposure) - Threshold - Collateral\ Received\}]$$

The contractually receivable collateral does not receive a pre-specified inflow rate from the regulator and is, therefore, excluded from the LCR calculations. However, the application computes this to report.

3.3.9.2 For Other Assets and Liabilities

This section details the calculation of contractually due collateral and contractually receivable collateral for other assets and liabilities.

Topics:

- Calculating Contractually Due Collateral
- Calculating Contractually Receivable Collateral

3.3.9.2.1 Calculating Contractually Due Collateral

The application calculates contractually due collateral for other assets and liabilities as follows, if one of the following conditions are met.

1. If Balance Sheet Category is Asset, then the contractually due collateral is 0.
2. If Balance Sheet Category is Liability, and Secured Indicator is N, then the contractually due collateral is 0.
3. If Balance Sheet Category is Liability, and Secured Indicator is Y, then the application computes the contractually due collateral as follows

$$\boldsymbol{Contractually\ Due\ Collateral = Max[0, \{EOP\ Balance\ of\ Liability - Collateral\ Posted\}]}$$

3.3.9.2.2 Calculating Contractually Receivable Collateral

The application calculates contractually receivable collateral for other assets and liabilities as follows, if one of the following conditions are met.

1. If Balance Sheet Category is Liability, then the contractually due collateral is 0.
2. If Balance Sheet Category is Asset, and Secured Indicator is N, then the contractually due collateral is 0.
3. If Balance Sheet Category is Asset, and Secured Indicator is Y then the application computes the contractually due collateral as follows:

$$Contractually\ Receivable\ Collateral = Max[0, \{EOP\ Balance\ of\ Asset - Collateral\ Received\}]$$

3.3.10 Calculating Excess Collateral

Excess collateral is the value of collateral posted or received that is more than the collateral required based on the current levels of exposure and collateral position. This amount can be withdrawn by the party which has provided the collateral over its exposure and results in outflow to the party holding the excess collateral and an inflow to the party who has provided the excess collateral. It can be of two types, Excess Collateral Due or Excess Collateral Receivable.

Topics:

- For Derivatives
- For Other Assets and Liabilities

3.3.10.1 For Derivatives

This section details the calculation of excess collateral due and excess collateral receivable for derivatives.

Topics:

- Calculating Excess Collateral Due
- Calculating Excess Collateral Receivable

3.3.10.1.1 Calculating Excess Collateral Due

The application computes the value of the collateral that a derivative counterparty has posted to the bank, over the contractually required collateral, and therefore can be withdrawn by the counterparty, as follows:

1. If Secured Indicator is No, then the excess collateral due is 0.
2. If Secured Indicator is Y and Gross Exposure are less than or equal to 0, the application computes the excess collateral due as follows:

$$Excess\ Collateral\ Due = Min[Adjusted\ Collateral\ Received, Non - segregated\ Collateral\ Received]$$

Where,

Adjusted collateral received: Collateral received from the counterparty less customer withdrawable collateral

Customer withdrawable collateral: Collateral received under re-hypothecation rights that can be contractually withdrawn by the customer within the LCR horizon without a significant penalty associated with such a withdrawal.

3. If Secured Indicator is Y and Gross Exposure are greater than 0, the application computes the excess collateral due as follows:

$$Excess\ Collateral\ Due = Min[Max\{0, Adjusted\ Collateral\ Received - Gross\ Exposure\}, Non - segregated\ Collateral\ Received]$$

The excess collateral due is assumed to be recalled by the counterparty and therefore receives the relevant outflow rate specified by the regulator as part of the pre-configured business assumptions for LCR calculations.

3.3.10.1.2 Calculating Excess Collateral Receivable

The application computes the value of the collateral that the bank has posted to its derivative counterparty, over the contractually required collateral, and therefore can be withdrawn by the bank, as follows:

1. If Secured Indicator is No, then the excess collateral receivable is 0.
2. If Secured Indicator is Y and Gross Exposure are greater than or equal to 0, the application computes the excess collateral receivable as follows:

$$Excess\ Collateral\ Receivable = Min[Adjusted\ Collateral\ Posted, Non - segregated\ Collateral\ Posted]$$

Where,

Adjusted collateral posted: Collateral posted by the bank less firm withdrawable collateral.

Firm withdrawable collateral: Collateral provided under re-hypothecation rights that can be contractually withdrawn by the bank within the LCR horizon without a significant penalty associated with such a withdrawal.

3. If Secured Indicator is Y and Gross Exposure are less than 0, the application computes the excess collateral receivable as follows:

$$Excess\ Collateral\ Receivable = Min[Max\{0, Adjusted\ Collateral\ Posted - Abs(Gross\ Exposure)\}, Non - segregated\ Collateral\ Posted]$$

The excess collateral receivable does not receive a pre-specified inflow rate from the regulator and is, therefore, excluded from the LCR calculations. However, the application computes this to report.

3.3.10.2 For Other Assets and Liabilities

This section details the calculation of excess collateral due and excess collateral receivable for other assets and liabilities.

Topics

- Calculating Excess Collateral Due
- Calculating Excess Collateral Receivable

3.3.10.2.1 Calculating Excess Collateral Due

The application calculates the excess collateral due for other assets and liabilities as follows, if one of the following conditions are met.

1. If Balance Sheet Category is Liability, then the contractually due collateral is 0.
2. If Balance Sheet Category is Asset, and Secured Indicator is N, then the contractually due collateral is 0.
3. If Balance Sheet Category is Asset, and Secured Indicator is Y, then the application computes the contractually due collateral as follows:

$$Excess\ Collateral\ Due = Min[Max\{0, Adjusted\ Collateral\ Received - EOP\ Balance\ of\ Asset\}, Non-segregated\ Collateral\ Received]$$

3.3.10.2.2 Calculating Excess Collateral Receivable

The application calculates the excess collateral receivable for other assets and liabilities as follows, if one of the following conditions are met.

1. If Balance Sheet Category is Asset, then the contractually due collateral is 0.
2. If Balance Sheet Category is Liability, and Secured Indicator is N, then the contractually due collateral is 0.
3. If Balance Sheet Category is Liability, and Secured Indicator is Y, then the application computes the contractually due collateral as follows:

$$Excess\ Collateral\ Receivable = Min[Max\{0, Adjusted\ Collateral\ Posted - EOP\ Balance\ of\ Liability\}, Non-segregated\ Collateral\ Posted]$$

3.3.11 Calculating Downgrade Impact Amount

This section details the calculation of downgrade impact amount for derivatives and for other liabilities.

Topics:

3.3.11.1 Calculating Downgrade Impact Amount for Derivatives

The application calculates the downgrade impact amount for derivatives as follows, if one of the following conditions are met.

1. If a downgrade trigger does not exist for the derivatives contract or netting agreement, the downgrade impact amount is 0.
2. If Net Exposure greater than 0, the downgrade impact amount is 0.
3. If Net Exposure less than or equal to 0, the downgrade impact amount is calculated as follows:

$$Downgrade\ Impact\ Amount = Max[0, \{Abs(Net\ Exposure) - Contractually\ Due\ Collateral\}]$$

3.3.11.2 Calculating Downgrade Impact Amount for Other Liabilities

The application calculates the downgrade impact amount for other liabilities, including annuities, that have an associated downgrade, derivatives as follows, if one of the following conditions are met.

1. If a downgrade trigger does not exist for the liability account, the downgrade impact amount is 0.
2. The downgrade impact amount for liabilities other than derivatives and securitizations is calculated as follows:

$$Downgrade\ Impact\ Amount = Max[0, (EOP\ Balance - Collateral\ Posted)]$$

> **NOTE** Any liability account that is triggered due to a particular level of rating downgrade has an outflow corresponding to a pre-specified percentage of the downgrade impact amount. For instance, if a 3-notch downgrade is specified, then the downgrade impact amount will outflow only for those accounts that have a trigger of 1-notch, 2-notches, and 3-notches. If a 2-notch downgrade is specified, then the downgrade impact amount will outflow only for those accounts that have a trigger of 1-notch and 2-notches. The rating downgrade and the outflow percentage as specified by the regulator are part of the pre-configured business assumptions for LCR calculations.

3.3.12 Calculating Net Derivative Cash Inflows and Outflows

This section details the cash flow netting calculations at the derivative contract level and netting agreement level.

Topics:

3.3.12.1 Cash Flow Netting at Derivative Contract Level

Cash flows from each derivative contract are netted as follows:

1. When cash inflows and outflows are denominated in the same currency and occur at the same time bucket:
   a. The cash inflows and outflows are summed up and the net value is computed as follows:

$$Net\ Cash\ Flow = Cash\ Outflow - Cash\ Inflow$$

   b. If the net cash flow is positive and there is no netting agreement associated with the derivative contract, the value is treated as net derivative cash outflow.
   c. If the net cash flow is negative and there is no netting agreement associated with the derivative contract, the value is treated as net derivative cash inflow.

2. When cash inflows and outflows are denominated in different currencies but settle within the same day:
   a. The cash inflows and outflows are summed up after being converted to the reporting currency and the net value is computed.
   b. If the net cash flow is positive and there is no netting agreement associated with the derivative contract, the value is treated as net derivative cash outflow.
   c. If the net cash flow is negative and there is no netting agreement associated with the derivative contract, the value is treated as net derivative cash inflow.
3. When cash inflows and outflows are denominated in different currencies and do not settle within the same day:
   a. The cash outflows from each derivative contract without an associated netting agreement are summed up and treated as net derivative cash outflows.
   b. The cash inflows from each derivative contract without an associated netting agreement are summed up and treated as net derivative cash inflow.

> **NOTE** If a derivative contract has a netting agreement associated with it, the cash flow is further netted across contracts at the netting agreement level.

3.3.12.2 Cash Flow Netting at Netting Agreement Level

For derivative contracts which have a netting agreement associated with them, the net cash flows computed at the derivative contract level are further netted across multiple contracts under the same netting agreement as follows:

1. For derivative contracts that belong to a single netting agreement, whose payment netting agreement flag is Yes:
   a. The cash inflows and outflows occurring in each time bucket, denominated in each currency, are summed up across all contracts whose payment netting agreement flag is Yes and the net value is computed.
   b. If the net cash flow is positive, the value is treated as net derivative cash outflow.
   c. If the net cash flow is negative, the value is treated as net derivative cash inflow.
2. For derivative contracts that belong to a single netting agreement, whose payment netting agreement flag is No:
   a. The cash outflows occurring in each time bucket, denominated in each currency, are summed up separately for each derivative contract whose payment netting agreement flag is No and treated as net derivative cash outflow.
   b. The cash inflows occurring in each time bucket, denominated in each currency, are summed up separately for each derivative contract whose payment netting agreement flag is No and treated as net derivative cash inflow.

NOTE Cash flow netting for netting agreements is done separately for each currency. Cash flows are not netted across currencies. Instead, the inflows and outflows converted into the reporting currency are summed up separately to report the net derivatives cash inflow and net derivatives cash outflow at an entity level.

3.3.13 Calculating Twenty-Four Month Look-back Amount

The application computes the 24-month look-back amount, to define outflows due to increased liquidity needs related to market valuation changes on derivatives as follows:

- The Mark-to-Market (MTM) value of collateral outflows and inflows due to valuation changes on derivative transactions are captured at a legal entity level. The values over a 24-month historical time window from the As of date are identified.
- The application computes the largest 30-day absolute net collateral flow occurring within each rolling 30-day historical time window as follows:

  a. The net Mark-to-Market collateral change is computed for each day within a particular 30-day historical time window as follows:

  $$Net\ MTM\ Collateral\ Change = MTM\ Colateral\ Outflows - MTM\ Collateral\ Inflows$$

  b. The cumulative net Mark-to-Market collateral change is computed for each day within a particular 30-day historical time window as follows:

  $$Cumulative\ Net\ MTM\ Collateral\ Change = \sum_{1}^{i} Net\ MTM\ Collateral\ Change$$

  Where,

  i: Each day within a particular 30-day historical time window.

  n: Each 30-day historical time window.

  c. The absolute net Mark-to-Market collateral change is computed for each day within the rolling 30-day historical time window as follows:

  $$Absolute\ Net\ MTM\ Collateral\ Change = Abs(Cumulative\ Net\ MTM\ Collateral\ Change)$$

  d. The largest 30-day absolute net collateral flow occurring within the rolling 30-day historical time window is identified as follows:

  $$Largest\ 30-day\ Absolute\ Net\ Collateral\ Flow = Max(Absolute\ Net\ MTM\ Collateral\ Change_i)$$

NOTE Steps (a) to (b) are repeated for each rolling 30-day historical time window.

e. The 24-month look-back amount is calculated as follows:

$$\boldsymbol{24 - Month\ Lookback\ Amount = Max(Largest\ 30 - day\ Absolute\ Net\ Collateral\ Flow_n)}$$

NOTE

1. This calculation is done for each legal entity separately.
2. The largest 30-day absolute net collateral flow is computed in 30-day blocks on a rolling basis. For example, the first 30-day block is As of Date to As of Date - 29; the second 30-day block is As of Date - 1 to As of Date - 30 and so on.
3. The 24-month look-back amount is computed as the maximum of the largest absolute net collateral flow during all rolling 30-day periods in every 24 months.

The 24-month look-back calculations are illustrated in the following table, considering a 34-day historical time window instead of 24-months. This results in 5 rolling 30-day windows.

Table 6: Illustration: 24-month look-back calculations

Rolling 30-Day Period	Day	Market To Market Outflows Due To Derivative Transaction Valuation Changes (a)	Market To Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Market To Market Collateral Change (c = a – b)	Cumulative Net Market To Market Collateral Change (d = Cumulative c)	Absolute Net Market To Market Collateral Change [e = Abs (d)]
As of Date to As of Date - 29	As of Date	65	14	51	51	51
	As of Date - 1	65	9	56	107	107
	As of Date - 2	74	83	-9	98	98
	As of Date - 3	71	97	-26	72	72
	As of Date - 4	84	89	-5	67	67
	As of Date - 5	8	57	-49	18	18
	As of Date - 6	40	59	-19	-1	1
	As of Date - 7	42	87	-45	-46	46
	As of Date - 8	100	6	94	48	48
	As of Date - 9	41	30	11	59	59

Rolling 30-Day Period	Day	Market To Market Outflows Due To Derivative Transaction Valuation Changes (a)	Market To Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Market To Market Collateral Change (c = a – b)	Cumulative Net Market To Market Collateral Change (d = Cumulative c)	Absolute Net Market To Market Collateral Change [e = Abs (d)]
	As of Date - 10	45	9	36	95	95
	As of Date - 11	9	32	-23	72	72
	As of Date - 12	59	67	-8	64	64
	As of Date - 13	61	10	51	115	115
	As of Date - 14	22	36	-14	101	101
	As of Date - 15	63	81	-18	83	83
	As of Date - 16	36	3	33	116	116
	As of Date - 17	61	22	39	155	155
	As of Date - 18	94	37	57	212	212
	As of Date - 19	3	18	-15	197	197
	As of Date - 20	13	27	-14	183	183
	As of Date - 21	24	56	-32	151	151
	As of Date - 22	57	75	-18	133	133
	As of Date - 23	66	87	-21	112	112
	As of Date - 24	33	71	-38	74	74
	As of Date - 25	29	30	-1	73	73
	As of Date - 26	64	25	39	112	112
	As of Date - 27	54	39	15	127	127
	As of Date - 28	51	6	45	172	172
	As of Date - 29	35	31	4	176	176

Rolling 30-Day Period	Day	Market To Market Outflows Due To Derivative Transaction Valuation Changes (a)	Market To Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Market To Market Collateral Change (c = a – b)	Cumulative Net Market To Market Collateral Change (d = Cumulative c)	Absolute Net Market To Market Collateral Change [e = Abs (d)]
As of Date - 1 to As of Date - 30	As of Date - 1	65	9	56	56	56
	As of Date - 2	74	83	-9	47	47
	As of Date - 3	71	97	-26	21	21
	As of Date - 4	84	89	-5	16	16
	As of Date - 5	8	57	-49	-33	33
	As of Date - 6	40	59	-19	-52	52
	As of Date - 7	42	87	-45	-97	97
	As of Date - 8	100	6	94	-3	3
	As of Date - 9	41	30	11	8	8
	As of Date - 10	45	9	36	44	44
	As of Date - 11	9	32	-23	21	21
	As of Date - 12	59	67	-8	13	13
	As of Date - 13	61	10	51	64	64
	As of Date - 14	22	36	-14	50	50
	As of Date - 15	63	81	-18	32	32
	As of Date - 16	36	3	33	65	65
	As of Date - 17	61	22	39	104	104
	As of Date - 18	94	37	57	161	161
	As of Date - 19	3	18	-15	146	146
	As of Date - 20	13	27	-14	132	132

Rolling 30-Day Period	Day	Market To Market Outflows Due To Derivative Transaction Valuation Changes (a)	Market To Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Market To Market Collateral Change (c = a – b)	Cumulative Net Market To Market Collateral Change (d = Cumulative c)	Absolute Net Market To Market Collateral Change [e = Abs (d)]
	As of Date - 21	24	56	-32	100	100
	As of Date - 22	57	75	-18	82	82
	As of Date - 23	66	87	-21	61	61
	As of Date - 24	33	71	-38	23	23
	As of Date - 25	29	30	-1	22	22
	As of Date - 26	64	25	39	61	61
	As of Date - 27	54	39	15	76	76
	As of Date - 28	51	6	45	121	121
	As of Date - 29	35	31	4	125	125
	As of Date - 30	93	68	25	150	150
As of Date - 2 to As of Date - 31	As of Date - 2	74	83	-9	-9	9
	As of Date - 3	71	97	-26	-35	35
	As of Date - 4	84	89	-5	-40	40
	As of Date - 5	8	57	-49	-89	89
	As of Date - 6	40	59	-19	-108	108
	As of Date - 7	42	87	-45	-153	153
	As of Date - 8	100	6	94	-59	59
	As of Date - 9	41	30	11	-48	48
	As of Date - 10	45	9	36	-12	12
	As of Date - 11	9	32	-23	-35	35

Rolling 30-Day Period	Day	Market To Market Outflows Due To Derivative Transaction Valuation Changes (a)	Market To Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Market To Market Collateral Change (c = a – b)	Cumulative Net Market To Market Collateral Change (d = Cumulative c)	Absolute Net Market To Market Collateral Change [e = Abs (d)]
	As of Date - 12	59	67	-8	-43	43
	As of Date - 13	61	10	51	8	8
	As of Date - 14	22	36	-14	-6	6
	As of Date - 15	63	81	-18	-24	24
	As of Date - 16	36	3	33	9	9
	As of Date - 17	61	22	39	48	48
	As of Date - 18	94	37	57	105	105
	As of Date - 19	3	18	-15	90	90
	As of Date - 20	13	27	-14	76	76
	As of Date - 21	24	56	-32	44	44
	As of Date - 22	57	75	-18	26	26
	As of Date - 23	66	87	-21	5	5
	As of Date - 24	33	71	-38	-33	33
	As of Date - 25	29	30	-1	-34	34
	As of Date - 26	64	25	39	5	5
	As of Date - 27	54	39	15	20	20
	As of Date - 28	51	6	45	65	65
	As of Date - 29	35	31	4	69	69
	As of Date - 30	93	68	25	94	94
	As of Date - 31	51	97	-46	48	48

Rolling 30-Day Period	Day	Market To Market Outflows Due To Derivative Transaction Valuation Changes (a)	Market To Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Market To Market Collateral Change (c = a – b)	Cumulative Net Market To Market Collateral Change (d = Cumulative c)	Absolute Net Market To Market Collateral Change [e = Abs (d)]
As of Date - 3 to As of Date - 32	As of Date - 3	71	97	-26	-26	26
	As of Date - 4	84	89	-5	-31	31
	As of Date - 5	8	57	-49	-80	80
	As of Date - 6	40	59	-19	-99	99
	As of Date - 7	42	87	-45	-144	144
	As of Date - 8	100	6	94	-50	50
	As of Date - 9	41	30	11	-39	39
	As of Date - 10	45	9	36	-3	3
	As of Date - 11	9	32	-23	-26	26
	As of Date - 12	59	67	-8	-34	34
	As of Date - 13	61	10	51	17	17
	As of Date - 14	22	36	-14	3	3
	As of Date - 15	63	81	-18	-15	15
	As of Date - 16	36	3	33	18	18
	As of Date - 17	61	22	39	57	57
	As of Date - 18	94	37	57	114	114
	As of Date - 19	3	18	-15	99	99
	As of Date - 20	13	27	-14	85	85
	As of Date - 21	24	56	-32	53	53
	As of Date - 22	57	75	-18	35	35

Rolling 30-Day Period	Day	Market To Market Outflows Due To Derivative Transaction Valuation Changes (a)	Market To Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Market To Market Collateral Change (c = a – b)	Cumulative Net Market To Market Collateral Change (d = Cumulative c)	Absolute Net Market To Market Collateral Change [e = Abs (d)]
	As of Date - 23	66	87	-21	14	14
	As of Date - 24	33	71	-38	-24	24
	As of Date - 25	29	30	-1	-25	25
	As of Date - 26	64	25	39	14	14
	As of Date - 27	54	39	15	29	29
	As of Date - 28	51	6	45	74	74
	As of Date - 29	35	31	4	78	78
	As of Date - 30	93	68	25	103	103
	As of Date - 31	51	97	-46	57	57
	As of Date - 32	12	31	-19	38	38
As of Date - 4 to As of Date - 33	As of Date - 4	84	89	-5	-5	5
	As of Date - 5	8	57	-49	-54	54
	As of Date - 6	40	59	-19	-73	73
	As of Date - 7	42	87	-45	-118	118
	As of Date - 8	100	6	94	-24	24
	As of Date - 9	41	30	11	-13	13
	As of Date - 10	45	9	36	23	23
	As of Date - 11	9	32	-23	0	0
	As of Date - 12	59	67	-8	-8	8
	As of Date - 13	61	10	51	43	43

Rolling 30-Day Period	Day	Market To Market Outflows Due To Derivative Transaction Valuation Changes (a)	Market To Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Market To Market Collateral Change (c = a – b)	Cumulative Net Market To Market Collateral Change (d = Cumulative c)	Absolute Net Market To Market Collateral Change [e = Abs (d)]
	As of Date - 14	22	36	-14	29	29
	As of Date - 15	63	81	-18	11	11
	As of Date - 16	36	3	33	44	44
	As of Date - 17	61	22	39	83	83
	As of Date - 18	94	37	57	140	140
	As of Date - 19	3	18	-15	125	125
	As of Date - 20	13	27	-14	111	111
	As of Date - 21	24	56	-32	79	79
	As of Date - 22	57	75	-18	61	61
	As of Date - 23	66	87	-21	40	40
	As of Date - 24	33	71	-38	2	2
	As of Date - 25	29	30	-1	1	1
	As of Date - 26	64	25	39	40	40
	As of Date - 27	54	39	15	55	55
	As of Date - 28	51	6	45	100	100
	As of Date - 29	35	31	4	104	104
	As of Date - 30	93	68	25	129	129
	As of Date - 31	51	97	-46	83	83
	As of Date - 32	12	31	-19	64	64
	As of Date - 33	34	36	-2	62	62

The largest 30-day absolute net collateral flow for each rolling 30-day period and the 24-month look-back value (in this example, the 34-day look-back value) is computed as follows.

Table 7: Illustration continued: 24-month look-back calculations

Rolling 30-Day Period	Largest 30-Day Absolute Net Collateral Flow [f = Max (e)]	24 Month Look-back Value [Max (f)]
As of Date to As of Date - 29	212	212
As of Date - 1 to As of Date - 30	161	
As of Date - 2 to As of Date - 31	153	
As of Date - 3 to As of Date - 32	144	
As of Date - 4 to As of Date - 33	140	

3.3.14 Calculating operational Amount

The regulator-prescribed lower outflow rate for operational deposits should be applied only to the portion of the EOP balance that is truly held to meet operational needs. The application supports a new methodology to compute the operational portion of the EOP balance of operational deposits. The following steps are involved in computing the operational balance:

1. All deposits classified as operational as per regulatory guidelines are identified. This is a separate process in LRM.
2. The EOP balances of eligible operational accounts are obtained over a 90-day historical window including the As of Date, for example As of Date – 89 days. To identify historical observations, the f_reporting_flag must be updated as Y for one execution of the Run per day in the LRM Run Management Execution Summary UI. The application looks up the balance for such accounts against the Run execution for which the Reporting Flag is updated as Y for each day in the past.

> **NOTE** The historical time window is captured as a parameter in the SETUP_MASTER table. The default value is 90 days which can be modified by the user. To modify this value, update the value under the component code DAYS_HIST_OPER_BAL_CALC_UPD .

3. A rolling 5-day average is calculated for each account over the historical window.

4. The average of the 5-day rolling averages computed in Step 3 is calculated.
5. The operational balance is calculated as follows:

> **NOTE** The calculation of the operational balance can be either a direct download from the staging tables or through the historical balance approach.

$$Operational\ Balance = Min\ (Current\ EOP\ Balance, Average\ Computed\ in\ Step\ 4)$$

> **NOTE** The operational balance calculation based on historical lookback is optional. You can choose to compute the operational balances using this method or provide the value as a download. To provide the value as a download, update the value in the SETUP_MASTER table under the component code HIST_OPERATIONAL_BAL_CALC_UPD as N. If the value is Y, then the value would be calculated through historical balance approach.

6. The non-operational balance is calculated as follows:

$$Non - operational\ Balance = Current\ EOP\ Balance - Operational\ Balance$$

7. The operational insured balance is calculated as follows:

$$Operational\ Insured\ Balance = Min\ (Operational\ Balance, Insured\ Balance)$$

The insured and uninsured balances are calculated as part of a separate process, for example the insurance allocation process, which is explained in detail in the relevant section under each jurisdiction.

8. The operational uninsured balance is calculated as follows:

$$Operational\ Uninsured\ Balance = Operational\ Balance - Insured\ Operational\ Balance$$

9. The non-operational insured balance is calculated as follows:

$$Non-operational\ Insured\ Balance = Min\ [Non-operational\ Balance, (Insured\ Balance - Insured\ Operational\ Balance)]$$

10. The non-operational uninsured balance is calculated as follows:

$$Non-operational\ Uninsured\ Balance = Non-operational\ Balance - Insured\ Non-operational\ Balance$$

The operational deposit computation process is illustrated in the following table, assuming a 15-day historical window instead of 90-days and for the as of date 28th February 2017. The historical balances for 15-days including the as of date are provided as follows.

Table 8: Computation of Operational Deposit

Clients With Operational Accounts	Eligible Operational Accounts	Historical Time Window														As of Date
		2/14/2017	2/15/2017	2/16/2017	2/17/2017	2/18/2017	2/19/2017	2/20/2017	2/21/2017	2/22/2017	2/23/2017	2/24/2017	2/25/2017	2/26/2017	2/27/2017	2/28/2017
A	10001	102,000	102,125	102,250	102,375	102,500	102,625	102,750	102,875	103,000	103,125	103,250	103,375	103,500	103,625	103,750
	10296	23,500	23,550	23,600	23,650	23,700	23,750	23,800	23,850	23,900	23,950	24,000	24,050	24,100	24,150	24,200
B	31652	65,877	59,259	59,234	59,209	59,184	59,159	59,134	59,109	59,084	59,059	59,034	59,009	58,984	58,959	58,934

The rolling averages and cumulative average are computed as follows:

Table 9: Computation of Rolling Average and Cumulative Average

Clients with Operational Accounts	Eligible Operational Accounts	5-day Rolling Average											Cumulative Average (a)
		2/18/2017	2/19/2017	2/20/2017	2/21/2017	2/22/2017	2/23/2017	2/24/2017	2/25/2017	2/26/2017	2/27/2017	2/28/2017	
A	10001	102,250	102,375	102,500	102,625	102,750	102,875	103,000	103,125	103,250	103,375	103,500	95136
	10296	23,600	23,650	23,700	23,750	23,800	23,850	23,900	23,950	24,000	24,050	24,100	22721
B	31652	60,553	59,209	59,184	59,159	59,134	59,109	59,084	59,059	59,034	59,009	58,984	56931

The operational and non-operational balances are computed as follows:

Table 10: Computation of Operational and Non-operational Balances

Clients with Operational Accounts	Eligible Operational Accounts	Current Balance (b)	Operational Balance (c = a – b)	Non-Operational Balance	Insured Balance	Uninsured Balance	Insured Operational Balance	Uninsured Operational Balance	Insured Non-Operational Balance	Uninsured Non-Operational Balance
A	10001	103,750	95,136	8,615	100,000	3,750	95,136		4,865	3,750
	10296	24,200	22,721	1,480		24,200		22,721		1,480
B	31652	58,934	56,931	2,003	58,934		56,931		2,003	

NOTE

- Negative historical balances are replaced by zero for this computation.
- For operational accounts that have an account start date >= historical days including the as of date, missing balances are replaced by previously available balance.
- For operational accounts that have an account start date < historical days including the as of date:
    1. Missing balances between the account start date and as of date are replaced by previously available balance.
    2. The rolling average is calculated only for the period from the account start date to the as of date.
- The methodology to compute operational balance is optional. This can be turned On or Off using the SETUP_MASTER table, where component code = HIST_OPERATIONAL_BAL_CALC_UPD. The option to provide the operational balance as a download is supported by the application.

3.3.15 Calculation of HQLA Transferability Restriction

Regulators across jurisdictions recognize the existence of liquidity transfer restrictions, for banks that operate in multiple jurisdictions. Such transfer restrictions have implications for the group-wide consolidated LCR calculations and must be treated appropriately. In the LCR consolidation process, OFS LRS includes the restricted HQLA from a subsidiary in the consolidated stock of HQLA only to the extent of that subsidiary's liquidity needs, such as its net cash outflow, per the regulatory requirements. The treatment of transferability restriction during consolidation is as follows:

1. The net cash outflows are computed for a subsidiary, on a consolidated basis. The consolidation entity is the subsidiary itself in this case. If the subsidiary is a leaf level entity, then the net cash outflow is calculated on a standalone basis.
2. The restricted and unrestricted stock of level 1, level 2A and level 2B is computed for the subsidiary on a consolidated basis. The flag F_TRANSFERABILITY_RESTRICTION will be derived as part of processing, based on the account country and currency.
3. The application checks whether the stock of restricted level 1 assets is greater than the net cash outflows. If yes, it includes the stock of restricted level 1 assets in the calculation of its immediate parent entity's stock of HQLA up to the extent of its net cash outflows computed as part of step 1. If no, the entire stock of restricted level 1 assets is included in the consolidated calculations.
4. The application checks whether the stock of restricted level 1 + level 2A assets is greater than the net cash outflows. If yes, it includes the stock of restricted level 2A assets in the calculation of its immediate parent entity's stock of HQLA up to the extent of its net cash outflows computed as part of step 1 less stock of restricted level 1 asset. If no, the entire stock of restricted level 2A assets is included in the consolidated calculations.
5. The application checks whether the stock of restricted level 1 + level 2A + level 2B assets is greater than the net cash outflows. If yes, it includes the stock of restricted level 2B assets in the calculation of its immediate parent entity's stock of HQLA up to the extent of its net cash outflows computed as part of step 1 less stock of restricted level 1 + level 2A assets. If no, the entire stock of restricted level 2B assets is included in the consolidated calculations.
6. The unrestricted level 1, 2A, and 2B assets are included fully in the calculation of its immediate parent entity's stock of HQLA.
7. Steps 1 to 6 are repeated for each sub-consolidation level within the organization structure of the consolidation entity until the consolidation entity itself.

NOTE

1. The allocation of restricted assets is done in descending order of asset quality to maximize the stock of HQLA.
2. This calculation is part of the LCR consolidation process. For a complete view of the process, see Consolidation, where the consolidation process is described.

3.3.16 Calculating Net Cash Outflows

The net cash outflows are computed after applying the scenario specified by the user, as a set of business assumptions, to the contractual cash flows. The process of computing the net cash outflows is as follows:

1. **Calculating Total Cash Inflows**

   The application applies the business assumptions, specified on products involving cash inflows, selected as part of the Run. The regulatory assumptions specified in the Regulations Addressed through Business Assumptions section are predefined and packaged as part of the out-of-the-box Run to determine the inflows over the liquidity horizon. The business assumption adjusted cash inflows occurring over the liquidity horizon are summed up to obtain the total cash inflow. These include inflows from earning assets such as loans, assets that are not eligible for inclusion in the stock of HQLA, derivatives inflows, and so on.

2. **Calculating Total Cash Outflows**

   The application applies the business assumptions, specified on products involving cash outflows, selected as part of the Run. The regulatory assumptions specified in the Regulations Addressed through Business Assumptions section are predefined and packaged as part of the out-of-the-box Run to determine the outflows over the liquidity horizon. The business assumption adjusted cash outflows occurring over the liquidity horizon is summed up to obtain the total cash outflow. These include outflows from liabilities, derivatives outflows, outflows due to changes in financial conditions such as rating downgrade and valuation changes, and so on.

3. **Calculating Net Cash Outflow**

   The total net cash outflows are defined as the total expected cash outflows minus total expected cash inflows for the LCR horizon, for example, the subsequent 30 calendar days. Total expected cash outflows are calculated by multiplying the outstanding balances of various categories or types of liabilities and off-balance sheet commitments by the rates at which they are expected to run off or be drawn down. Total expected cash inflows are calculated by multiplying the outstanding balances of various categories of contractual receivables by the rates at which they are expected to flow in up to an aggregate cap of 75% of total expected cash outflows. This requires that a bank must maintain a minimum amount of stock of HQLA equal to 25% of the total cash outflows.

   Net cash outflow is computed as follows:

$$Net\ Cash\ Outflows_{LCR\ Horizon} = Total\ Cash\ Outflows_{LCR\ Horizon} - Minimum\{Total\ Cash\ Inflows_{LCR\ Horizon}; (75\% \times Total\ Cash\ Outflows_{LCR\ Horizon})$$

Banks will not be permitted to double count items. For example, if an asset is included as part of the "stock of HQLA" (like the numerator), the associated cash inflows cannot also be counted as cash inflows (part of the denominator). Where an item could be counted in multiple outflow categories, (such as, committed liquidity facilities granted to cover debt maturing within the 30 calendar day period), a bank should assume only up to the maximum contractual outflow for that product.

NOTE The inflow and outflow rates as prescribed by HKMA for computing LCR are within the application and ready to be used. Users are also allowed to define bank-specific inflow and outflow rates and apply them to the contractual cash flows to view the stock of HQLA, net cash outflows, and LCR across multiple scenarios.

3.3.17 Consolidation

The approach to consolidation as per LCR approach followed by OFS LRRCHKMA is as follows:

a. Identification and Treatment of Unconsolidated Subsidiary

The application assesses whether a subsidiary is to be consolidated or not by checking the regulatory consolidated flag F_REGULATORY_ENTITY_IND against each legal entity. The application consolidates the cash inflows and outflows of a subsidiary and computes the consolidated LCR, only if the subsidiary is a regulatory consolidated subsidiary. If the entity is an unconsolidated subsidiary, the cash inflows and outflows from the operations of such subsidiaries are ignored (unless otherwise specifically included in the denominator of LCR per regulations) and only the equity investment in such subsidiaries is considered as the bank's asset and appropriately taken into the numerator or denominator based on the asset level classification.

For instance, legal entity 1 has 3 subsidiaries, legal entity 2, legal entity 3, and legal entity 4. The regulatory consolidated flag F_REGULATORY_ENTITY_IND for legal entity 4 is 'No'. In this case, legal entity 4 is treated as a third party for consolidation and its assets and cash flows are completely excluded from calculations. Legal entity 1's interest in legal entity 4 including common equity of legal entity 4 and assets and liabilities where legal entity 4 is the counterparty will not be eliminated as legal entity 4 is considered a third-party during consolidation.

b. HQLA Consolidation by Subsidiary Type

The process of consolidating HQLA differs slightly based on whether the subsidiary is a material entity that is expected to report LCR separately from the parent or not. This is done to ensure consistency in the results when consolidating at a parent level and when calculating the LCR at the material subsidiary level as well. The methods followed for consolidating HQLA are:

i. For material subsidiaries subject to individual LCR requirements, consolidation is done as follows:

— The application identifies whether the subsidiary is a consolidated subsidiary.

— If condition (a) is fulfilled, it identifies whether the consolidated subsidiary is subject to LCR requirement that is, whether the subsidiary in question is a regulated entity.

— If condition (b) is fulfilled, then it calculates the net cash outflow by eliminating all the inter-branch transactions at each country level of the consolidated subsidiary. If the consolidated subsidiary has operations in three countries, then the transactions between all the branches in the same country are eliminated. The application consolidates post-haircut restricted HQLA to the extent of the consolidated

subsidiary's net cash outflow that is, to the extent required to satisfy minimum LCR requirements of that subsidiary as part of the covered company's HQLA. Restricted HQLA are the assets that have a restriction on their transferability to the parent entity, or are the assets that are denominated in non-convertible currencies.

- It consolidates the entire amount of post-haircut unrestricted HQLA held at the consolidated subsidiary as part of the covered company's HQLA.
- It consolidates all cash inflows and outflows which are part of the net cash flow calculation.

ii. For subsidiaries not subject to individual LCR requirements, consolidation is done as follows:

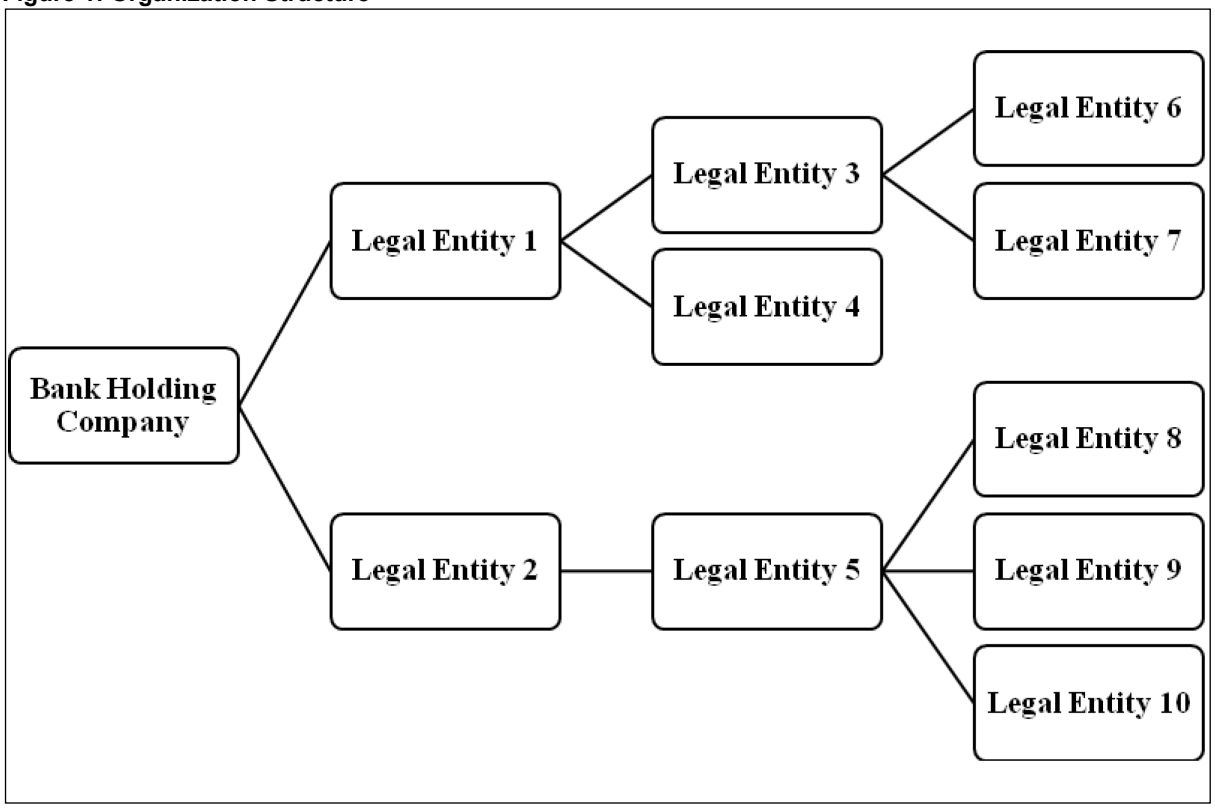
- The application identifies whether the subsidiary is a consolidated subsidiary.
- If condition (a) is fulfilled, it identifies whether the consolidated subsidiary is subject to minimum LCR requirement that is, whether the subsidiary in question is a regulated entity.
- If condition (b) is not fulfilled, it eliminates all inter-company transactions until the level of the immediate parent of the consolidated subsidiary and then calculates the net cash outflow.
- The application consolidates post-haircut restricted HQLA to the extent of the consolidated subsidiary's net cash outflow and the entire amount of post-haircut unrestricted HQLA as part of the covered company's HQLA.
- It consolidates all cash inflows and outflows which are part of the net cash flow calculation.

c. Consolidated LCR Calculation

Consolidation is done on a step-by-step basis based on each level of the organization structure, starting from the most granular level. This indicates that intercompany transactions are eliminated at each sub-consolidation level till the final level of the consolidation (generally BHC) is reached. The consolidated HQLA calculated at the level of the immediate subsidiary of the BHC is added to the HQLA held by the BHC. All intercompany cash flows are eliminated and the LCR is calculated per the LCR approach.

For instance, a bank's organizational structure is as follows.

Figure 1: Organization Structure



In this case, at the first level of consolidation, calculation of net cash outflows and HQLA is done on a solo basis for legal entities 6, 7, 8, 9, and 10 as they do not have any subsidiaries. For regulated entities, such as material entities, intercompany transactions are not eliminated; whereas for non-regulated entities, intercompany transactions are eliminated to the next level of consolidation that is, legal entities 3 and 5. The restricted HQLA from entities 6 and 7 are consolidated to the extent of their net cash outflows, while the unrestricted HQLA is transferred fully to legal entity 3. The cash inflows and outflows are consolidated to the full extent.

At the second level of consolidation that is, legal entity 3, intercompany transactions are eliminated till legal entity 1, if LE 3 is a non-regulated entity. The HQLA is calculated as a sum of the consolidated restricted and unrestricted HQLA of entities 6 and 7 and the HQLA of legal entity 3. The net cash outflow is calculated based on the cash flows of entities 3, 6, and 7, post-elimination of intercompany transactions if applicable. The consolidated HQLA is calculated based on the procedure detailed in Step 2.

This process continues in a step-by-step manner till the highest parent level, which is the bank holding company in this example.

3.3.18 Calculating Liquidity Coverage Ratio

The liquidity coverage ratio is calculated for a legal entity on both solo and consolidated basis. The formula for calculating the liquidity coverage ratio is as follows:

$$Liquidity\ Coverage\ Ratio = \frac{Stock\ of\ High\ Quality\ Liquid\ Asset}{Net\ Cash\ Outflow}$$

3.3.18.1 Significant Currency Liquidity Coverage Ratio Calculation

The liquidity coverage ratio is also calculated for each legal entity at the level of each significant currency to identify potential currency mismatches. This is done by first identifying significant currencies for a legal entity, at a solo or consolidated level as specified in the Run, as follows:

$$Significant\ Currency = \left[\frac{Total\ Liabilities_{Legal\ Entity,Currency}}{Total\ Liabilities_{Legal\ Entity}} \times 100\right] > 5\%$$

According to the HKMA announcement, significant currency indicates aggregate of liabilities denominated in that currency amount including off-market balance sheet, foreign exchange forward and cross-currency swap to 5% or more of the bank's total liabilities.

The application further computes and reports the stock of HQLA, net cash outflows, and LCR for each currency identified as significant in the manner detailed in the earlier sections. This calculation is done on both a solo and consolidated basis.

3.4 Preconfigured Regulatory LCR Scenario

OFS LRRCHKMA supports an out-of-the-box HKMA LCR which has the regulatory scenario with associated HQLA haircuts, inflow, and outflow percentage/rates preconfigured in the form of business assumptions. This section explains the business assumptions and the corresponding regulatory reference.

> **NOTE** This section provides only contextual information about the business assumptions. For more detailed information, see the OFS LRS application (UI). For detailed processes and tasks, see the Run Chart.

The following table lists the Document Identifiers provided in the Regulatory Reference column of the Regulations Addressed through Business Assumptions and Regulations Addressed through Business Rules sections.

Table 11: Document Identifiers for the Regulatory References

Regulation Reference Number	Document Name	Issued Date
Cap. 155 sub. leg. Q	**Banking (Liquidity) Rules**	**January 2018**
BCBS 238	Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools	January 2013

The list of preconfigured Business Rules, assumptions and the corresponding reference to the regulatory requirement that it addresses are provided in the tables listed in the Regulations Addressed through Business Assumptions and Regulations Addressed through Business Rules sections.

The Regulatory Reference column for each rule or assumption has reference to the name of the Document Identifiers such as MC and should be read in conjunction with the Document Identifier listed in the preceding table.

Topics:

3.4.1 Regulation Addressed through Business Assumptions

The application supports multiple assumptions with pre-configured rules and scenarios based on regulator specified scenario parameters such as HQLA haircuts, inflow and outflow percentage/rates, and so on. The list of pre-configured business assumptions and the corresponding reference to the regulatory requirement that it addresses is provided in the following table.

Table 12: Preconfigured HKMA LCR Business Assumptions

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
1	HKMA - HQLA Haircuts	Definition of haircuts for Level 1 assets held in HKD, USD, Euro, JPY, and GBP and Level 2 assets held in all currencies.	The haircuts on high-quality liquid assets are predefined as part of these assumptions. This assumption applies a 0% haircut on level 1 HKD denominated assets, 15% on level 2A assets, 25% on level 2B RMBS assets, and 50% on level 2B non-RMBS assets.	Schedule 4A- Table 1, Table 2
2	HKMA-HQLA Level 1 Haircuts for other currencies	Definition of haircuts for Level 1 assets held in currencies other than HKD, USD, Euro, JPY, and GBP.		
3	HKMA-Secured Lending Inflows	Inflows from secured lending transactions excluding collateral swaps.	The inflow rates on the secured lending, excluding collateral swaps, are predefined as part of this assumption. This assumption applies the regulatory inflows to secured lending transactions based on the asset level of the collateral received in the form of rollover rates, that is, 1 – run-off rates. A 0% inflow rate is applied to assets used for covering short positions.	BCBS 238- Para 145- 146HKMA LCR Return template- 1,2 and 3

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
4	HKMA-Collateral Swap Inflows	Inflows from collateral swap transactions.	The inflow rates on collateral swaps are predefined as part of this assumption. This assumption applies the inflows applicable to the market value of placed collateral, when the collateral placed under a swap transaction is of a higher quality than the collateral received, as the difference between the liquidity haircuts applicable to the placed and received collateral. A 0% inflow rate is applied when the underlying asset received is used for covering short positions.	
5	HKMA-Drawdowns on Committed Funding Facilities	Drawdowns on committed credit and liquidity facilities extended to banks.	The inflow rate on the undrawn amount available to be drawn down, on the committed credit and liquidity facilities received by the bank, is predefined as part of this assumption. This assumption applies a 0% inflow rate on the credit and liquidity lines received by the bank.	HKMA LCR Return template- 7 BCBS 248 Para 149
6	HKMA-Other Inflows from Retail Counterparties	This assumption rollovers 50 percent of cash flows for principal cash type of fully performing loans and leases.	The inflow rate on the fully performing loans with a stated maturity, extended to retail customers and SMEs who are treated like retail customers for the purposes of LCR, is predefined as part of this assumption. This assumption applies a 50% rollover, that is, 50% inflow on performing retail loans.	BCBS 238 Para 150 to 151, 153 HKMA LCR Return template- 4.b.(iii) and (iv)

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
7	HKMA-Other Inflows from WSME, NFC, Sov, CB, MDB and PSE	Other inflows from fully performing loans, which have a specified maturity and are extended to small and medium enterprises treated as wholesale (WSME), non-financial corporate (NFC), sovereigns (Sov), central banks (CB), multilateral development banks (MDB) and public sector enterprises.	The inflow rate on the fully performing loans with a stated maturity, extended to wholesale SMEs, non-financial corporates, sovereigns, central banks, multilateral development banks, and public sector enterprises is predefined as part of this assumption. This assumption applies a 0% rollover, that is, 100% inflow on performing loans from central banks and a 50% rollover, that is, 50% inflow on those from other non-financial counterparties specified earlier.	BCBS 238 Para 150 to 151, 154 HKMA LCR Return template- 4.b.(i), (ii) and (v)
8	HKMA-Other Inf from Other Wholesale Counter parties	Other Inflows from Other Wholesale Counterparties.	The inflow rate on the fully performing loans with a stated maturity, extended to counterparties other than retail, SMEs, non-financial corporates, sovereigns, central banks, multilateral development banks, and public sector enterprises, is predefined as part of this assumption. This assumption applies a 0% rollover, that is, 100% inflow on performing loans from other financial entities and a 50% rollover, that is, 50% inflow on those from other non-financial counterparties.	
9	HKMA-Revolving, Non-Maturity and Non-Performing Inflow Excl	Exclusion of inflows from revolving products, products that do not have a specified maturity, and products that are not fully performing.	The exclusion of cash inflows from revolving assets, assets that do not have a stated maturity, and assets that are not fully performing are predefined as part of this assumption. This assumption applies a 100% rollover on the inflows from such assets.	BCBS 238 Para 151 HKMA LCR Return template- 4.a.

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
10	HKMA-Other Deposit Inflows	This assumption applies zero percent rollover for Balance with Banks product-related accounts, for principal cash flow type.	This assumption applies a factor on Deposits held at other banks.	BCBS 238 Para 152 HKMA LCR Return template- 4
11	HKMA-Open Maturity Loan Minimum Payment Inflows	Inflows due to minimum payments received within the LCR horizon on open maturity loans.	The inflow rate on the minimum payments of principal, interest, and fee, that are contractually due within the LCR horizon, on an open maturity loan, is predefined as part of this assumption. This assumption applies a 100% inflow on such minimum payments.	
12	HKMA-Operational Deposit Inflows	This assumption rollovers 100 percent cash flows for Operational balance with banks related accounts.	The inflow rate on the deposits, held by the bank at other institutions for operational purposes, are predefined as part of this assumption. This assumption applies a 0% inflow on such operational deposits.	BCBS 238 Para 156 HKMA LCR Return template- 8
13	HKMA-Derivative cash inflows	Net cash inflows from derivative transactions.	The inflow rate on the 30-day cash inflows from derivative transactions is predefined as part of this assumption. This assumption applies a 100% inflow on derivative cash inflows, on a net basis in case of derivatives which are part of a netting agreement and on a non-net basis for other derivatives.	BCBS 238 Para 158 to 159 HKMA LCR Return template- 9

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
14	HKMA-Non-HQLA Security Inflows	This assumption performs the rollover of Asset-backed securities, debt securities, Bills, Commercial paper which satisfy HQLA.	The inflow rate on the performing securities that are excluded from the stock of HQLA is predefined as part of this assumption. This assumption applies a 100% inflow on both the principal and interest cash flows from securities classified as Other Assets and securities classified as HQLA but does not meet the eligibility criteria for inclusion in the stock of HQLA. It also applies a 0% inflow rate on non-performing securities and securities that are classified as HQLA and meet the criteria for inclusion in the stock of HQLA, to avoid double counting.	BCBS 238 Para 155 HKMA LCR Return template- 6
15	HKMA-Contractual Interest Inflows	This assumption does a zero percent rollover for interest cash flows for fully performing loans, leases, credit cards, overdraft, line of credit, a home equity line of credit, Balance with banks.	The inflow rate on the interest contractually receivable, on fully performing assets other than non-HQLA securities, within the LCR horizon is predefined as part of this assumption. This assumption applies a 100% inflow on interest in the form of a 0% rollover rate.	BCBS 238 Para 142, 160 HKMA LCR Return template- 10
16	HKMA- Non lien marked stable retail deposits	Run-offs on the stable portion of non-lien marked deposits from retail customers and unsecured wholesale funding from SMEs treated as retail.	The run-off rates on the stable portion of non-lien marked deposits from retail customers and SMEs who are treated like retail customers for the purposes of LCR are predefined as part of this assumption. This assumption applies a 5% Run-off on the stable portion of retail deposits, and either mature or result in early withdrawal, without incurring a significant penalty, within the LCR horizon.	BCBS 238 Para 75-78 HKMA LCR Return template- 1.a

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
17	HKMA-Penalty Free Stable Retail and SME Runoff	Run-offs on the portion of stable term deposits, from retail customers and unsecured wholesale funding (UWF) from SMEs treated as retail, that is treated as demand deposits.	The run-off rates on the portion of stable term deposits, that are treated as demand deposits, from retail customers and SMEs who are treated like retail customers for the purposes of LCR are predefined as part of this assumption. This assumption applies a 5% Run-off on the portion of stable retail deposits maturing beyond the LCR horizon, that do not meet additional criteria for deposit insurance schemes and can either be withdrawn without incurring a penalty or are allowed to be withdrawn despite a clause that says the depositor has no legal right to withdraw.	BCBS 238 Para 82-84 HKMA LCR Return template- 1.c
18	HKMA- Lien marked stable retail deposits	Runoffs on the stable portion of lien marked deposits from customers treated as retail.	This assumption defines the run-off rates on the stable portion of lien marked deposits from all customers treated as retail, wherein the deposit maturity and the encumbrance period are within the LCR horizon. Since such deposits can be withdrawn within the horizon, these are treated similarly to non-lien marked stable deposits. This assumption applies a 5% Run-off rate on the stable portion of such deposit.	Part 7 Division 5, 41 (2)
19	HKMA- Unencumbered stable lien marked deposits	Runoffs on the unencumbered stable portion of lien marked deposits from customers treated as retail.	Runoff rates for an unencumbered stable portion of lien marked deposits from customers treated as retail wherein the deposit maturity is within the horizon, but the encumbrance period is beyond the LCR horizon is defined as a part of this assumption. The unencumbered stable portion of such deposits receives a 5% Run-off rate.	

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
20	HKMA- Enc portion excl of retail Lien marked deposit	Runoffs on the encumbered portion of lien marked deposits from customers treated as retail.	Runoffs on the encumbered portion of lien marked deposits from customers treated as retail wherein the deposit maturity is within the horizon, but the encumbrance period is beyond the LCR horizon is defined as a part of this assumption. The encumbered portion of both stable and less stable lien marked deposits receive a 0% Run-off rate.	
21	HKMA- Non lien marked less stable deposits	Run-offs on the less stable portion of non-lien marked deposits from retail customers and unsecured wholesale funding from SMEs treated as retail.	The run-off rates on the less stable portion of non-lien marked deposits from retail customers and SMEs who are treated like retail customers for the purposes of LCR are predefined as part of this assumption. This assumption applies a 10% Run-off on the portion of retail deposits that do not meet the deposit stability criteria and either mature or result in early withdrawal, without incurring a significant penalty, within the LCR horizon.	BCBS 238 Para 79-81 HKMA LCR Return template- 1.a
22	HKMA-Penalty Free less Stable Retail and SME Runoff	Run-offs on the portion of less stable term deposits, from retail customers and unsecured wholesale funding (UWF) from SMEs treated as retail, that is treated as demand deposits.	The run-off rates on the portion of less stable term deposits, that are treated as demand deposits, from retail customers and SMEs who are treated like retail customers for the purposes of LCR are predefined as part of this assumption. This assumption applies a 10% Run-off on the portion of retail deposits maturing beyond the LCR horizon, that do not meet the deposit stability criteria and can either be withdrawn without incurring a penalty or are allowed to be withdrawn despite a clause that says the depositor has no legal right to withdraw.	BCBS 238 Para 82-84 HKMA LCR Return template- 1.c

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
23	HKMA- Lien marked less stable retail deposits	Run-offs on the stable portion of lien marked deposits from customers treated as retail.	This assumption defines the run-off rates on the less stable portion of lien marked deposits from all customers treated as retail, wherein the deposit maturity and the encumbrance period is within the LCR horizon. Since such deposits can be withdrawn within the horizon, these are treated similarly to non-lien marked less stable deposits. This assumption applies a 10% Run-off rate on the stable portion of such deposit.	Part 7 Division 5, 41 (2)
24	HKMA- Unencumbered less stable lien marked deposits	Run-offs on the unencumbered less stable portion of lien marked deposits from customers treated as retail.	Run-off rates for an unencumbered less stable portion of lien marked deposits from customers treated as retail wherein the deposit maturity is within the horizon, but the encumbrance period is beyond the LCR horizon is defined as a part of this assumption. The unencumbered less stable portion of such deposits receive a 10% Run-off rate.	
25	HKMA-Run-off on Unsecured Non-Operational Funding from SMEs	This assumption Rollovers 60 percent cash flows for deposit accounts which are part of SME.	This assumption Rollovers 60 percent of cash flows for deposit accounts from Small and medium enterprises.	107 HKMA LCR Return template- 6.a. (ii)

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
26	HKMA-NFC, Sov, CB, MDB, PSE Non-operational UWF Run-off	This assumption Rollovers 60 percent cash flows for deposit accounts which are part of Corporate, MDB, PSE, Sovereign.	The run-off rates on the cash flows, from unsecured funding that is not classified as an operational deposit, received from non-financial corporates, sovereigns, central banks, multilateral development banks, and PSEs, are predefined as part of this assumption. This assumption applies an 80% rollover, that is, 20% Run-off on cash flows from non-operational funding accounts that are fully covered by deposit insurance and a 60% rollover, that is, 40% Run-off on those non-operational funding accounts that are not fully covered by deposit insurance.	
27	HKMA- Non Lien marked TDs from Sov and others	This assumption applies runoff on EOP balance for Term deposit accounts which are part of corporates, SME, Central Bank, MDB.	The run-off rates for non-lien marked term deposits from sovereigns, Central banks, non-financial corporates, MDB, and PSE are predefined as part of this assumption. This assumption applies a 40% Run-off on all the counterparties.	Part 7 Division 5, 41 (2)
28	HKMA- Lien marked TDs from Sov and others	This assumption applies 40 percent runoff on the EOP balance of Term Deposit accounts which are part of SME, Corporate, Sovereign, Central Bank, MDB, PSE.	The run-off rates for lien marked term deposits from sovereigns, Central banks, non-financial corporates, MDB and PSE are predefined as part of this assumption. This assumption applies a 40% Run-off on all the counterparties.	

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
29	HKMA- Unenc part of Lien marked TDs from Sov and others	This assumption applies 40 percent runoff on Term deposits which are part of SME, Corporates, MDB, PSE, and are unsecured, non-operational, encumbrance period should be greater than liquidity horizon.	The run-off rates for the unencumbered portion of lien marked term deposits from sovereigns, Central banks, non-financial corporates, MDB and PSE are predefined as part of this assumption. This assumption applies a 40% Run-off on all the counterparties.	
30	HKMA- Enc portion of Lien marked TDs from Sov and others	This assumption applies 0 percent runoff on Term deposits which are part of SME, Corporates, MDB, PSE, and are unsecured, non-operational, encumbrance period should be greater than liquidity horizon.	The run-off rates for the encumbered portion of lien marked term deposits from sovereigns, Central banks, non-financial corporates, MDB and PSE are predefined as part of this assumption. This assumption applies a 0% Run-off on all the counterparties.	
31	HKMA-NFC, Sov, CB, MDB, PSE UWF Run-off on Non-op Balance	This assumption applies 0 percent runoff on Term deposits which are part of SME, Corporates, MDB, PSE and are unsecured, operational, encumbrance period should be greater than liquidity horizon and maturity should be less than liquidity horizon.	The run-off rates on the cash flows, from unsecured funding that is not classified as an operational deposit, received from non-financial corporates, sovereigns, central banks, multilateral development banks, and PSEs, are predefined as part of this assumption. This assumption applies an 80% rollover, that is, 20% Run-off on cash flows from non-operational funding accounts that are fully covered by deposit insurance and a 60% rollover, that is, 40% Run-off on those non-operational funding accounts that are not fully covered by deposit insurance.	
32	HKMA- Lien marked Ins TDs from Sov and others	This assumption applies a 20 percent runoff rate for lien marked fully insured TDs.	This set of assumptions treat accounts that are lien marked and fully insured term deposits 20% Run-off	Part 7 Division 5, 41 (2)

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
33	HKMA- Unenc part of Lien marked Ins TDs from Sov and others	This assumption applies a 20 percent runoff rate for Unencumbered part of lien marked fully insured TDs.	rate is applied for the unencumbered portion and 0% is applied for the encumbered portion.	
34	HKMA- Enc portion of Lien marked Ins TDs from Sov and others	This assumption applies 0 percent runoff rate for encumbered part of lien marked fully insured TDs.		
35	HKMA-Other Legal Entity Unsecured Wholesale Funding Run-off	Run-off on unsecured wholesale funding, from wholesale customers other than SMEs, non-financial corporates, sovereigns, central banks, multilateral development banks, and PSEs, provided for non-operational purposes.	The run-off rates on the cash flows, from unsecured funding that is not classified as an operational deposit, received from wholesale counterparties other than SMEs, non-financial corporates, sovereigns, central banks, multilateral development banks, and PSEs, are predefined as part of this assumption. This assumption applies a 0% rollover, that is, 100% Run-off on cash flows from non-operational funding accounts.	109 HKMA LCR Return template- 6.b.
36	HKMA-UWF Run-off on Non-operational Balance of Other Ent	Run-off on the non-operational portion of unsecured wholesale funding (UWF) provided by customers other than non-financial corporates, sovereigns, central banks, multilateral development banks, and PSEs that are classified as an operational deposit.	The run-off rates on the non-operational portion of operational deposits from SME's treated as wholesale customers for the purposes of LCR, and other parties such as sovereigns, central banks, and so on are predefined as part of this assumption. This assumption applies a 20% Run-off on the non-operational portion of operational deposits that are fully covered by deposit insurance and a 40% run-off on the non-operational portion of operational deposits that are not fully covered by deposit insurance.	109 HKMA LCR Return template- 6.b.

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
37	HKMA-Issued Debt Security Outflow	Outflows on debt securities issued by the bank itself.	The run-off rates on the debt securities issued by the bank itself are predefined as part of this assumption. This assumption applies a 90% rollover, that is, 10% Run-off on issued securities that are sold exclusively in the retail market and held in retail accounts, and 0% rollover, that is, 100% Run-off on all other issued securities.	110 HKMA LCR Return template- 7
38	HKMA-Insured Operational Balance Run-off	Run-off on the portion of the operational balance, from deposits generated by clearing, custody, and cash management activities, that is fully covered by deposit insurance.	The run-off rates on the insured portion of the balance held in operational accounts to fulfill operational requirements are predefined as part of this assumption. This assumption applies a 3% Run-off on insured operational balances that meet the additional criteria for deposit insurance schemes and a 5% Run-off on those that do not meet the additional criteria.	93 to 104 HKMA LCR Return template- 5
39	HKMA-Uninsured Operational Balance Run-off	Run-off on the portion of the operational balance, from deposits generated by clearing, custody, and cash management activities, that is not covered by deposit insurance.	The run-off rates on the uninsured portion of the balance held in operational accounts to fulfill operational requirements are predefined as part of this assumption. This assumption applies a 25% Run-off on operational balances that are not covered by deposit insurance.	
40	HKMA-Secured Funding Run-Off	Run-off on secured funding, excluding collateral swaps, received from sovereigns, central banks, and multilateral development banks.	The run-off rates on the secured funding, excluding collateral swaps, received from sovereigns, central banks, multilateral development banks, and PSEs, are predefined as part of this assumption. This assumption applies the regulatory run-offs applicable to each counterparty type in the form of rollover rates, that is, 1 – Run-off rates.	112 to 115 HKMA LCR Return template- 8 and 9

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
41	HKMA-Run-off on Secured Funding From PSEs	Run-off on secured funding, excluding collateral swaps, received from PSEs.	The run-off rates on the secured funding, excluding collateral swaps, received from PSEs, are predefined as part of this assumption. This assumption applies the regulatory run-offs applicable to PSEs in the form of rollover rates, that is, 1 – Run-off rates.	
42	HKMA-Run-off on Secured Funding From Other Counterparties	Run-off on secured funding, excluding collateral swaps, received from counterparties other than sovereigns, central banks, multilateral development banks, and PSEs.	The run-off rates on the secured funding, excluding collateral swaps, received from counterparties other than sovereigns, central banks, multilateral development banks, and PSEs, where the transaction is backed by level 2B non-RMBS or other assets, are predefined as part of this assumption. This assumption applies the regulatory run-offs applicable to other counterparties, based on the asset quality of the placed collateral, in the form of rollover rates, that is, 1 – Run-off rates.	
43	HKMA - Collateral Swap Run-off	Run-off on collateral swap transactions.	The run-off rates on collateral swaps are predefined as part of this assumption. This assumption applies the run-offs applicable to the market value of received collateral, when the collateral received under a swap transaction is of a higher quality than the collateral placed, as the difference between the liquidity haircuts applicable to the received and placed collateral.	

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
44	HKMA-Derivative cash outflows	Net cash outflows from derivative transactions.	The outflow rate on the 30-day cash outflows from derivative transactions is predefined as part of this assumption. This assumption applies a 100% outflow on derivatives cash outflows, on a net basis in case of derivatives which are part of a netting agreement and on a non-net basis for other derivatives.	116 to 117 HKMA LCR Return template- 10
45	HKMA-Additional Coll Required Due to Ratings Downgrade	Increased liquidity needs arising from the requirement to post additional collateral due to a 3-notch rating downgrade.	The outflow rate, on the additional collateral required to be posted on contracts with downgrade triggers, due to a 3-notch rating downgrade, is predefined as part of this assumption. This assumption applies a 100% outflow on the downgrade impact amount arising from a 3-notch rating downgrade.	118 HKMA LCR Return template- 11
46	HKMA-Loss of Re-hypothecation Right Due to Ratings Downgrade	Increased liquidity needs arising from a loss of re-hypothecation rights on assets received as collateral due to a 3-notch rating downgrade.	The outflow rate, on the additional cash outflows arising on contracts with downgrade triggers, that result in a loss of re-hypothecation rights due to a 3-notch rating downgrade, is predefined as part of this assumption. This assumption applies a 100% outflow on the value of mitigants received under re-hypothecation rights corresponding to accounts whose downgrade trigger is activated due to the 3-notch ratings downgrade.	

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
47	HKMA-Increased Liquidity Needs Due to Change in Coll Value	Increased liquidity needs arising from the potential change in the value of posted collateral.	The outflow rate on the additional cash outflow due to a potential loss in the market value of non-level 1 assets posted as collateral is predefined as part of this assumption. This assumption applies a 100% outflow on the value of non-level 1 posted collateral computed after netting the non-level 1 collateral received under re-hypothecation rights on the same transaction.	119 HKMA LCR Return template- 12
48	HKMA-Increased Liquidity Needs Due To Excess Collateral	Increased liquidity needs arising from excess non-segregated collateral received that can be recalled by the counterparty.	The outflow rate on the excess unsegregated collateral held by a bank, which can potentially be withdrawn by the counterparty, is predefined as part of this assumption. This assumption applies a 100% outflow on the value of excess collateral.	120 HKMA LCR Return template- 13
49	HKMA-Increased Liquidity Needs from Contractually Due Coll	Increased liquidity needs arising from the collateral that is contractually required to be posted to the counterparty but has not yet been posted.	The outflow rate on the collateral that the bank is contractually required to post to its counterparty, but has not yet posted, is predefined as part of this assumption. This assumption applies a 100% outflow on the value of contractually due collateral.	121 HKMA LCR Return template- 15
50	HKMA - Increased Liquidity Needs Due to Substitutable Coll	Increased liquidity needs arising from contracts that allow a counterparty to substitute lower quality collateral for the current higher quality collateral.	The outflow rate on the collateral that the counterparty can contractually substitute with lower quality collateral is predefined as part of this assumption. This assumption applies an outflow rate equal to the difference between the liquidity haircuts of collateral that can be potentially substituted by the counterparty and the collateral that substitutes it.	122 HKMA LCR Return template- 14

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
51	HKMA - Increased Liquidity Needs Due to Market Val Changes	Increased liquidity needs arising from market valuation changes on derivatives and other transactions.	The outflow rate on the collateral outflows occurring due to market valuation changes on derivatives and other transactions is predefined as part of this assumption. This assumption applies a 100% outflow rate on the largest absolute net 30-day collateral flow occurring during the preceding 24 months under the historical look-back approach.	123 HKMA LCR Return template- 16
52	HKMA - Loss of Funding on Structured Financing Instruments	Loss of funding on asset-backed securities, covered bonds, and other structured financing instruments.	The run-off rate on the maturing asset-backed securities, covered bonds, and other structured financing instruments is predefined as part of this assumption. This assumption applies a 100% run-off on structured financing instruments that mature within the LCR horizon.	124 HKMA LCR Return template- 17
53	HKMA - Loss of Funding from Financing Facility-Maturing Debt	Loss of funding on asset-backed commercial paper, conduits, securities investment vehicles and other such financing facilities due to inability to refinance maturing debt.	The run-off rate on the maturing amounts of asset-backed commercial paper, conduits, securities investment vehicles, and other such financing facilities is predefined as part of this assumption. This assumption applies a 100% run-off on the EOP balance of the structured financing facilities that mature within the LCR horizon.	125 HKMA LCR Return template- 18
54	HKMA - Loss of Funding from Financing Facility-Ret of Assets	Loss of funding on asset-backed commercial paper, conduits, securities investment vehicles and other such financing facilities due to potential return of assets.	The run-off rate on the returnable assets underlying asset-backed commercial paper, conduits, securities investment vehicles, and other such financing facilities is predefined as part of this assumption. This assumption applies a 100% run-off on the value of the assets that are returnable within the LCR horizon.	

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
55	HKMA - Loss of Funding from Financing Facility - Liq Draws	Loss of funding on asset-backed commercial paper, conduits, securities investment vehicles, and other such financing facilities due to drawdown of liquidity facilities provided by the bank.	The outflow rate on the undrawn amount available to be drawn down on the liquidity facility extended to the structured financing facility is predefined as part of this assumption. This assumption applies a 100% outflow as a drawdown rate on the liquidity facilities extended as support for structured financing purposes.	
56	HKMA-Drawdowns on Committed Credit and Liquidity Facilities	Drawdowns on committed facilities received by the bank.	The outflow rate on the undrawn amount available to be drawn down on the committed credit and liquidity facilities extended to retail customers, SMEs, corporates, sovereigns, central banks, MDBs, and PSEs is predefined as part of this assumption. This assumption applies the relevant outflow as a drawdown rate, based on the counterparty type, for the aforementioned counterparties.	126 to 131 HKMA LCR Return template- 19
57	HKMA-Draws on Committed Facilities Extended to Banks	Drawdowns on committed credit and liquidity facilities extended to entities other than retail customers, SMEs, corporates, sovereigns, central banks, MDBs, PSEs, and banks.	The outflow rate on the undrawn amount available to be drawn down on the committed credit and liquidity facilities extended to customers is predefined as part of this assumption. This assumption applies the relevant outflow as a drawdown rate, for banks, including those subject to prudential regulation.	

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
58	HKMA-Draws on Committed Facilities Extended to Other Entity	Drawdowns on committed credit and liquidity facilities to other legal entities.	The outflow rate on the undrawn amount available to be drawn down on the committed credit and liquidity facilities extended to customers other than retail customers, SMEs, corporates, sovereigns, central banks, MDBs, PSEs, and banks is predefined as part of this assumption. This assumption applies a 100% outflow as a drawdown rate to all counterparties excluding the aforementioned counterparties.	
59	HKMA-Other Contractual Obligations to Financial Institutions	Outflows related to other contractual obligations to extend funds within 30 days to financial institutions.	The outflow rate on other contractual obligations to extend funds to financial institutions, not covered in the previous assumptions, is predefined as part of this business assumption. This assumption applies a 100% outflow rate on such contractual obligations.	132 HKMA LCR Return template- 19
60	HKMA-Other Contractual Obligations to Non-Financial Cust	Outflows related to other contractual obligations to extend funds within 30 days to retail and non-financial wholesale counterparties.	The outflow rate on the other contractual obligations to extend funds to retail and non-financial corporate customers, in excess of 50% of contractual inflows from such customers within the LCR horizon, is predefined as part of this assumption. This assumption applies a 100% outflow on the excess contractual obligation amount.	133 HKMA LCR Return template- 20
61	HKMA-Other Contingent Funding Obligation Outflows	Outflows related to trade finance related instruments.	This assumption applies a 5% factor on Trade finance related instruments.	134 to 140 HKMA LCR Return template- 21

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
62	HKMA-Uncommitted Facility Outflows	Drawdowns on uncommitted credit and liquidity facilities extended to customers.	The outflow rate on the undrawn amount available to be drawn down on the uncommitted credit and liquidity facilities extended to customers is predefined as part of this assumption. This assumption applies a 0% drawdown on the uncommitted facilities. The drawdown rates are allowed to be updated to reflect the rates specified by national regulators.	134 to 140 HKMA LCR Return template- 21
63	HKMA-Outflows Related to Short Positions	Outflows related to customer and bank short positions.	The outflow rate on the customer and firm short positions is predefined as part of this assumption. This assumption specifies outflows on the short positions based on assets covering such short positions.	147 HKMA LCR Return template- 21
64	HKMA-Non-contractual Obligation Outflows	Outflows from non-contractual obligations related to joint ventures, minority investments, debt buy-back requests, structured products, managed funds, and any other similar obligations.	The outflow rate on the non-contractual obligations related to joint ventures, minority investments, debt buy-back requests, structured products, managed funds, and any other similar obligations is predefined as part of this assumption. This assumption applies a 0% outflow rate on non-contractual obligations. The outflow rate is allowed to be updated to reflect the rates specified by national regulators.	134 to 140 HKMA LCR Return template- 21
65	HKMA-Contractual Interest Payment Outflows	This assumption rollovers zero percent for interest type cash flow for deposits, securities issued, borrowings, money market, line of credit received and annuity contracts.	The outflow rate on the interest payments contractually due within the LCR horizon is predefined as part of this assumption. This assumption applies a 100% outflow on interest in the form of a 0% rollover rate.	141 HKMA LCR Return template- 21

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
66	HKMA-Contractual Dividend Payment Outflows	Outflows related to contractual payments of dividends.	The outflow rate on the dividends payable within the LCR horizon is predefined as part of this assumption. This assumption applies a 100% outflow on dividends payable.	
67	HKMA-NFC, Sov, CB, MDB, PSE UWF Runoff on Ins Non-op Bal	This assumption applies 20 percent runoff on Term deposits which are part of SME, Corporates, MDB, PSE and are unsecured, operational and maturity should be less than liquidity horizon.	The run-off rates on the non-operational portion of operational deposits from non-financial corporates, sovereigns, central banks, multilateral development banks, and PSEs, are predefined as part of this assumption. This assumption applies a 20% Run-off on the non-operational portion of operational deposits that are fully covered by deposit insurance and a 40% Run-off on the non-operational portion of operational deposits that are not fully covered by deposit insurance.	96, 107 to 108 HKMA LCR Return template- 6.a.
68	HKMA-NFC, Sov, CB, MDB, PSE Non-operational Run-off	Run-off on the unsecured wholesale funding (UWF), provided by non-financial corporate (NFC), sovereigns (Sov), central banks (CB), multilateral development banks (MDB), and PSEs, that is not classified as an operational deposit. This is achieved by rolling over 60 percent run-off rate to beyond the LCR horizon of 30 days.	The run-off rates on the cash flows, from unsecured funding that is not classified as an operational deposit, received from non-financial corporates, sovereigns, central banks, multilateral development banks, and PSEs, are predefined as part of this assumption. This assumption applies an 80% rollover, that is, 20% Run-off on cash flows from non-operational funding accounts that are fully covered by deposit insurance and a 60% rollover, that is, 40% Run-off on those non-operational funding accounts that are not fully covered by deposit insurance.	96, 107 to 108 HKMA LCR Return template- 6.a.

3.4.2 Regulation Addressed through Business Rules

The list of preconfigured rules and the corresponding reference to the regulatory requirement that it addresses are provided in the following table.

> **NOTE** This list contains only the Rules which directly correspond to regulatory references. For the complete set of Rules, T2T and Functions used in HKMA LCR, see the Run Chart.

Table 13: Preconfigured HKMA LCR Business Rules

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
1	LRM - HKMA - Classification Of Operational Deposits And Non-Operational Balance Computation	This rule classifies accounts as operational deposits based on guidelines and computes that portion of the EOP balance of such accounts which is truly operational in nature. These values are updated in the FSI_LRM_INSTRUMENT table.	The classification of an account as operational or non-operational as per RBI guidelines and the computation of the operational portion of the EOP balance is configured as part of this rule.	HKMA Part 7- paragraph 25
2	LRM - HKMA - HQLA Level 1 - Cash and Central Bank Reserve	This rule reclassifies cash, banknotes, and central bank reserves, to the extent that the central bank policies allow them to be drawn down in times of stress, as HQLA Level 1 assets in accordance with the criteria specified by HKMA.	The classification of cash and central bank reserves as HQLA level 1 assets is configured as part of this rule.	HKMA Schedule 2 Part 2 1a and b

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
3	LRM - HKMA - HQLA Level 1 - Sovereign, CB , PSE and MDB Issued Zero Risk Weight Securities	This rule reclassifies marketable securities issued by sovereigns, central banks, PSEs, the Bank for International Settlements, the International Monetary Fund, the European Central Bank, European Community, and multilateral development banks as HQLA Level 1 assets in accordance with the criteria specified by HKMA.	The classification of zero risk weight marketable securities issued by sovereigns, central banks, PSEs, the Bank for International Settlements, the International Monetary Fund, the European Central Bank, European Community, and multilateral development banks as HQLA level 1 assets is configured as part of this rule.	HKMA Schedule 2 Part 2 1c HKMA Schedule 2 Part 3 1
4	LRM - HKMA - HQLA Level 1 - Sovereign, CB , PSE and MDB Guaranteed Zero Risk Weight Securities	This rule reclassifies marketable securities guaranteed by sovereigns, central banks, PSEs, the Bank for International Settlements, the International Monetary Fund, the European Central Bank, European Community, and multilateral development banks as HQLA Level 1 assets in accordance with the criteria specified by HKMA.	The classification of zero risk weight marketable securities guaranteed by sovereigns, central banks, PSEs, the Bank for International Settlements, the International Monetary Fund, the European Central Bank, European Community, and multilateral development banks as HQLA level 1 assets is configured as part of this rule.	HKMA Schedule 2 Part 2 1c HKMA Schedule 2 Part 3 1

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
5	LRM - HKMA - HQLA Level 1 - Sec by Sovereign and CB with Non-Zero Risk Weight in Domestic Currencies	This rule reclassifies securities issued by non-zero risk weight sovereigns and central banks as HQLA Level 1 assets in accordance with the criteria specified by HKMA.	The classification of securities issued in the domestic currency by non-zero risk weight sovereigns and central banks as HQLA level 1 assets is configured as part of this rule.	HKMA Schedule 2 Part 2 1d HKMA Schedule 2 Part 3 2
6	LRM - HKMA - HQLA Level 1 - Sec by Sovereign and CB with Non-Zero Risk Weight in Foreign Currency	This rule reclassifies securities issued by non-zero risk weight domestic sovereigns and central banks in foreign currency as HQLA Level 1 assets in accordance with the criteria specified by HKMA.	The classification of securities issued in foreign currencies by non-zero risk weight domestic sovereigns and central banks as HQLA level 1 assets is configured as part of this rule.	HKMA Schedule 2 Part 2 1e HKMA Schedule 2 Part 3 3
7	LRM - HKMA - HQLA Level 2A - Sovereign, CB , PSE and MDB 20 percent Risk Weight Securities	This rule reclassifies the non-zero risk weight securities either issued or guaranteed by Sovereign, Central Bank, PSE, and Multilateral Development Bank as HQLA Level 2A assets, in accordance with the criteria specified by HKMA.	The classification of 20% risk weight marketable securities guaranteed by sovereigns, central banks, PSEs, or multilateral development banks as HQLA Level 2A assets are configured as part of this rule.	HKMA Schedule 2 Part 2-2a HKMA Schedule 2 Part 3 4
8	LRM - HKMA - HQLA Level 2A - Non-Financial Corporate Bonds	This rule reclassifies debt securities other than covered bonds issued by non-financial corporates as HQLA Level 2A assets in accordance with the criteria specified by HKMA.	The classification of corporate bonds, excluding covered bonds, as HQLA Level 2A assets is configured as part of this rule.	HKMA Schedule 2 Part 2-2a HKMA Schedule 2 Part 3 4
9	LRM - HKMA - HQLA Level 2A - Covered Bonds	This rule reclassifies covered bonds issued by non-financial corporates as HQLA Level 2A assets in accordance with the criteria specified by HKMA.	The classification of covered bonds as HQLA Level 2A assets is configured as part of this rule.	HKMA Schedule 2 Part 2-2b&c HKMA Schedule 2 Part 3 5&6

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
10	LRM - HKMA - HQLA Level 2B RMBS	This rule reclassifies residential mortgage-backed securities as HQLA Level 2B RMBS assets in accordance with the criteria specified by HKMA.	The classification of residential mortgage-backed securities as HQLA level 2B RMBS assets is configured as part of this rule.	HKMA Schedule 2 Part 2- 3B HKMA Schedule 2 Part 3 8&9
11	LRM - HKMA - HQLA Level 2B Non-RMBS - Non-Financial Corporate Bonds	This rule reclassifies debt securities issued by non-financial corporates as HQLA Level 2B Non-RMBS assets in accordance with the criteria specified by HKMA.	The classification of debt securities, including commercial papers, issued by non-financial corporates as HQLA level 2B non-RMBS assets is configured as part of this rule.	HKMA Schedule 2 Part 2- 3a HKMA Schedule 2 Part 3-7
12	LRM - HKMA - Bank Own Assets - Meets HQLA Operational Requirements Flag Update	This rule identifies whether the bank's own assets, both unencumbered assets as well as those placed as collateral, meet the operational requirements set forth by the regulator, except for being unencumbered in the case of placed collateral. In the case of unencumbered assets, it updates the Meets HQLA Operational Requirements Flag. In case of placed collateral, it updates the Meets HQLA Operational Requirements on Unwind Flag.	The identification of whether an asset owned by the bank meets the operational requirements set forth by BIS for its inclusion in the stock of HQLA is configured as part of this rule.	BIS Paragraphs 28 to 42
13	LRM - HKMA - Re-hypothecated Mitigants - Meets HQLA Operational Requirements Flag Update	This rule identifies whether a rehypothecated mitigant meets the operational requirements set forth by the regulator, except for being unencumbered. It updates the Meets HQLA Operational Requirements on Unwind Flag for such mitigants.	The identification of whether collateral received from a counterparty that is further placed as collateral meets the operational requirements set forth by BIS on unwinding is configured as part of this rule.	BIS Paragraphs 28 to 42

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
14	LRM - HKMA - Mitigants - Meets HQLA Operational Requirements Flag Update	This computation rule updates the HQLA Eligibility Flag for the bank's own unencumbered assets classified as HQLA that fulfill the HQLA operational requirements and therefore can be included in the stock of HQLA. It also updates the Eligible HQLA on the Unwind flag for all assets placed as collateral that are classified as HQLA that fulfill the HQLA operational requirements on unwinding and therefore are to be unwound.	This computation rule updates the HQLA Eligibility Flag for bank's own unencumbered assets classified as HQLA that fulfill the HQLA operational requirement.	BIS Paragraphs 28 to 42
15	LRM - HKMA - Mitigants - Eligible High Quality Liquid Assets Flag Update	This computation rule updates the HQLA Eligibility Flag for mitigants classified as HQLA that fulfill the HQLA operational requirements and therefore can be included in the stock of HQLA.	The identification of whether a Mitigant is eligible to be included in the stock of HQLA is done as a part of this Rule.	BIS Paragraphs 28 to 42
16	LRM - HKMA Level 1 Stock Adjustment - Secured Funding Transaction-Addition	This rule reclassifies all secured funding transactions that mature within the LCR horizon and therefore are required to be unwound, where the collateral posted is a level 1 asset to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA, due to such an unwind, as the addition of the collateral posted.	The identification of secured funding transactions required to be unwound and the amount to be added to the stock of level 1 assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35
17	LRM - HKMA Level 1 Stock Adjustment - Secured Funding Transaction-Deduction	This rule reclassifies all the secured funding transactions that mature within the LCR horizon and therefore are required to be unwound, where the collateral posted is an HQLA, to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA due to such an unwind as the deduction of the amount received.	The identification of secured funding transactions required to be unwound and the amount to be deducted from the stock of level 1 assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
18	LRM - HKMA Level 1 Stock Adjustment - Secured Lending Transaction-Addition	This rule reclassifies all the secured lending transactions that mature within the LCR horizon and therefore are required to be unwound, where the mitigant received is an HQLA, to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA due to such an unwind as the addition of the amount paid.	The identification of secured lending transactions required to be unwound and the amount to be added to the stock of level 1 assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35
19	LRM - HKMA Level 1 Stock Adjustment - Secured Lending Transaction-Deduction	This rule reclassifies all the secured lending transactions that mature within the LCR horizon and therefore are required to be unwound, where the mitigant received is a level 1 asset, to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA due to such an unwind as the deduction of the collateral received.	The identification of secured lending transactions required to be unwound and the amount to be deducted from the stock of level 1 assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35
20	LRM - HKMA Level 1 Stock Adjustment - Asset Exchange Addition	This rule reclassifies all the asset exchange transactions that mature within the LCR horizon and therefore are required to be unwound, where the mitigant received is an HQLA and the collateral posted is a level 1 asset, to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA due to such an unwind as the addition of the collateral posted.	The identification of asset exchange transactions required to be unwound and the amount to be added to the stock of level 1 assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35
21	LRM - HKMA Level 1 Stock Adjustment - Asset Exchange Deduction	This rule reclassifies all the asset exchange transactions that mature within the LCR horizon and therefore are required to be unwound, where the mitigant received is a level 1 asset and the collateral posted is an HQLA, to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA due to such an unwind as the deduction of the collateral received.	The identification of asset exchange transactions required to be unwound and the amount to be deducted from the stock of level 1 assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
22	LRM - HKMA Level 2A Stock Adjustment - Secured Funding Transaction	This rule reclassifies all secured funding transactions that mature within the LCR horizon and therefore are required to be unwound, where the collateral posted is a level 2A asset, to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA, due to such an unwind, as the addition of the collateral posted.	The identification of secured funding transactions required to be unwound and the amount to be added to the stock of level 2A assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35
23	LRM - HKMA Level 2A Stock Adjustment - Secured Lending Transaction	This rule reclassifies all the secured lending transactions that mature within the LCR horizon and therefore are required to be unwound, where the mitigant received is a level 2A asset, to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA due to such an unwind as the deduction of the collateral received.	The identification of secured lending transactions required to be unwound and the amount to be deducted from the stock of level 2A assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35
24	LRM - HKMA Level 2A Stock Adjustment - Asset Exchange Addition	This rule reclassifies all the asset exchange transactions that mature within the LCR horizon and therefore are required to be unwound, where the mitigant received is a level 2A asset and the collateral posted is an HQLA, to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA due to such an unwinds as the addition of the collateral received.	The identification of asset exchange transactions required to be unwound and the amount to be added to the stock of level 2A assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35
25	LRM - HKMA Level 2A Stock Adjustment - Asset Exchange Deduction	This rule reclassifies all the asset exchange transactions that mature within the LCR horizon and therefore are required to be unwound, where the mitigant received is a level 2A asset and the collateral posted is an HQLA, to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA due to such an unwind as the deduction of the collateral received.	The identification of asset exchange transactions required to be unwound and the amount to be deducted from the stock of level 2A assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
26	LRM - HKMA Level 2B RMBS, Non-RMBS Stock Adjustment - Secured Lending Transaction	This rule reclassifies all the asset exchange transactions that mature within the LCR horizon and therefore are required to be unwound, where the mitigant received is an HQLA and the collateral posted is a level 2A asset, to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA due to such an unwind as the addition of the collateral posted.	The identification of secured lending transactions required to be unwound and the amount to be deducted from the stock of level 2B RMBS and non-RMBS assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35
27	LRM - HKMA Level 2B RMBS,Non RMBS Stock Adjustment - Secured Funding Transaction	This rule reclassifies all the secured lending transactions that mature within the LCR horizon and therefore are required to be unwound, where the mitigant received is a level 2B asset, either RMBS or non-RMBS, to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA due to such an unwind as the deduction of the collateral received.	The identification of secured funding transactions required to be unwound and the amount to be added to the stock of level 2B RMBS and non-RMBS assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35
28	LRM - HKMA Level 2B RMBS,Non RMBS Stock Adjustment - Asset Exchange Addition	This rule reclassifies all the asset exchange transactions that mature within the LCR horizon and therefore are required to be unwound, where the mitigant received is a level 2B asset, either RMBS or non-RMBS, and the collateral posted is an HQLA, to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA due to such an unwind as the addition of the collateral received.	The identification of asset exchange transactions required to be unwound and the amount to be added to the stock of level 2B RMBS and non-RMBS assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
29	LRM - HKMA Level 2B RMBS,Non RMBS Stock Adjustment - Asset Exchange Deduction	This rule reclassifies all the asset exchange transactions that mature within the LCR horizon and therefore are required to be unwound, where the mitigant received is a level 2B asset, either RMBS or non-RMBS, and the collateral posted is an HQLA, to the appropriate adjustment rule. It updates the type of adjustment to the stock of HQLA due to such an unwind as the deduction of the collateral received.	The identification of asset exchange transactions required to be unwound and the amount to be deducted from the stock of level 2B RMBS and non-RMBS assets due to such an unwind is configured as part of this rule.	BIS- Annex 1 HKMA Part 7- paragraphs 32-35
30	LRM - NCOF Computation	This rule computes the net cash outflow over the liquidity horizon based on the regulatory formula at the legal entity level as well as a legal entity - significant currency level and updates these values in the FCT_LRM_LE_SUMMARY table.	The computation of the net cash outflows as per the regulatory formula is configured as part of this rule.	HKMA Part 7 Paragraphs 39 to 42
31	LRM - HKMA - Level 2B Asset Cap Amount Calculation	This rule calculates the adjusted level 2B asset cap amount as per the regulatory formula using the adjusted amounts of high-quality liquid assets and updates it in the FCT_LRM_LE_SUMMARY table at both legal entity level and legal entity - significant currency level.	The computation of the adjustment for 15% cap on level 2B assets is configured as part of this rule.	HKMA Part 7- paragraphs 18-24
32	LRM - HKMA - Level 2 Asset Cap Amount Calculation	This rule calculates the adjusted level 2 asset cap amount as per the regulatory formula using the adjusted amounts of high-quality liquid assets and the adjusted level 2B cap amount. This value is updated in the FCT_LRM_LE_SUMMARY table at both the legal entity level and legal entity - significant currency level.	The computation of the adjustment for 40% cap on Level 2 assets is configured as part of this rule.	HKMA Part 7- paragraphs 18-24

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
33	LRM - Stock of High Quality Liquid Asset Computation	This rule calculates the stock of high-quality liquid assets (HQLA) and updates the value in the FCT_LRM_LE_SUMMARY table at MASh legal entity level and legal entity - significant currency level.	The computation of the stock of high-quality liquid assets is configured as part of this rule.	HKMA Part 7- paragraphs 18-24
34	LRM - Liquidity Coverage Ratio Computation	This rule calculates the liquidity coverage ratio (LCR) at a legal entity level and legal entity – significant currency level on a solo and consolidated basis and updates the values in the FCT_LRM_LE_SUMMARY table.	The computation of the liquidity coverage ratio is configured as part of this rule.	HKMA Part 7- paragraphs 18-24

4 Liquidity Maintenance Ratio (LMR) Calculation

The LMR is a simplified form of the LCR for institutions designated as Category 2 by the Hong Kong Monetary Authority. It is a ratio of the amount of a category 2 institution's liquefiable assets to the amount of the institution's qualifying liabilities over a calendar month.

As prescribed by the HKMA, a Category 2 institution must maintain an LMR of not less than 25% on average in each calendar month.

$$LMR = \frac{Total\ Liquefiable\ Assets}{Total\ Qualifying\ Liabilities}$$

Where:

Total Liquefiable Assets is the Sum of all Liquefiable Assets (Post Haircut) minus the Deductions from Liquefiable Assets (Post Haircut).

Total Qualifying Liabilities is the Sum of all Qualifying liabilities (Post Haircut) minus the Deductions from Qualifiable Liabilities (Post Haircut).

Topics:

- Prerequisites for Ratio Calculation
- Ratio Constituents
- Pre-configured Regulatory LMR Scenario as per HKMA

4.1 Prerequisites for Ratio Calculation

This section lists the intermediate calculations and results required to calculate the LMR.

Topics:

- Net Due from Banks
- Credit Quality Grade
- Qualifying ECAI Rating

4.1.1 Net Due from Banks

This computation reflects the net amount to be received by the bank in question from other banks at an aggregate level. If this resulting amount is positive, it indicates that the bank is to receive amounts from other banks and is therefore treated as an Asset. If this resulting amount is negative, it indicates that the bank owes the amount to other banks and is therefore treated as a Liability.

The computation is done as follows:

Table 14: Illustration – Computation of Net Due from Banks

Standard Product type	Standard Party Type (Counterparty)	Measure	Residual Maturity	Example 1	Net Due From Banks - Example1	Example 2	Net Due From Banks - Example 2
Liabilities of the Institution to other banks							
Deposits	All Banks excluding Central Bank	EOP Balance	<=1 month	4000	1240	3000	-190
Borrowings		Fair Value		2300		1200	
Line of Credit received		Drawn Amount		110		400	
Securities Issued		Fair Value		3000		4000	
Liabilities from banks to the Institution							
Balances with banks	All Banks excluding Central Bank	EOP Balance	<=1 month	1000		1300	
Non Marketable Debt Securities (Marketable Flag=No)		Fair Value		3500		4090	
Loans		EOP Balance		6000		2920	
Line of Credit		Drawn Amount		150		100	

NOTE

1. This computation is done at a Legal Entity - Currency level.
2. **Net Due from Banks** is the (Total Liabilities from banks to the institution minus the Total Liabilities of the institution to other banks) in a one-month calendar period.

4.1.1.1 Cap on Net Due from Banks

If Net due from banks is positive, a certain portion of this amount can be included in the Liquefiable Assets. This portion is limited to 40% of the Qualifying liabilities.

Table 15: Illustration – Cap on Net Due from Banks

Computed Amount	Example 1	Comments- Example 1	Example 2	Comments- Example 2
Net Due from Banks	1240		-190	This sign signifies that the institution's liabilities exceed its receivables from other banks.
Qualifying Liabilities	2000			
Capped Net due from Banks	800	This amount goes to the Liquefiable assets and receives the appropriate factor.		
Excess Net due from Banks	440	This amount goes to the Qualifying liabilities and receives the appropriate factor.		

If Net due from Banks is negative, then it is only included in the denominator of LMR.

In Example 2:

Table 16: Illustration – Cap on Net Due from Banks when Net due from Banks is negative

Institution's one month liabilities to banks	8600	This amount goes to the Qualifying Liabilities and receives the appropriate factor.
Banks' one month liabilities to the institution	8410	This amount goes to the Deductions from Qualifying Liabilities and receives the appropriate factor.

4.1.2 Credit Quality Grade

See Credit Quality Grade for details.

4.1.3 Qualifying ECAI Rating

For inclusion within the LMR, the grade/ratings of the issuer/guarantor/security should meet certain criteria. When these criteria are met, the Rating is deemed as Qualifying. The criteria are based mainly on the worst grade up to which the security can be included within the ratio. The criteria for an Issuer/Guarantor qualification and a Security rating qualification is specified in the following section.

The tables in this section list the criteria by which the security is **Qualifying** to be included in the LMR. For example: For a Security issued outside India, if the Grade is 1 or 2 in Long Term Ratings, then the security is **Qualifying**. This implies that Long Term Grade 3, 4, 5, and 6 are not qualifying.

The table which refers to an attribute called Qualifying rating, is marked Yes when either the Issue OR Issuer OR Guarantor is Qualifying

Topics:

4.1.3.1 Qualifying Grade for a Security/Issue

Security is deemed to be qualifying for the context of LMR (Qualifying ECAI Issue-specific rating is Yes) if it satisfies the criteria in the following table.

Table 17: Criteria for Qualifying Grade for a Security/Issue

Issuer Domicile	Standard Party Type (Issuer OR Guarantor)	Credit Quality Grade Instrument (Processing)	Qualifying ECAI Issue Specific Rating
Other than India		1	**Yes**
		2	**Yes**
		1s	**Yes**
		2s	**Yes**
India	Other than Corporates	1	**Yes**
		2	**Yes**
		1s	**Yes**
		2s	**Yes**
India	Corporates	1	**Yes**
		2	**Yes**
		3	**Yes**
		1s	**Yes**
		2s	**Yes**
		3s	**Yes**

4.1.3.2 Qualifying Grade for an Issuer or Guarantor

An issuer or guarantor is deemed to be qualifying for the context of LMR (Qualifying ECAI Issuer rating is Yes) if it satisfies the criteria in the following table.

Table 18: Criteria for Qualifying Grade for an Issuer or Guarantor

Issuer Domicile	Standard Party Type (Issuer OR Guarantor)	Credit Quality Grade Issuer/ Guarantor (Processing)	Qualifying ECAI Issuer Rating
Other than India		1	**Yes**
		2	**Yes**
India	Other than Corporates	1	**Yes**
		2	**Yes**
India	Corporates	1	**Yes**
		2	**Yes**
		3	**Yes**

4.1.3.3 Qualifying ECAI Rating

An account is deemed to be qualifying for the context of LMR (Qualifying ECAI rating is Yes) if either its issuer or guarantor or the issue satisfies the criteria in the following table.

Table 19: Illustration- Qualifying ECAI rating

Qualifying ECAI Issue Specific Rating	Qualifying ECAI Issuer/Guarantor Rating	Qualifying ECAI Rating (Derived)
Yes	Yes	**Yes**
Yes	No	**Yes**
No	Yes	**Yes**
No	No	**No**

4.2 Ratio Constituents

LMR is a ratio of assets over liabilities as prescribed in the HKMA guidelines. It considers certain assets and liabilities, referred to as liquefiable assets and qualifying liabilities.

$$LMR = \frac{Total\ Liquefiable\ Assets}{Total\ Qualifying\ Liabilities}$$

Where:

$$Total\ Liquefiable\ Assets = Sum\ of\ all\ Liquefiable\ Assets\ (Post\ Haircut) - Deductions\ from\ Liquefiable\ Assets\ (Post\ Haircut)$$

$$\boldsymbol{Total\ Qualifying\ Liabilities} = Sum\ of\ all\ Qualifying\ liabilities\ (Post\ Haircut) - Deductions\ from\ Qualifiable\ Liabilities\ (Post\ Haircut)$$

The Constituents of the ratio are identified through pre-configured business rules. See the Regulation Addressed through Business Rules section for details.

The haircuts applicable to each asset or liability are applied through pre-configured business assumptions. See the Regulation Addressed through Business Assumptions section for details.

4.3 Preconfigured Regulatory LMR Scenario as per HKMA

The list of preconfigured business assumptions and rules, as well as the corresponding reference to the regulatory requirement that it addresses, is provided in the following tables.

Topics:

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4.3.1 Regulation Addressed through Business Rules

The application supports multiple pre-configured rules and scenarios based on HKMA specified scenario parameters. The list of preconfigured business rules and the corresponding reference to the regulatory requirement that it addresses are provided in the following section:

> **NOTE** This section provides contextual information about the business rules. For more detailed information, see the OFS LRS application (UI).
>
> This list contains only the Rules which directly correspond to regulatory references. For the complete set of Rules, T2T and Functions, detailed Processes, and Tasks used in HKMA LCR, see the Run Chart.

Table 20: Preconfigured HKMA LMR Business Rules

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. HKMA Capital Rules 155L
1	LRM - HKMA LMR - Issuer Party Rating Classification - Grade 1	This rule updates the grade skey for the issuer based on the issuer type, issuer domicile and issuer rating as Grade 1.	This set of Rules updates the Credit Quality grade of the instrument, based on the issuer. This is done along with Grades 1 to 6. Grade 1 being the highest quality credit grade.	Capital Rules - Schedule 6
2	LRM - HKMA LMR - Issuer Party Rating Classification - Grade 2	This rule updates the grade skey for the issuer based on the issuer type, issuer domicile and issuer rating as Grade 2.		
3	LRM - HKMA LMR - Issuer Party Rating Classification - Grade 3	This rule updates the grade skey for the issuer based on the issuer type, issuer domicile and issuer rating as Grade 3.		

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. HKMA Capital Rules 155L
4	LRM - HKMA LMR - Issuer Party Rating Classification - Grade 4	This rule updates the grade skey for the issuer based on the issuer type, issuer domicile and issuer rating as Grade 4.		
5	LRM - HKMA LMR - Issuer Party Rating Classification - Grade 5	This rule updates the grade skey for the issuer based on the issuer type, issuer domicile and issuer rating as Grade 5.		
6	LRM - HKMA LMR - Issuer Party Rating Classification - Grade 6	This rule updates the grade skey for the issuer based on the issuer type, issuer domicile and issuer rating as Grade 6.		
7	LRM - HKMA LMR - Guarantor Party Rating Classification - Grade 1	This rule updates the grade skey for the guarantor based on the guarantor type, guarantor domicile and guarantor rating as Grade 1.	This set of Rules updates the Credit Quality grade of the instrument, based on the Guarantor. This is done along with Grades 1 to 6. Grade 1 being the highest quality credit grade.	Capital Rules - Schedule 6
8	LRM - HKMA LMR - Guarantor Party Rating Classification - Grade 2	This rule updates the grade skey for the guarantor based on the guarantor type, guarantor domicile and guarantor rating as Grade 2.		
9	LRM - HKMA LMR - Guarantor Party Rating Classification - Grade 3	This rule updates the grade skey for the guarantor based on the guarantor type, guarantor domicile and guarantor rating as Grade 3.		
10	LRM - HKMA LMR - Guarantor Party Rating Classification - Grade 4	This rule updates the grade skey for the guarantor based on the guarantor type, guarantor domicile and guarantor rating as Grade 4.		

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. HKMA Capital Rules 155L
11	LRM - HKMA LMR - Guarantor Party Rating Classification - Grade 5	This rule updates the grade skey for the guarantor based on the guarantor type, guarantor domicile and guarantor rating as Grade 5.		
12	LRM - HKMA LMR - Guarantor Party Rating Classification - Grade 6	This rule updates the grade skey for the guarantor based on the guarantor type, guarantor domicile and guarantor rating as Grade 6.		
13	LRM - LMR - Qualifying Issuer Score	This rule classifies the Issuer rating grade score as qualifying as per the HKMA guidelines.	The HKMA guidelines set out the expectations for a 'Qualifying' issuer or guarantor or issue. For example, an issue (security) is qualifying if it has a credit quality grade of 1 or 2. This set of Rules recognize other such qualifying criteria and identify such accounts as qualifying, in accordance with LMR guidelines.	Liquidity Rules - Schedule 5
14	LRM - LMR - Qualifying Guarantor Score	This rule classifies the Guarantor rating grade score as qualifying as per the HKMA guidelines.		
15	LRM - LMR - Qualifying Issuer Instrument Score	This rule updates the qualifying Issuer Instrument score based on credit quality grade as per the HKMA guidelines.		
16	LRM - LMR - Qualifying Guarantor Instrument Score	This rule updates the qualifying Issue score based on credit quality grade as per the HKMA guidelines.		
17	LRM - LMR - Qualifying ECAI Rating	This rule classifies the qualifying ECAI score based on qualifying issue score and qualifying party score as per the HKMA guidelines.		
18	LRM - HKMA LMR - Liquefiable Asset - Cash , Central Bank Reserves and Gold	This rule reclassifies cash, central bank reserves, and Gold as a Liquefiable asset in accordance with the criteria required for Liquidity Maintenance Ratio as specified by HKMA.	This set of Rules identifies the accounts which are eligible to be counted under 'Liquefiable assets' as per the LMR guidelines.	Liquidity Rules Schedule 5, Table A (1)

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. HKMA Capital Rules 155L
19	LRM - HKMA LMR - Securities issued by Sovereigns,Central Bank and PSE domiciled in Hong Kong	This rule reclassifies Securities issued by Sovereigns, Central Bank, and PSE domiciled in Hong Kong, in accordance with the criteria specified by HKMA LMR.		Liquidity Rules Schedule 5, Table A (6.a.(i))
20	LRM - HKMA LMR - Securities guaranteed by Sovereigns, Central Bank and PSE domiciled in Hong Kong	This rule reclassifies Securities guaranteed by Sovereigns, Central Bank, and PSE domiciled in Hong Kong, in accordance with the criteria specified by HKMA LMR.		Liquidity Rules Schedule 5, Table A (6.a.(i))
21	LRM - HKMA LMR - Export Bills and Residential Mortgage Loans	This rule reclassifies the Export Bills drawn under Letters of Credit and Residential Mortgage Loans as Liquefiable assets, in accordance with the criteria specified by HKMA LMR.		Liquidity Rules Schedule 5, Table A (6.f) Schedule 5, Table A (7)
22	LRM - HKMA LMR - Securities from Banks and state governments	This rule reclassifies Securities from Banks (central Banks excluded) and State Governments not domiciled in Hong Kong, in accordance with the criteria specified by HKMA LMR.		Schedule 5, Table A (6.b)
23	LRM - HKMA LMR - Asset Backed Securities and Other Securities	This rule reclassifies Asset-Backed Securities, Residential Mortgage-Backed Securities, and other Securities as Liquefiable Asset in accordance with the criteria specified by HKMA LMR.		Liquidity Rules Schedule 5, Table A (6.g)
24	HKMA LMR - Securities issued by other Government entities maturing within 1 year	This rule reclassifies Securities, maturing within 1 year, issued by Sovereigns, Central Bank, and PSE domiciled in Other Countries, in accordance with the criteria specified by HKMA LMR.		Liquidity Rules Schedule 5, Table A (6.b)

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. HKMA Capital Rules 155L
25	HKMA LMR - Securities issued by other Government entities maturing beyond 1 year	This rule reclassifies Securities, maturing beyond 1 year, issued by Sovereigns, Central Bank, and PSE domiciled in Other Countries, in accordance with the criteria specified by HKMA LMR.		Liquidity Rules Schedule 5, Table A (6.b)
26	HKMA LMR - Securities guaranteed by other Government entities maturing within 1 year	This rule reclassifies Securities, maturing within 1 year, guaranteed by Sovereigns, Central Bank, and PSE domiciled in Other Countries, in accordance with the criteria specified by HKMA LMR.		Liquidity Rules Schedule 5, Table A (6.b)
27	HKMA LMR - Securities guaranteed by other Government entities maturing beyond 1 year	This rule reclassifies Securities, maturing beyond 1 year, guaranteed by Sovereigns, Central Bank, and PSE domiciled in Other Countries, in accordance with the criteria specified by HKMA LMR.		Liquidity Rules Schedule 5, Table A (6.b)
28	LRM - HKMA LMR - Qualifying Liabilities for Central Banks	This rule updates the F_QUALIFYING_LIABILITY_FLAG flag in the fsi_lrm_liabilities table for all the central bank parties.	This set of Rules identifies the accounts which are eligible to be counted under 'Qualifying liabilities' as per the LMR guidelines.	Liquidity Rules Schedule 5, Table C (1)
29	LRM - HKMA LMR - Qualifying Liabilities for Other than Banks	This rule updates the F_QUALIFYING_LIABILITY_FLAG flag in the fsi_lrm_liabilities table for all the parties other than the central bank and banks.		Liquidity Rules Schedule 5, Table C (2)
30	HKMA LMR - Reporting Line - Deductions from Liquefiable Assets	This rule assigns the repline skey for the accounts that are applicable for deductions from the stock of Liquefiable Asset as per the HKMA LMR guidelines.	These Rules identify deductions applicable to the Numerator and denominator of the LMR.	Liquidity Rules Schedule 5, Table B (1)

Sl. No.	Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. HKMA Capital Rules 155L
31	HKMA LMR - Reporting Line - Deductions from Qualifying Liabilities	This rule assigns the repline skey for the accounts that are applicable for deductions from the stock of Qualifying Liabilities as per the HKMA LMR guidelines.		Liquidity Rules Schedule 5, Table D
32	LRM - HKMA LMR - Capped and Excess Net Due Amount Calculation	This rule computes the Capped Net due Amount and Excess Net due amount and updates in the FCT_LRM_LE_SUMMARY table. If 'Net due from banks' is positive, a certain portion of this amount can be included in the Liquefiable Assets. This portion is capped to 40% of the Qualifying liabilities. After capping what amount is left from Net Due is considered as Excess Net due from Banks.	This Rule identifies the Net Due from Banks, excess net due from banks, and capped amount to be included in the calculation of Liquidity Maintenance Ratio.	Liquidity Rules Part 8, Paragraphs 43, 48
33	LRM - HKMA LMR - Total Liquefiable Asset and Total Qualifiable Liability Amount Calculation	This rule computes the liquefiable asset amount post deductions, qualifying liability amount post deductions and updates in the FCT_LRM_LE_SUMMARY table.	This Rule sums up all accounts under liquefiable assets and all accounts under qualifying liabilities as a final step before LMR computation.	Liquidity Rules Part 8 Paragraphs 44 to 47

4.3.2 Regulation Addressed through Business Assumptions

The application supports multiple pre-configured assumptions based on HKMA specified scenario parameters. The list of pre-configured business assumptions and the corresponding reference to the regulatory requirement that it addresses is provided in the following section:

Table 21: Preconfigured HKMA LMR Business Assumptions

Sl. No.	Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference 1. HKMA Banking (Liquidity) Rules Capital 155 Sub leg Q 2. BIS BCBS 238- Basel iii - LCR and Liquidity Risk Monitoring Tools
1	LMR - Asset Haircut Assignment	This assumption defines the haircuts applicable for Liquefiable Assets.	This set of assumptions defines the regulatory haircuts for the constituents of the Liquidity Maintenance Ratio.	Schedule 5, Table A
2	LMR - Liability Haircut Assignment	This assumption defines the haircuts applicable for Qualifying Liability.		Schedule 5 Table C and D

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5 Net Stable Funding Ratio Calculation

Net Stable Funding Ratio (NSFR) is one of the two minimum standards developed to promote funding and liquidity management in financial institutions. NSFR assesses the bank's liquidity risks over a longer time horizon. Both the standards complement each other, are aimed at providing a holistic picture of a bank's funding risk profile, and aid in better liquidity risk management practices.

Topics:

5.1 Overview

NSFR is defined as the amount of available stable funding relative to the required stable funding. Available stable funding refers to the portion of capital and liabilities expected to be reliable over the horizon of 1 year. Required stable funding refers to the portion of assets and off-balance sheet exposures over the same horizon. The NSFR ratio is expected to be at least 100%.

$$\left(\frac{Available\ stable\ funding}{Required\ stable\ funding}\right) \geq 100\%$$

5.2 Process Flow

The Available Stable Funding (ASF) factor and Required Stable Funding (RSF) factor is applied through business assumptions and reflects through the execution of a Business as Usual (BaU) run in the OFS LRRCHKMA application. The ASF and RSF factors are applied as weights at the account level and the Total ASF and Total RSF are obtained by taking a sum of all the weighted amounts. The ratio is then computed by the application as the (Total ASF amount) divided by the (Total RSF amount). A set of predefined business assumptions for ASF and RSF as defined in the NSFR guidelines are prepackaged in the application. For the complete list of preseeded ASF and RSF assumptions, see the Regulation Addressed through Business Assumptions section.

Topics:

5.2.1 Identifying Maturity bands

One of the various dimensions used to allocate ASF and RSF factors is the maturity bucket of the instrument. For NSFR computation, maturity bands are used to allocate the factors. The HKMA NSFR band is predefined as per regulatory guidelines and has the following values:

- Less than 6 months
- Greater than or equal to 6 months but less than 1 year
- Greater than or equal to one year
- Open maturity

All accounts will be categorized on one of these bands depending on the maturity date. Note that to categorize any product into open maturity, the LRM - Classification of Products as Open Maturity rule should be edited and the product must be included in the rule.

5.2.2 Computing Available Amount of Stable Funding

The available stable funding factor is a pre-determined weight ranging from 0% to 100% which is applied through business assumptions for accounts falling under the dimensional combinations defined. The weights are guided by the NSFR standard. The available stable funding is then taken as a total of all the weighted amounts where an ASF factor is applied.

Foreign bank branches can account for the undrawn contractual committed facilities from its head office or other branches which are the same entity and are regional hubs as ASF up to 40% of the minimum ASF is required to meet the minimum requirement of NSFR.

The formula for calculating the Available Amount of Stable Funding is as follows:

$$\textbf{\textit{Available Amount of Stable Funding}} = \sum_{i=1}^{n} \textbf{\textit{Liability}}_i * \textbf{\textit{Factor}}_i$$

$$\textbf{\textit{where } } n = \textbf{\textit{ The number of capital and liability accounts}}$$

The following is an example of applying the ASF factor:

Consider an assumption defined with the following dimensional combination and ASF factors, based on the measure being Total Stable Balance.

Table 22: Illustration – Application of ASF Factor

Dimensional Combination			ASF Factor
Product	**Retail/Wholesale Indicator**	**Residual Maturity Band**	
Deposits	R	<= 6 months	95%
Deposits	R	6 months - 1 year	95%
Deposits	R	>= 1 year	95%

If five accounts are falling under this combination, then after the assumption is applied, the resulting amounts with the application of ASF factors is as follows.

Table 23: Illustration continued– Application of ASF Factor

Account	Stable Balance	ASF Weighted Amount
A1	3400	3230
A2	3873	3679.35
A3	9000	8550
A4	1000	950
A5	100	95

NOTE The LRRCHKMA application does not compute ASF items such as Tier 1 and Tier 2 capital, deferred tax liabilities, and minority interest. The items are taken as a download from the OFS Basel application. By updating the latest Basel Run Skey as a setup parameter, LRRCHKMA picks up the respective standard accounting head balances and applies the respective ASF factors.

If OFS Basel is not installed, then the following items must be provided as a download in the FCT_STANDARD_ACCT_HEAD table.

- Gross Tier 2 Capital
- Deferred Tax Liability related to Other Intangible Asset
- Deferred Tax Liability related to Goodwill
- Deferred Tax Liability related to MSR
- Deferred Tax Liability related to Deferred Tax Asset
- Deferred Tax Liability related to Defined Pension Fund Asset
- Net CET1 Capital post-Minority Interest Adjustment
- Net AT1 Capital post-Minority Interest Adjustment
- Total Minority Interest required for NSFR

5.2.3 Computing Required Amount of Stable Funding

The required stable funding factor is a pre-determined weight ranging from 0% to 100% which is applied through business assumptions for the accounts falling under the defined dimensional combinations. The weights are guided by the NSFR standard. The required stable funding is then considered as a sum of all the weighted amounts where an RSF factor is applied.

The required stable funding factor is a weight function and is applied similarly to that of the ASF. The following formula is used for calculating the Required Amount of Stable Funding:

$$Required\ Amount\ of\ Stable\ Funding = \left(\sum_{i=1}^{n} Asset_i * Factor_i\right) + \left(\sum_{i=1}^{m} Off\ Balance\ Sheet_i * Factor_i\right)$$

$$where\ n = Number\ of\ asset\ accounts$$

$$where\ m = Number\ of\ off\ balance\ sheet\ accounts$$

5.2.3.1 Computing Off-Balance Sheet Items

Off-balance sheet items are considered under the application of RSF factor and are given the appropriate factor as guided. Some combinations, such as lines of credit, have a predefined RSF factor as guided and are available as preseeded assumptions. Other off-balance sheet products, such as Variable Rate Demand Notes (VRDN) and Adjustable Rate Notes (ARN), do not have predefined factors and are left to the discretion of the jurisdictions. For such products, define assumptions and apply the desired RSF factors as applicable.

5.2.4 Computing Derivatives

Derivatives are handled through applying both ASF and RSF factors as applicable. They can behave as either an asset or a liability, depending on the marked-to-market value. The application of factors on derivatives is done on the market value after subtracting the variation margin posted/received against the account. The computation is as follows:

1. NSFR derivative liabilities = Derivative liabilities – (Total collateral posted as variation margin against the derivative liabilities)
2. NSFR derivative assets = Derivative assets – (Cash collateral received as variation margin against the derivative assets)
3. The factors are then applied as follows:

- **ASF factor application**

  ASF amount for derivatives = 0% * Max ((NSFR derivative liabilities –NSFR derivative assets), 0)

- **RSF factor application**

  RSF amount for derivatives = 100% * Max ((NSFR derivative assets- NSFR derivative liabilities), 0)

Derivative liabilities refer to those derivative accounts where the market value is negative. Derivative assets refer to those derivative accounts where the market value is positive. Apart from the variation margin, the initial margin against derivative contracts is also treated with the appropriate factor.

5.2.5 Computing Net Stable Funding Ratio

The Net Stable Funding Ratio is calculated as follows:

$$Net\ Stable\ Funding\ Ratio = \frac{Available\ Amount\ of\ Stable\ Funding}{Required\ Amount\ of\ Stable\ Funding}$$

5.3 Pre-configured HKMA Regulatory NSFR Scenarios

OFS LRRCHKMA supports out-of-the-box HKMA NSFR assumptions according to HKMA guidelines on the Net stable funding ratio.

This section explains the business assumptions which support NSFR as per HKMA master circular HKMA Notification No. 1-2561: Regulations on the Net Stable Funding Ratio (NSFR), April 2018.

The following table lists the Document Identifiers provided in the Regulatory Reference column of the Regulations Addressed through Business Assumptions section.

Table 24: Document Identifiers for Regulatory References in NSFR

Regulation Reference Number	Document Number	Document Name	Issued Date
B1/15C S4/16C	MA(BS)26	Return of Stable Funding Position of an Authorized Institution	11 January 2018

> **NOTE** This section provides only contextual information about business assumptions. For more detailed information, see the OFS LRS application (UI).

5.3.1 Regulation Addressed through Business Assumptions

The application supports multiple assumptions with pre-configured rules and scenarios based on regulator specified NSFR scenario parameters. The list of preconfigured business assumptions and the corresponding reference to the regulatory requirement that it addresses is provided in the following tables:

Topics:

- Available Stable Funding
- Required Core Funding
- Derivatives
- Off Balance Sheet

5.3.1.1 Available Stable Funding

This section enlists all the preseeded assumptions acting on liabilities and capital items which receive an ASF factor.

Table 25: Preconfigured ASF Assumptions HKMA NSFR

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: MA (BS) 26
1	HKMA ASF - Capital Items, DTL and Minority Interest	[HKMA]: ASF - Tier 1 and tier 2 capital, Deferred tax liabilities and minority interest.	This assumption defines the long-term funding sources with an effective maturity of one year or more, primarily tier 1 and tier 2 capital instruments along with deferred tax liability and minority interest, which are assigned a 100% ASF factor for the NSFR computation.	Paragraphs 21 to 23
2	HKMA ASF - Other Capital Instruments	[HKMA]: ASF - Other Capital Instruments that are not covered above.	This assumption defines the long-term funding sources with an effective maturity of one year or more, all the other capital instruments except tier 1 and tier 2 capital instruments along with deferred tax liability and minority interest, which are assigned a 100% ASF factor for the NSFR computation.	Paragraphs 21 to 23
3	HKMA ASF - Stable Retail Deposits	[HKMA]: ASF - Stable and highly stable deposits as defined in the LCR from customers treated as retail.	The ASF factors applicable to the stable portion of deposits, from retail customers and SMEs treated like retail customers for the purposes of LCR are predefined as part of this assumption. This assumption applies a 95% ASF factor on the stable portion of the retail deposits.	Paragraphs 25 to 27
4	HKMA ASF - Stable Retail Deposits - Cash Flow Basis	[HKMA]: RSF – ASF - Stable and highly stable deposits as defined in the LCR from customers treated as retail with a remaining maturity of more than 1 yr. and cash flow maturity of less than 1 year.	The ASF factors applicable to the stable portion of deposits, from retail customers and SMEs treated like retail customers for the purposes of LCR, with a remaining maturity of more than 1 year with cash flow maturities within 1 year and greater than 1 year, are predefined as part of this assumption. This assumption applies a 95% ASF factor on the stable portion of cash flows with cash flow maturity within 1 year and 1 year or more.	Paragraphs 25 to 27
5	HKMA ASF - Less Stable Retail Deposits	[HKMA]: RSF - ASF - Less stable deposits as defined in the LCR from customers treated as retail with a remaining maturity of more than 1 yr. and cash flow maturity of less than 1 year.	The ASF factors applicable to the less stable portion of deposits, from retail customers and SMEs treated like retail customers for the purposes of LCR, are predefined as part of this assumption. This assumption applies a 90% ASF factor on the less stable portion of retail deposits.	Paragraphs 25 to 27

6	HKMA ASF - Less Stable Retail Deposits - Cash Flow Basis	[HKMA]: ASF - Less stable deposits as defined in the LCR from customers treated as retail with a remaining maturity of more than 1 yr. and cash flow maturity of less than 1 year.	The ASF factors applicable to the less stable portion of deposits from retail customers and SMEs treated like retail customers for the purposes of LCR, with a remaining maturity of more than 1 year with cash flow maturity within 1 year and greater than 1 year, are predefined as part of this assumption. This assumption applies a 90% ASF factor on the stable portion of cash flows with cash flow maturity of less than 1 year and cash flow maturity of 1 year or more.	Paragraphs 25 to 27
7	HKMA ASF - Other Funds from Retail	[HKMA]: ASF - Other funding from customers treated as retail with a residual maturity of less than 1 year.	The ASF factors applicable to the funding other than deposits, from customers who are treated as retail for the purposes of LCR, are predefined as part of this assumption. This assumption applies a 0% ASF factor on the funding with a remaining maturity of fewer than 6 months and 50% on the funding with a remaining maturity between 6 months to 1 year and 100% on the funding with a remaining maturity of 1 year or more.	Paragraphs 33 to 34
8	HKMA ASF - Other Funds from Retail - Maturity over 1yr	[HKMA]: ASF - Other funding from customers treated as retail with an account residual maturity of more than 1 year.	The ASF factors applicable to the funding other than deposits, from customers who are treated as retail for the purposes of LCR, with a remaining maturity of more than 1 year with cash flow maturity within 1 year and greater than 1 year, are predefined as part of this assumption. This assumption applies a 0% ASF factor on cash flows with maturity less than 6 months and a 50% to cash flows with maturity between 6 months to 1 year and a 100% ASF factor on cash flows with the maturity of 1 year or more.	Paragraphs 33 to 34
9	HKMA ASF - Operational Deposit - Maturity within 1yr	[HKMA]: ASF - the operational portion of operational deposits, generated by clearing, custody, and cash management activities, with a remaining maturity of less than 1 year.	The ASF factor applicable to the balance held in operational accounts to fulfill operational requirements is predefined as part of this assumption. This assumption applies a 50% ASF factor on the operational balances with a remaining maturity of less than 1 year.	Paragraphs 29, 30, 31
10	HKMA ASF - Non Op Portion of Op Dep - SME - Maturity in 1yr	[HKMA]: ASF - non-operational wholesale funding, from SMEs AoP, Trusts, partnerships, and HUFs not treated as retail, with remaining maturity less than 1 year.	The ASF factor on the non-operational portion of operational accounts, from small and medium enterprises, the association of persons, trusts, partnerships, and Hindu undivided families not treated as retail, with a remaining maturity of less than 1 year are predefined as part of this assumption. This assumption applies a 0% ASF factor on non-operational balances of operational accounts with a remaining maturity of less than 1 year.	Paragraphs 29, 30, 31

11	HKMA ASF - Non Operational Deposit - SME	[HKMA]: ASF - non-operational wholesale funding, from SMEs AoP, Trusts, partnerships, and HUFs not treated as retail.	The ASF factor on non-operational wholesale funding, from small and medium enterprises, association of persons, trusts, partnerships, and Hindu undivided families not treated as retail, are predefined as part of this assumption. This assumption applies a 50% ASF factor on non-operational funding with a remaining maturity of fewer than 6 months and between 6 months to 1 year. It applies a 100% ASF factor on non-operational funding with a remaining maturity of 1 year or more	Paragraphs 29, 30, 31
12	HKMA ASF - Non Operational Deposit - SME - Cash flow basis	[HKMA]: ASF - non-operational wholesale funding, from SMEs AoP, Trusts, partnerships, and HUFs not treated as retail, with remaining maturity greater than 1 year and where the cash flows are occurring within 1 year.	The ASF factor applicable to non-operational cash flows, from SMEs AoP, Trusts, partnerships, and HUFs not treated as retail, with a remaining maturity of greater than 1 year with cash flow maturity within 1 year and greater than 1 year, are predefined as part of this assumption. This assumption applies a 50% ASF factor on non-operational cash flows with cash flow maturity of fewer than 6 months and between 6 months to 1 year. It applies a 100% ASF factor on non-operational cash flows with cash flow maturity of 1 year or more.	Paragraphs 29, 30, 31
13	HKMA ASF - Non Op Portion of Op Dep-CB PSE MDB NDB-Mat in 1yr	[HKMA]: ASF - the non-operational portion of operational deposits, from Central banks, PSE, MDB, NDB, generated by clearing, custody, and cash management activities, with a remaining maturity of less than 1 year.	The ASF factor applicable to the non-operational portion of operational accounts from central banks, public sector entity (PSE), multilateral development bank (MDB), national development bank (NDB), with a remaining maturity of less than 1 year, are predefined as part of this assumption. This assumption applies a 0% ASF factor on the non-operational portion of operational accounts from central banks with a remaining maturity of less than 1 year and a 50% ASF factor on the non-operational portion of operational accounts from central banks, PSE, MDB, and NDB with a remaining maturity of less than 1 year.	Paragraphs 29, 30, 31, 32, 33

14	HKMA ASF - Non Operation Funds-CB PSE MDB NDB-Cash Flow Basis	[HKMA]: ASF - non-operational funding, from Central banks, financial institutions (banks) PSE, MDB, NDB, with remaining maturity greater than 1 year.	The ASF factor applicable to non-operational cash flows from central banks, PSE, MDB, NDB, with a remaining maturity of greater than 1 year with cash flow maturity within 1 year and greater than 1 year, are predefined as part of this assumption. This assumption applies a 0% ASF factor on non-operational cash flows from central banks with cash flow maturity of fewer than 6 months, a 50% ASF factor for cash flow maturity between 6 months to 1 year, a 50% ASF factor on non-operational cash flows from PSE, MDB, and NDB with cash flow maturity of less than 1 year and a 100% ASF factor on non-operational cash flows from PSE, MDB, and NDB with cash flow maturity of 1 year or more.	Paragraphs 29, 30, 31, 32, 33
15	HKMA ASF - Non op funds from CB PSE MDB NDB	[HKMA]: ASF - non-operational funding, from Central banks, financial institutions (banks) PSE, MDB, NDB, with remaining maturity less than 1 year.	The ASF factor on non-operational funding from central banks, PSE, MDB, NDB, are predefined as part of this assumption. This assumption applies a 0% ASF factor on non-operational funding from central banks with a remaining maturity of fewer than 6 months, a 50% ASF factor for non-operational funding from PSE, MDB, and NDB between 6 months to 1 year and 100% ASF factor on non-operational funding from PSE, MDB, and NDB with a remaining maturity of 1 year or more.	Paragraphs 29, 30, 31, 32, 33
16	HKMA ASF - Non Op Portion of Op Dep - Corp - Maturity in 1yr	[HKMA]: ASF - the non-operational portion of operational deposits, from financial and non-financial corporates, generated by clearing, custody, and cash management activities, with a remaining maturity of less than 1 year.	The ASF factor applicable to the non-operational portion of operational accounts from financial and non-financial corporates, with a remaining maturity of less than 1 year, are predefined as part of this assumption. This assumption applies a 0% ASF factor on the non-operational portion of operational accounts from financial corporates with a remaining maturity of less than 1 year and a 50% ASF factor on the non-operational portion of operational accounts from non-financial corporates with a remaining maturity of less than 1 year.	Paragraph 31

17	HKMA ASF - Non Operational Funds - Corp - Cash Flow Basis	[HKMA]: ASF - non-operational funding, from financial and non-financial corporates, with remaining maturity greater than 1 year and where the cash flows are occurring within 1 year.	The ASF factor applicable to non-operational cash flows from financial and non-financial corporates, with a remaining maturity of greater than 1 year with cash flow maturity within 1 year and greater than 1 year, are predefined as part of this assumption. This assumption applies a 50% ASF factor on non-operational cash flows from non-financial corporates with cash flow maturity of fewer than 6 months and between 6 months to 1 year. The assumptions apply a 0% ASF factor on non-operational cash flows from financial corporates with cash flow maturity of fewer than 6 months and a 50% ASF factor on non-operational cash flows from financial corporates with cash flow maturity between 6 months to 1 year and a 100% ASF factor on non-operational cash flows from financial corporates with cash flow maturity of 1 year or more.	Paragraph 31
18	HKMA ASF - Non Operational Funds - Corp	[HKMA]: ASF - non-operational funding, from financial and non-financial corporates, with remaining maturity less than 1 year.	The ASF factor on non-operational funding from financial and non-financial corporates are predefined as part of this assumption. This assumption applies a 0% ASF factor on non-operational funding from financial corporates with a remaining maturity of fewer than 6 months and a 50% ASF factor for non-operational funding from financial corporates with a remaining maturity between 6 months to 1 year. The assumptions also apply a 50% ASF factor on non-operational funding from non-financial corporates with a remaining maturity of fewer than 6 months, between 6 months to 1 year, and a 50% ASF factor on non-operational funding from non-financial corporates with a remaining maturity of 1 year or more.	Paragraph 31
19	HKMA ASF - Non Op Portion of Op Dep- Othr Parties - Mat in 1yr	[HKMA]: ASF - the non-operational portion of operational deposits, from all except retail, SME, AoP, Trusts, partnerships, HUF, corporates, banks, central banks, sovereign, PSE, MDB and NDB, generated by clearing, custody, and cash management activities, with a remaining maturity of less than 1 year.	The ASF factor applicable to the non-operational portion of operational accounts from all except retail, SME, AoP, Trusts, partnerships, HUF, corporates, banks, central banks, sovereign, PSE, MDB, and NDB, with remaining maturity less than 1 year, are predefined as part of this assumption. This assumption applies a 0% ASF factor on the non-operational portion of operational accounts from all except retail, SME, AoP, Trusts, partnerships, HUF, corporates, banks, central banks, and sovereign, PSE, MDB and NDB with a remaining maturity of less than 1 year.	Paragraph 33

20	HKMA ASF - Non Operational Funds - Other Legal Entities	[HKMA]: ASF - non-operational funding, from all the financial institutions and government-sponsored entities that are not covered above.	The ASF factor applicable to non-operational funding, from the financial institutions and government-sponsored entities that are not covered above, with remaining maturity less than 1 year are predefined as part of this assumption. This assumption applies a 0% ASF factor and a 50% ASF factor on non-operational funding from the financial institutions and government-sponsored entities that are not covered above, with a remaining maturity of fewer than 6 months and between 6 months to 1 year respectively. It applies a 100% ASF factor on non-operational funding from the financial institutions and government-sponsored entities that are not covered above, with a remaining maturity of 1 year or more.	Paragraph 33
21	HKMA ASF - Non Operational Funds - Other Parties	[HKMA]: ASF - non-operational funding, from all except retail, SME, AoP, Trusts, partnerships, HUF, corporates, banks, central banks, sovereign, PSE, MDB, and NDB.	The ASF factor applicable to non-operational funding, from all except retail, SME, AoP, Trusts, partnerships, HUF, corporates, banks, central banks, sovereign, PSE, MDB, and NDB, with remaining maturity less than 1 year are predefined as part of this assumption. This assumption applies a 0% ASF factor and a 50% ASF factor on non-operational funding from all except retail, SME, AoP, Trusts, partnerships, HUF, corporates, banks, central banks, sovereign, PSE, MDB and NDB with a remaining maturity of fewer than 6 months and between 6 months to 1 year respectively. It applies a 100% ASF factor on non-operational funding from all except retail, SME, AoP, Trusts, partnerships, HUF, corporates, banks, central banks, sovereign, PSE, MDB and NDB with a remaining maturity of 1 year or more.	Paragraph 33
22	HKMA ASF - Non Op Funds - Other Legal entities-Cash flow basis	[HKMA]: ASF - non-operational funding, from all the financial institutions and government-sponsored entities that are not covered above, with remaining maturity greater than 1 year and where the cash flows are occurring within 1 year.	The ASF factor applicable to non-operational cash flows, from all the financial institutions and government-sponsored entities that are not covered above, with remaining maturity greater than 1 year with cash flow maturity within 1 year and greater than 1 year, are predefined as part of this assumption. This assumption applies a 0% ASF factor and 50% ASF factor on non-operational cash flows from all the financial institutions and government-sponsored entities that are not covered above, with cash flow maturity of fewer than 6 months and between 6 months to 1 year respectively. It applies a 100 % ASF factor on non-operational cash flows from all the financial institutions and government-sponsored entities that are not covered above, with cash flow maturity of 1 year or more.	Paragraph 33

23	HKMA ASF - Non Op Funds - Other Parties - Cash flow basis	[HKMA]: ASF - non-operational funding, from all except retail, SME, AoP, Trusts, partnerships, HUF, corporates, banks, central banks, sovereign, PSE, MDB, and NDB, with remaining maturity greater than 1 year and where the cash flows are occurring within 1 year.	The ASF factor applicable to non-operational cash flows, from all except retail, SME, AoP, Trusts, partnerships, HUF, corporates, banks, central banks, sovereign, PSE, MDB, and NDB, with remaining maturity greater than 1 year with cash flow maturity within 1 year and greater than 1 year, are predefined as part of this assumption. This assumption applies a 0% ASF factor and 50% ASF factor on non-operational cash flows from all except retail, SME, AoP, Trusts, partnerships, HUF, corporates, banks, central banks, sovereign, PSE, MDB and NDB with cash flow maturity of fewer than 6 months and between 6 months to 1 year respectively. It applies a 100 % ASF factor on non-operational cash flows from all except retail, SME, AoP, Trusts, partnerships, HUF, corporates, banks, central banks, and sovereign, PSE, MDB and NDB with cash flow maturity of 1 year or more.	Paragraph 33
24	HKMA ASF - Trade Date Payables	[HKMA]: ASF - Trade date payables arising from purchases of foreign currencies, financial instruments, and commodities that are expected to settle or have failed but are expected to settle within the standard settlement cycle.	The ASF factor applicable to trade payable cash flows arising from purchases of foreign currencies, financial instruments, and commodities expected to settle within the standard settlement cycle, are predefined in this assumption. This assumption applies a 0% ASF factor on the trade payable cash flows.	Paragraph 41
25	HKMA ASF - Liabilities with Open Maturity	[HKMA]: ASF - Secured deposits and all other borrowings and which do not have a stated maturity.	The ASF factor applicable to all the other funding without any stated maturity is predefined in this assumption. This assumption applies a 0% ASF factor on all the funding without any maturity.	Paragraph 42
26	HKMA ASF - Liabilities - Maturity over 1yr	[HKMA]: ASF - Borrowings and liabilities with residual maturities and cash flow falling beyond 1 year.	The ASF factors applicable to all other funding with a remaining maturity of greater than 1 year with cash flow maturity within 1 year, are predefined in this assumption. This assumption applies a 0% ASF factor on the cash flows.	Paragraph 42
27	HKMA ASF - Debt Securities Issued	[HKMA]: ASF - Debt securities and prescribed instruments issued by the institution.	The ASF factor applicable to debt securities and prescribed instruments issued by the institution are predefined in this assumption. This assumption applies a 0% and 50% ASF factor on debt securities, with residual maturity of fewer than 6 months and between 6 months to 1 year respectively. It applies a 100% ASF factor on debt securities with open maturity and maturity of 1 year or more.	Paragraph 24

5.3.1.2 Required Stable Funding (RSF)

This section enlists all the preseeded assumptions acting on assets and off-balance sheet items that receive an RSF factor.

Table 26 Preconfigured RSF Assumptions HKMA NSFR

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference
1	HKMA RSF - Coins and Banknotes	[HKMA]: RSF - Coins, banknotes, cash, and restricted cash held by the bank.	The RSF factor applicable to coins, banknotes, and cash held by the bank, is predefined as a part of this assumption. This assumption applies a 0% RSF factor on the coins, banknotes, and cash held by the bank.	Paragraph 44
2	BNM - RSF - Central bank reserves	[HKMA]: RSF - All central bank reserves, including, required reserves and excess reserves.	The RSF factors applicable to required and excess central bank reserves are predefined as a part of this assumption. This assumption applies a 0% RSF factor to all central bank reserves.	Paragraph 45
3	HKMA RSF - Unencumbered Claims on Central Banks	[HKMA]: RSF - Unencumbered loans and other claims on central banks	The RSF factors applicable to fully performing unencumbered loans and claims on central banks, with a remaining maturity of less than 1 year, are predefined as part of this assumption. This assumption applies 0%, 50%, and 100% RSF factors to the debt securities issued or guaranteed by central banks with a remaining maturity of fewer than 6 months, between 6 months and 1 year, and 1 year or more respectively. It also applies RSF factor of 0%, 50% and 65% to the balances and loans of central banks having risk weight of less than and equal to 20% with a remaining maturity of fewer than 6 months, between 6 months and 1 year, and 1 year or more respectively. The assumption also applies RSF factor of 0%, 50%, and 85% to the balances and loans of central banks having risk weight of greater than 20% with a remaining maturity of fewer than 6 months, between 6 months and 1 year, and 1 year or more respectively.	Paragraphs 45 to 48 and Annexure 3

4	HKMA RSF - Encumbered Claims on Central Banks	[HKMA]: RSF - Encumbered loans and other claims on central banks.	The RSF factors applicable to fully performing encumbered loans and claims on central banks, maturing within a year, and encumbrance period 1 year or more are predefined as part of this assumption. For the debt securities issued and guaranteed by central banks with encumbrance period of fewer than 6 months, the assumption applies 0%, 50%, and 100% RSF factors based on a remaining maturity of fewer than 6 months, between 6 months and 1 year, and 1 year or more respectively. For debt securities issued and guaranteed by central banks with encumbrance period of between 6 months and 1 year, the assumption applies 50%, and 100% RSF factors based on a remaining maturity of less than 1 year and 1 year or more respectively. For the balances and loans of central banks with encumbrance period of fewer than 6 months and between 6 months to 1 year, having risk weight of less than equal to 20%, the assumption applies 0%, 50%, and 65% RSF factors based on a remaining maturity of fewer than 6 months, between 6 months and 1 year, and 1 year or more respectively. For the balances and loans of central banks with encumbrance period of fewer than 6 months and between 6 months to 1 year, having risk weight of greater than 20%, the assumption applies 0%, 50%, and 85% RSF factors based on a remaining maturity of fewer than 6 months, between 6 months and 1 year, and 1 year or more respectively. A 100% RSF factor is applied to all assets maturing within a year and encumbrance period of 1 year or more.	Paragraphs 45 to 48 and Annexure 3
5	HKMA RSF - Unencumbered Loans to FI Secured by L1 Asset	[HKMA]: RSF - Unencumbered loans to financial institutions where the loan is secured against Level 1 assets as defined in the LCR.	The RSF factors applicable to the unencumbered loans given to financial institutions secured by a level 1 asset, with residual maturity less than 1 year, are predefined as a part of this assumption. The assumption applies RSF factor of 10%, 50%, 100% on the unencumbered secured loans given to financial institutions secured by level 1 asset with a remaining maturity of fewer than 6 months, between 6 months to 1 year, and 1 year or more respectively, where the collateral received can be rehypothecated for the life of the loan. The assumption applies RSF factor of 15%, 50%, 100% on the unencumbered secured loans given to financial institutions secured by level 1 asset with a remaining maturity of fewer than 6 months, between 6 months to 1 year, and 1 year or more respectively, where the collateral received cannot be rehypothecated for the life of the loan.	Paragraphs 55 and 56 Annexure 3

6	HKMA RSF - Encumbered Loans to FIs Secured by L1 Asset	[HKMA]: RSF - Encumbered loans to financial institutions where the loan is secured against Level 1 assets as defined in the LCR.	The RSF factors applicable to the encumbered loans given to financial institutions secured by a level 1 asset, with residual maturity less than 1 year, are predefined as a part of this assumption. The assumption applies relevant RSF factors on the encumbered secured loans based on the encumbrance period and residual maturity. The Level 1 asset received as collateral can further be rehypothecated to raise funds.	Paragraphs 55 and 56 Annexure 3
7	HKMA RSF - Unencumbered Loans to FIs Secured by Non-L1 Assets	[HKMA]: RSF - Unencumbered loans to financial institutions where the loan is secured against assets belonging to levels other than level 1, as defined in the LCR.	The RSF factors applicable to the unencumbered loans given to financial institutions secured by assets belonging to levels other than level 1, with residual maturity less than 1 year, are predefined as a part of this assumption. The assumption applies RSF factor of 15%, 50%, and 100% on the unencumbered secured loans given to financial institutions secured by assets belonging to levels other than level 1 with a remaining maturity of fewer than 6 months, 6 months to 1 year and 1 year or more respectively.	Paragraphs 55 and 56 Annexure 3
8	HKMA RSF - Encumbered Loans to FIs Secured by Non-L1 Assets	[HKMA]: RSF - Encumbered loans to financial institutions where the loan is secured against assets belonging to levels other than level 1, as defined in the LCR.	The RSF factors applicable to the encumbered loans given to financial institutions secured by assets belonging to levels other than level 1, with residual maturity less than 1 year, are predefined as a part of this assumption. The assumption applies relevant RSF factor on the encumbered secured loans based on the residual maturity and encumbrance period of the loan.	Paragraphs 55 and 56 Annexure 3
9	HKMA RSF - Unencumbered Unsecured Loans to Fis	[HKMA]: RSF - Unencumbered unsecured loans excluding overdrafts to financial institutions.	The RSF factors applicable to the unencumbered unsecured loans given to financial institutions, with residual maturity less than 1 year, are predefined as a part of this assumption. The assumption applies RSF factor of 15%, 50%, and 100% on the unencumbered unsecured loans given to financial institutions, with a remaining maturity of fewer than 6 months, 6 months to 1 year, and 1 year or more respectively.	Paragraphs 55 and 56 Annexure 3
10	HKMA RSF - Encumbered Unsecured Loans to FIs	[HKMA]: RSF - Encumbered unsecured loans to financial institutions.	The RSF factors applicable to the encumbered unsecured loans given to financial institutions, with residual maturity less than 1 year, are predefined as a part of this assumption. The assumption applies relevant RSF factor on the encumbered secured loans given to financial institutions based on the residual maturity and encumbrance period of the loan.	Paragraphs 55 and 56 Annexure 3

11	HKMA RSF - Unencumbered Loans to Others - Maturity in 1yr	[HKMA]: RSF - Unencumbered loans with residual maturity less than a year to other counterparties, that is, Non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises, and sovereigns.	The RSF factors applicable to fully performing unencumbered loans to non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises, and sovereigns, with a remaining maturity of less than 1 year, are predefined as part of this assumption. This assumption applies 50% RSF factors on the loans to non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises, and sovereigns with a remaining maturity of less than 1 year.	Paragraphs 57, 58, 59
12	HKMA RSF - Encumbered Loans to Others - Maturity in 1yr	[HKMA]: RSF - Encumbered loans with residual maturity less than a year to other counterparties, that is, Non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises, and sovereigns.	The RSF factors applicable to fully performing encumbered loans to non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises, and sovereigns, with a remaining maturity of less than 1 year, are predefined as part of this assumption. This assumption applies 50% RSF factors on the encumbered loans to non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises, and sovereigns with a remaining maturity of less than 1 year.	Paragraphs 57, 58, 59 Annexure 3
13	HKMA RSF - Unencumbered Loans to Others - Maturity over 1yr	[HKMA]: RSF - Unencumbered loans with residual maturity more than a year to other counterparties, that is, Non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises, and sovereigns.	The RSF factors applicable to fully performing unencumbered loans to non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises, and sovereigns, with a remaining maturity of more than 1 year with standardized risk weights under Basel 2 approach, are predefined as part of this assumption. This assumption applies a 65 % RSF factors on the loans to non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises and sovereigns with a remaining maturity of more than 1 year and risk weight more than or equal to 35%. It applies an RSF factor of 85% on the loans to non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises, and sovereigns with a remaining maturity of more than 1 year and risk weight greater than 35%.	Paragraphs 57, 58, 59
14	HKMA RSF - Encumbered Loans to Others - Maturity over 1yr	[HKMA]: RSF - Encumbered loans with residual maturity more than a year to other counterparties, that is, Non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises, and sovereigns.	The RSF factors applicable to fully performing encumbered loans to non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises, and sovereigns, with a remaining maturity of more than 1 year with standardized risk weights under Basel 2 approach, are per defined as part of this assumption. This assumption applies relevant RSF factors on the encumbered loans based on the residual maturity, encumbrance period and the risk weigh associated to the loan.	Paragraphs 57, 58, 59 Annexure 3

15	HKMA RSF - Unencumbered Non HQLA Assets	[HKMA]: RSF - Unencumbered securities, with maturity less than 1 year, which does not qualify as High quality liquid assets under the LCR Rule.	The RSF factors applicable to unencumbered securities, with a remaining maturity of less than 1 year and which do not qualify, as High quality liquid assets under the LCR Rule, are predefined as part of this assumption. The assumption applies a 50% RSF factor on unencumbered securities, which do not qualify as High quality liquid assets under the LCR Rule, with a remaining maturity of less than 1 year.	Paragraphs 50, 51, 52, 53
16	HKMA RSF - Unencumbered Non HQLA Securities- Maturity over 1yr	[HKMA]: RSF - Unencumbered securities, with a maturity greater than 1 year which do not qualify as HQLA under the LCR Rule.	The RSF factors applicable to unencumbered securities, with a remaining maturity of more than 1 year and which do not qualify as High quality liquid assets under the LCR Rule, are predefined as part of this assumption. The assumption applies an 85% RSF factor on unencumbered securities, with a remaining maturity of more than 1 year and which do not qualify as High quality liquid assets under the LCR Rule.	Paragraphs 50, 51, 52, 53
17	HKMA RSF - Encumbered Non HQLA Assets	[HKMA]: RSF - Encumbered portion of securities, with maturity less than 1 year which does not qualify as High quality liquid assets under the LCR Rule.	The RSF factors applicable to the encumbered portion of the securities, with a remaining maturity of less than 1 year and which do not qualify as High quality liquid assets under the LCR Rule, are predefined as part of this assumption. The assumption applies a 50% RSF factor on the encumbered portion of the securities, with a remaining maturity of less than 1 year, encumbrance period of less than 1 year, and which do not qualify as High quality liquid assets under the LCR Rule. It applies a 100% RSF factor on the encumbered portion of the securities, with a remaining maturity of less than 1 year, encumbrance period of 1 year or more, and which do not qualify as High quality liquid assets under the LCR Rule.	Paragraphs 50, 51, 52, 53 Annexure 3
18	HKMA RSF - Encumbered Non HQLA Assets - Maturity over 1yr	[HKMA]: RSF - The encumbered portion of securities, with a maturity greater than 1 year which does not qualify as HQLA under the LCR Rule.	The RSF factors applicable to the encumbered portion of the securities, with a remaining maturity of more than 1 year and which do not qualify as High quality liquid assets under the LCR Rule, are predefined as part of this assumption. The assumption applies an 85% RSF factor on the encumbered portion of the securities, with a remaining maturity of 1 year or more, encumbrance period of less than 1 year and which do not qualify as High quality liquid assets under the LCR Rule. It applies a 100% RSF factor on the encumbered portion of the securities, with a remaining maturity of 1 year or more, encumbrance period of 1 year or more and which do not qualify as High quality liquid assets under the LCR Rule.	Paragraphs 50, 51, 52, 53 Annexure 3

19	HKMA RSF - Unencumbered L1 Assets	[HKMA]: RSF - Unencumbered assets that qualify for inclusion in Level 1 of High quality liquid assets as defined in the LCR.	The RSF factors applicable to unencumbered assets, which qualify for inclusion in Level 1 of High quality liquid assets as defined in the LCR, are predefined as a part of this assumption. The assumption applies a 5% RSF factor on the unencumbered Level 1 assets.	Paragraph 49
20	HKMA RSF - Unencumbered L2A and L2B Assets	[HKMA]: RSF - Unencumbered assets that qualify for inclusion in Level 2A and 2B of High quality liquid assets as defined in the LCR.	The RSF factors applicable to unencumbered assets, which qualify for inclusion in Level 2A, and 2B of High-quality liquid assets as defined in the LCR, are predefined as a part of this assumption. The assumption applies a 15% RSF factor on the unencumbered Level 2A assets and an RSF factor of 50% on the unencumbered Level 2B assets.	Paragraph 49
21	HKMA RSF - Encumbered L1 Assets	[HKMA]: RSF - Encumbered portion of assets that qualify for inclusion in Level 1 of High quality liquid assets as defined in the LCR.	The RSF factors applicable to the encumbered portion of assets, which qualify for inclusion in Level 1 of High-quality liquid assets as defined in the LCR, are predefined as a part of this assumption. The assumption applies 50% and 100% RSF factors on the encumbered portion of Level 1 assets, with encumbrance period of less than 1-year and 1 year or more respectively.	Annexure 3
22	HKMA RSF - Encumbered L2 Assets	[HKMA]: RSF - Encumbered portion of assets that qualify for inclusion in Level 2A and 2B of High quality liquid assets as defined in the LCR.	The RSF factors applicable to the encumbered portion of assets, which qualify for inclusion in Level 2A, and 2B of High-quality liquid assets as defined in the LCR, are predefined as a part of this assumption. The assumption applies 15%, 50%, and 100% RSF factors on the encumbered portion of Level 2A assets, with encumbrance period of fewer than 6 months, between 6 months to 1-year and 1 year or more respectively. It applies 50% and 100% RSF factors on the encumbered portion of Level 2B assets, with encumbrance period of less than 1-year and 1 year or more respectively.	Annexure 3
23	HKMA RSF - Unencumbered Operational Balance with Other Banks	[HKMA]: RSF - Operational portion of Unencumbered deposits held at other financial institutions, for operational purpose and is subject to the 50% ASF treatment.	The RSF factors applicable to the operational portion of unencumbered deposits held at other financial institutions to fulfill the operational requirements, with a remaining maturity of less than 1 year, are predefined as part of this assumption. The assumption applies RSF factor of 50% and 100% on the operational portion of unencumbered deposits held at other financial institutions, with a remaining maturity of less than 1-year and 1 year or more respectively.	Paragraph 54

24	HKMA RSF - Unencumbered Non Operational Bal with Other Banks	[HKMA]: RSF - Nonoperational portion of Unencumbered deposits held at other financial institutions, for operational purpose and is subject to the 50% ASF treatment.	The RSF factors applicable to the non-operational portion of unencumbered deposits held at other financial institutions to fulfill the operational requirements, with a remaining maturity of less than 1 year, are predefined as part of this assumption. The assumption applies RSF factor of 15%, 50%, and 100% on the non-operational portion of unencumbered deposits held at other financial institutions, with a remaining maturity of fewer than 6 months, between 6 months to 1-year and 1 year or more respectively.	Paragraph 54
25	HKMA RSF - Unencumbered Residential Mortgage Loans	[HKMA]: RSF - Unencumbered residential mortgage loans which would qualify for a) 35% or lesser risk weight as per Basel 2 standardized approach for credit risk b) higher than 35% risk weight as per Basel 2 standardized approach for credit risk.	The RSF factors applicable to unencumbered residential mortgage loans, with standardized risk weights under Basel 2 approaches, are per defined as part of this assumption. The assumption applies RSF factors of 50% and 65% on the unencumbered residential mortgage loans, with a remaining maturity of less than 1-year and 1 year or more respectively, with risk weights less than or equal to 35%. It applies RSF factors of 50% and 85% on the unencumbered residential mortgage loans, with a remaining maturity of less than 1-year and 1 year or more respectively, with risk weights greater than 35%.	Paragraphs 57, 58, 59
26	HKMA RSF - Encumbered Residential Mortgage Loans	[HKMA]: RSF - Encumbered residential mortgage loans which would qualify for a) 35% or lesser risk weight as per Basel 2 standardized approach for credit risk b) higher than 35% risk weight as per Basel 2 standardized approach for credit risk.	The RSF factors applicable to fully performing encumbered residential mortgage loans, with standardized risk weights under Basel 2 approaches, are per defined as part of this assumption. This assumption applies RSF factors of 50% and 65% on the encumbered residential mortgage loans, with a remaining maturity of less than 1 year and greater than equal to 1 year respectively, encumbrance period is less than 1 year and risk weight is less than or equal to 35%. It applies an RSF factor of 100% on the encumbered residential mortgage loans with a remaining maturity of more than 1 year, encumbrance period of more than 1 year and risk weight is more than 35%.	Annexure 3
27	HKMA RSF - Trade Date Receivables	[HKMA]: RSF - Trade date receivables arising from purchases of foreign currencies, financial instruments, and commodities that are expected to settle or have failed but are expected to settle within the standard settlement cycle.	The RSF factor applicable to trade date receivables arising from purchases of foreign currencies, financial instruments, and commodities that are expected to settle or have failed but are expected to settle within the standard settlement cycle, are predefined as part of this assumption. The assumption applies a 0% RSF factor to the trade receivables, which expected to settle within the settlement cycle.	Paragraph 65

28	HKMA RSF - Unencumbered commodities	[HKMA]: RSF - Unencumbered physically traded commodities, including gold.	The RSF Factor applicable to unencumbered physically traded commodities is defined as a part of this assumption. The assumption applies an 85% factor.	Paragraph 53
29	HKMA RSF - Encumbered commodities	[HKMA]: RSF - Encumbered physically traded commodities including gold.	The RSF Factor applicable to encumbered physically traded commodities is defined as a part of this assumption. The assumption applies a factor based on the encumbrance period.	Paragraph 53

5.3.1.3 Derivatives

This section enlists all the preseeded assumptions for NSFR Derivatives.

Table 27: Preconfigured Derivatives Assumptions HKMA NSFR

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference
1	HKMA ASF - Net NSFR Derivative Liabilities	HKMA]: ASF - derivative liabilities net of derivative assets, where derivative liability is net of any variation margin posted and the derivative asset is net of cash margin received.	The ASF factor applicable to all derivative contracts including netted derivative contracts, where the net aggregate mark to the market value of the contracts for an entity including any variation margin adjustment is negative, is predefined as part of this assumption. The assumption applies a 0% ASF factor to the derivative liabilities net of derivative assets, where the net aggregate mark to the market value of the contracts is negative.	Annexure1
2	HKMA RSF - Net NSFR Derivative Assets	[HKMA]: RSF - derivative assets net of derivative liabilities, where derivative liability is net of any variation margin posted and the derivative asset is net of cash margin received.	The RSF factor applicable to all derivative contracts including netted derivative contracts, where the net aggregate mark to the market value of the contracts for an entity including any cash margin adjustment is positive, is predefined as part of this assumption. The assumption applies a 100% RSF factor to the derivative assets net of derivative liabilities, where the net aggregate mark to the market value of the contracts is positive.	Annexure1
3	HKMA RSF - Margin for Derivatives	[HKMA]: RSF - Treatment of initial margin posted against derivative transactions.	The RSF factor applicable to the initial margin posted for the derivative contracts is predefined as part of this assumption. The assumption applies an 85% RSF factor to the initial margin posted against the derivative contracts.	Annexure1

5.3.1.4 Off-Balance Sheet

This section enlists all the preseeded assumptions for NSFR Off-Balance Sheet items.

Table 28: Preconfigured Off-Balance Sheet Assumptions HKMA NSFR

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference
1	HKMA RSF - Credit and Liquidity Facilities to Client	[HKMA]: RSF - Off carrying value sheet exposures- Irrevocable, revocable and conditionally revocable credit and liquidity facilities offered to any clients by the bank.	The RSF factor applicable to irrevocable, revocable, and conditionally revocable credit and liquidity facilities offered to any clients by the bank is predefined as part of this assumption. The assumption applies a 5% RSF factor to the undrawn amount of irrevocable and conditionally revocable credit and liquidity facilities and RSF factor of 2% in case of revocable credit and liquidity facilities.	Annexure 2
2	HKMA RSF - Guarantees and Letters of Credit	[HKMA]: RSF - Off carrying value sheet exposures- Guarantees and letters of credit.	The RSF factor applicable to the Guarantees and Letters of credit offered by the bank is predefined as part of this assumption. The assumption applies a 0.5% RSF factor to the EOP balance of the trade-related Guarantees and Letters of credit and RSF factor of 1% for non-trade related Guarantees and Letters of credit.	Annexure 2

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6 Core Funding Ratio Calculation

Core Funding Ratio (CFR) is one of the two minimum standards developed to promote funding and liquidity management in financial institutions. CFR assesses the bank's liquidity risks over a longer time horizon. Both standards complement each other, are aimed at providing a holistic picture of a bank's funding risk profile, and aid in better liquidity risk management practices. All 2 A institutions are required to calculate CFR.

Topics:

6.1 Overview

CFR is defined as the amount of core funding relative to the required core funding. Available core funding refers to the portion of capital and liabilities expected to be reliable over the horizon of 1 year. Required core funding refers to the portion of assets and off-balance sheet exposures over the same horizon. The CFR does not contain encumbered assets and the ratio is expected to be at least 100%.

$$\left(\frac{Available\ Core\ funding}{Required\ Core\ funding}\right) \geq 100\%$$

6.2 Process Flow

The Available Core Funding (ACF) factor and Required Core Funding (RCF) factor is applied through business assumptions and reflects through the execution of a Business as Usual (BAU) run in the OFS LRRCHKMA application. The ACF and RCF factors are applied as weights at the account level and the Total ACF and Total RCF are obtained by taking a sum of all the weighted amounts. The ratio is then computed by the application as the (Total ACF amount)/(Total RCF amount). A set of predefined business assumptions for ACF and RCF as defined in the CFR guidelines are prepackaged in the application. For the complete list of preseeded ACF and RCF assumptions, see the Regulation Addressed through Business Assumptions section.

Topics:

6.2.1 Identifying Maturity Bands

One of the various dimensions used to allocate ACF and RCF factors is the maturity bucket of the instrument. For CFR computation, maturity bands are used to allocate the factors. The HKMA CFR band is predefined as per regulatory guidelines and has the following values:

- Less than 6 months
- Greater than or equal to 6 months but less than 1 year
- Greater than or equal to one year
- Open maturity

All accounts will be categorized on one of these bands depending on the maturity date. Note that to categorize any product into open maturity, the LRM - Classification of Products as Open Maturity Rule must be edited and the product must be included in the rule.

6.2.2 Computing Available Amount of Core Funding

The available core funding factor is a pre-determined weight ranging from 0% to 100% which is applied through business assumptions for the accounts falling under the dimensional combinations defined. The weights are guided by the CFR standard. The available core funding is then taken as a total of all the weighted amounts where an ACF factor is applied.

Foreign bank branches can account for the undrawn contractual committed facilities from its head office or other branches that are the same entity and are regional hubs as ACF up to 40% of the minimum ACF required to meet the minimum requirement of CFR.

The formula for calculating the Available Amount of Stable Funding is as follows:

$$\boldsymbol{Available\ Amount\ of\ Core\ Funding} = \sum_{i=1}^{n} \boldsymbol{Liability_i} * \boldsymbol{Factor_i}$$

$$\boldsymbol{where\ n =\ The\ number\ of\ capital\ and\ liability\ accounts}$$

The following is an example of applying the ACF factor:

Consider an assumption defined with the following dimensional combination and ACF factors, based on the measure being Total Stable Balance.

Table 29: Illustration-Applying ACF Factor

Product	Retail/Wholesale Indicator	Residual Maturity Band	ACF Factor
Deposits	R	<= 6 months	95%
Deposits	R	6 months - 1 year	95%
Deposits	R	>= 1 year	95%

If five accounts are falling under this combination, then after the assumption is applied the resulting amounts with the application of ACF factors is as follows.

Table 30: Illustration Continued-Applying ACF Factor

Account	Stable Balance	ACF Weighted Amount
A1	3400	3230
A2	3873	3679.35
A3	9000	8550
A4	1000	950
A5	100	95

NOTE The LRRCHKMA application does not compute ACF items such as Tier 1 and Tier 2 capital, deferred tax liabilities, and minority interest. The items are taken as a download from the OFS Basel application. By updating the latest Basel Run Skey as a setup parameter, LRRCHKMA picks up the respective standard accounting head balances and applies the respective ACF factors.

If OFS Basel is not installed, then the following items must be provided as a download in the FCT_STANDARD_ACCT_HEAD table:

- Gross Tier 2 Capital
- Deferred Tax Liability related to Other Intangible Asset
- Deferred Tax Liability related to Goodwill
- Deferred Tax Liability related to MSR
- Deferred Tax Liability related to Deferred Tax Asset
- Deferred Tax Liability related to Defined Pension Fund Asset
- Net CET1 Capital post-Minority Interest Adjustment
- Net AT1 Capital post-Minority Interest Adjustment
- Total Minority Interest required for CFR

6.2.3 Computing Required Amount of Core Funding

The required core funding factor is a pre-determined weight ranging from 0% to 100% which is applied through business assumptions for the accounts falling under the defined dimensional combinations. The weights are guided by the CFR standard. The required core funding is then considered as a sum of all the weighted amounts where an RCF factor is applied.

The required core funding factor is a weight function and is applied similarly to that of the ACF. The formula which is used for calculating the Required Amount of Core Funding is as follows:

$$Required\ Amount\ of\ Core\ Funding = \left(\sum_{i=1}^{n} Asset_i * Factor_i\right) + \left(\sum_{i=1}^{m} Off\ Balance\ Sheet_i * Factor_i\right)$$

$$where\ n = Number\ of\ asset\ accounts$$

$$where\ m = Number\ of\ off\ balance\ sheet\ accounts$$

Topics:

- Computation of Off-Balance Sheet Items

6.2.3.1 Computing Off-Balance Sheet Items

Off-balance sheet items are considered under the application of the RCF factor and are given the appropriate factor as guided. Some combinations, such as the line of credit, have a predefined RCF factor as guided and are available as preseeded assumptions. Other off-balance sheet products, such as Variable Rate Demand Notes (VRDN) and Adjustable Rate Notes (ARN), do not have predefined factors and are left to the discretion of the jurisdictions. For such products, define assumptions and apply desired RCF factors as applicable.

6.2.4 Computing Derivatives

Derivatives are handled through the application of both ACF and RCF factors as applicable. They can behave as either an asset or a liability, depending on the marked-to-market value. The application of factors on derivatives is done on the market value after subtracting the variation margin posted/received against the account, using the following computation:

1. CFR derivative liabilities = Derivative liabilities – (Total collateral posted as variation margin against the derivative liabilities)
2. CFR derivative assets = Derivative assets – (Cash collateral received as variation margin against the derivative assets)
3. The factors are then applied as follows:
   - **ACF factor application**

     ACF amount for derivatives = 0% * Max ((CFR derivative liabilities – CFR derivative assets), 0)
   - **RCF factor application**

     RCF amount for derivatives = 100% * Max ((CFR derivative assets - CFR derivative liabilities), 0)

Derivative liabilities refer to those derivative accounts where the market value is negative. Derivative assets refer to those derivative accounts where the market value is positive. Apart from the variation margin, the initial margin against derivative contracts is also treated with the appropriate factor.

6.2.5 Computing Core Funding Ratio

The Core Funding Ratio is calculated as follows:

$$Net\ Core\ Funding\ Ratio = \frac{Available\ Amount\ of\ Core\ Funding}{Required\ Amount\ of\ Core\ Funding}$$

6.3 Preconfigured HKMA Regulatory CFR Scenarios

OFS LRRCHKMA supports ready-to-use HKMA CFR assumptions according to HKMA guidelines on the Core funding ratio.

This section explains the business assumptions which support CFR as per HKMA master circular HKMA Notification No. 1-2561: Regulations on the Core Funding Ratio (CFR), April 2018.

The following table lists the Document Identifiers provided in the column Regulatory Reference of Regulations Addressed through Business Assumptions.

Table 31: Document Identifiers for HKMA CFR

Regulation Reference Number	Document Number	Document Name	Issued Date
B1/15C S4/16C	MA(BS)26	Return of Stable Funding Position of an Authorized Institution	11 January 2018

> **NOTE** This section gives only the contextual information of the business assumptions. For more information, see the OFS LRS application (UI).

Topics:

- Regulation Addressed through Business Assumptions
- Regulation Addressed through Business Rules

6.3.1 Regulation Addressed through Business Assumptions

The application supports multiple assumptions with preconfigured rules and scenarios based on regulator-specified CFR scenario parameters. The list of pre-configured business assumptions and the corresponding reference to the regulatory requirement that it addresses is provided in the following tables:

Topics:

- Available Core Funding
- Required Core Funding
- Derivatives
- Off Balance Sheet

6.3.1.1 Available Core Funding

This section enlists all the preseeded assumptions acting on liabilities and capital items which receive an ACF factor.

Table 32: Preconfigured ACF Assumptions HKMA CFR

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference B1/15C S4/16C
1	HKMA ACF - Capital Items, DTL and Minority Interest	HKMA ACF - Tier 1 and tier 2 capital, Deferred tax liabilities and minority interest	This assumption defines the long-term funding sources with an effective maturity of one year or more, primarily tier 1 and tier 2 capital instruments along with deferred tax liability and minority interest, which are assigned a 100% ACF factor for the NSFR computation.	Paragraphs 73, 79
2	HKMA ACF - Other Capital Instruments	HKMA ACF - Other Capital Instruments that are not covered above	This assumption defines the long-term funding sources with an effective maturity of one year or more, all the other capital instruments except tier 1 and tier 2 capital instruments along with deferred tax liability and minority interest, which are assigned a 100% ACF factor for the NSFR computation.	Paragraphs 73, 79
3	HKMA ACF - Non-Bank Deposits	HKMA ACF - Deposits from non-bank customers.	The ACF factors applicable to deposits, from all except banks, central banks, regional development banks, national development banks (NDB), multilateral development banks (MDB, with a remaining maturity of 1 year or less, are predefined as part of this assumption. This assumption applies a 90% ACF factor on the deposits from all except banks, central banks, regional development banks with a remaining maturity between 6 months to 1 year. It also applies an 80% ACF factor on the deposits from all except banks, central banks, regional development banks with open maturity, a remaining maturity of less than 6 months, and a remaining maturity of 1 year or more.	Paragraph 75
4	HKMA ACF - Non-Bank Deposits - Cash Flow Basis	HKMA ACF - Deposits from non-bank customers with a remaining maturity of more than 1 yr. and cash flow maturity of less than 1 year.	The ACF factors applicable to deposits, from all except banks, central banks, regional development banks, national development banks (NDB), multilateral development banks (MDB), with a remaining maturity of more than 1 year with cash flow maturities within 1 year, are predefined as part of this assumption. This assumption applies an 80% ACF factor on the stable portion of cash flows with cash flow maturity within 1 year and 1 year or more.	Paragraph 75

5	HKMA ACF - Bank Deposits	HKMA ACF - Deposits from bank customers.	The ACF factors applicable to deposits, from banks, central banks, regional development banks, national development banks (NDB), multilateral development banks (MDB, with a remaining maturity of 1 year or less , are predefined as part of this assumption. This assumption applies a 50% ACF factor on the deposits from banks, central banks, regional development banks with a remaining maturity between 6 months to 1 year. It also applies a 0% ACF factor on the deposits from banks, central banks, regional development banks with open maturity, a remaining maturity of less than 6 months, and a remaining maturity of 1 year or more.	Paragraphs 76, 77, 78
6	HKMA ACF - Bank Deposits - Cash Flow Basis	HKMA ACF - Deposits from bank customers with a remaining maturity of more than 1 yr. and cash flow maturity of less than 1 year.	The ACF factors applicable to deposits, from banks, central banks, regional development banks, national development banks (NDB), multilateral development banks (MDB), with a remaining maturity of more than 1 year with cash flow maturities within 1 year, are predefined as part of this assumption. This assumption applies a 0% ACF factor on the stable portion of cash flows with cash flow maturity within 1 year and 1 year or more.	Paragraphs 76, 77, 78
7	HKMA ACF - Other funds - Other Parties	HKMA ACF - Other funding from all customers, with residual maturity of less than 1 year.	The ACF factor applicable to all funding other than deposits, with remaining maturity less than 1 year are predefined as part of this assumption. This assumption applies a 0% ACF factor on all funding other than deposits, with a remaining maturity of less than 6 months and between 6 months to 1 year. It applies a 100% ACF factor on all funding other than deposits, with a remaining maturity of 1 year or more.	Paragraphs 76, 77, 78
8	HKMA ACF - Other Funds- Other Parties- Maturity over 1 yr.	HKMA ACF - Other funding from all counterparties, with residual maturity of more than 1 year and cash flow maturity within 1 year.	The ACF factor applicable to all funding other than deposits, with a remaining maturity of more than 1 year with cash flow maturity within 1 year, are predefined as part of this assumption. This assumption applies a 0%, 50%, 100% ASF Factor on all funding other than deposits, with cash flow maturity of less than 6 months, between 6 months to 1 year, and greater than 1 year.	Paragraphs 76, 77, 78
9	HKMA ASF - Trade Date Payables	HKMA ACF - Trade date payables arising from purchases of foreign currencies, financial instruments, and commodities that are expected to settle or have failed but are expected to settle within the standard settlement cycle.	The ACF factor applicable to trade payable cash flows arising from purchases of foreign currencies, financial instruments, and commodities expected to settle within the standard settlement cycle, are predefined in this assumption. This assumption applies a 0% ACF factor on the trade payable cash flows.	Paragraph 82

10	HKMA ASF - Liabilities with Open Maturity	HKMA ACF - Secured deposits and all other borrowings and which do not have a stated maturity	The ACF factor applicable to all the other funding without any stated maturity is predefined in this assumption. This assumption applies a 0% ACF factor on all the funding without any maturity.	Paragraph 83
11	HKMA ACF - Borrowings and Liabilities - Maturity over 1 yr.	HKMA ACF - Borrowings and liabilities with residual maturities and cash flows falling beyond 1 year.	The ACF factors applicable to all other funding with a remaining maturity of greater than 1 year with cash flow maturity within 1 year, are predefined in this assumption. This assumption applies a 0% ACF factor on the cash flows.	Paragraph 83
12	HKMA ASF - Debt Securities Issued	HKMA ACF - Debt securities and prescribed instruments issued by the institution.	The ACF factor applicable to debt securities and prescribed instruments issued by the institution are predefined in this assumption. This assumption applies a 0% and 50% ACF factor on debt securities, with residual maturity of less than 6 months and between 6 months to 1 year respectively. It applies a 100% ACF factor on debt securities with open maturity and maturity of 1 year or more.	Paragraph 74

6.3.1.2 Required Core Funding

This section enlists all the preseeded assumptions acting on liabilities and capital items which receive an RCF factor.

Table 33: Preconfigured RCF Assumptions HKMA CFR

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference
1	HKMA RCF - Coins and Banknotes	HKMA RCF - Coins, banknotes, cash, and restricted cash held by the bank.	The RCF factor applicable to coins, banknotes, and cash held by the bank, is predefined as a part of this assumption. This assumption applies a 0% RCF factor on the coins, banknotes, and cash held by the bank.	Paragraph 84
2	BNM - RCF - Central bank reserves	HKMA RCF - All central bank reserves, including, required reserves and excess reserves.	The RCF factors applicable to required and excess central bank reserves are predefined as a part of this assumption. This assumption applies a 0% RCF factor to all central bank reserves.	Paragraph 45
3	HKMA RCF - Unencumbered Claims on Central Banks	HKMA RCF - Unencumbered loans and other claims on central banks	The RCF factors applicable to fully performing unencumbered loans and claims on central banks, with a remaining maturity of less than 1 year, are predefined as part of this assumption. This assumption applies 0%, 50%, and 100% RCF factors to the loans and claims on central banks with a remaining maturity of less than 6 months, between 6 months and 1 year, and 1 year or more respectively. It also applies a 100% RCF factor to the loans and claims on central banks with open maturity.	Paragraphs 91 , 92
4	HKMA RCF - Unencumbered Loans to Banks Secured by L1 Asset	HKMA RCF - Unencumbered loans to banks where the loan is secured against Level 1 assets as defined in the LCR.	The RCF factors applicable to the unencumbered loans given to banks, regional development banks (RDB), National Development banks (NDB), multilateral development banks (MDB) secured by a level 1 asset are predefined as a part of this assumption. The assumption applies RCF factor of 0%,50%,100% on the unencumbered secured loans given to banks, regional development banks (RDB), National Development banks(NDB), multilateral development banks (MDB) by level 1 asset with a remaining maturity of less than 6 months, 6 months to 1 year and 1 year or more respectively. It also applies a 100% RCF factor on the loans with open maturity.	Paragraphs 91 , 92

5	HKMA RCF - Unencumbered Loans to Banks Secured by Non-L1 Asset	HKMA RCF - Unencumbered loans to banks where the loan is secured against non-Level 1 asset as defined in the LCR.	The RCF factors applicable to the unencumbered loans given to banks, regional development banks (RDB), National Development banks (NDB), multilateral development banks (MDB) secured by a non-level 1 asset are predefined as a part of this assumption. The assumption applies RCF factor of 0%,50%,100% on the unencumbered secured loans given to banks, regional development banks (RDB), National Development banks(NDB), multilateral development banks (MDB) by level 1 asset with a remaining maturity of less than 6 months, 6 months to 1 year and 1 year or more respectively. It also applies a 100% RCF factor on the loans with open maturity.	Paragraphs 91 , 92
6	HKMA RCF - Unencumbered Unsecured Loans to Banks	HKMA RCF - Unencumbered unsecured loans excluding overdrafts to banks.	The RCF factors applicable to the unencumbered unsecured loans given to banks, regional development banks(RDB), National Development banks(NDB), multilateral development banks(MDB), are predefined as a part of this assumption. The assumption applies RCF factor of 0%, 50%, and 100% on the unencumbered unsecured loans given to banks, regional development banks(RDB), National Development banks (NDB), multilateral development banks (MDB), with a remaining maturity of fewer than 6 months, 6 months to 1 year and 1 year or more respectively. It also applies a 100% RCF factor on the loans with open maturity.	Paragraphs 91 , 92
7	HKMA RCF - Unencumbered Loans to FIs Secured by L1 Asset	HKMA RCF - Unencumbered loans to other parties excluding banks, central banks, regional development banks, MDBs, NDBs where the loan is secured against Level 1 assets as defined in the LCR.	The RCF factors applicable on the unencumbered loans given to all other parties excluding banks, central banks, regional development banks, MDBs, NDBs secured by a level 1 asset are predefined as a part of this assumption. The assumption applies RCF factor of 0%,50%,100% on the unencumbered secured loans given to all other parties excluding banks, central banks, regional development banks, MDBs, NDBs by level 1 asset with a remaining maturity of less than 6 months, 6 months to 1 year and 1 year or more respectively. It also applies a 100% RCF factor on the loans with open maturity.	Paragraphs 93 , 94

8	HKMA RCF - Unencumbered Loans to FIs Secured by Non-L1 Asset	HKMA RCF - Unencumbered loans to other parties excluding banks, central banks, regional development banks, MDBs, NDBs where the loan is secured against non-Level 1 asset as defined in the LCR.	The RCF factors applicable to the unencumbered loans given to all other parties excluding banks, central banks, regional development banks, MDBs, NDBs secured by a non-level 1 asset are predefined as a part of this assumption. The assumption applies RCF factor of 0%,50%,100% on the unencumbered secured loans given to all other parties excluding banks, central banks, regional development banks, MDBs, NDBs by non-level 1 asset with a remaining maturity of less than 6 months, 6 months to 1 year and 1 year or more respectively. It also applies a 100% RCF factor on the loans with open maturity.	Paragraphs 93 , 94
9	HKMA RCF - Unencumbered Unsecured Loans to FIs	HKMA RCF - Unencumbered unsecured loans to given to all other parties excluding banks, central banks, regional development banks, MDBs, NDBs, excluding overdrafts.	The RCF factors applicable to the unencumbered unsecured loans given to all other parties excluding banks, central banks, regional development banks, MDBs, NDBs, are predefined as a part of this assumption. The assumption applies RCF factor of 0%, 50%, and 100% on the unencumbered unsecured loans given to all other parties excluding banks, central banks, regional development banks, MDBs, NDBs, with a remaining maturity of less than 6 months, 6 months to 1 year and 1 year or more respectively. It also applies a 100% RCF factor on the loans with open maturity.	Paragraphs 93 , 94
10	HKMA RCF - Unencumbered Non HQLA Assets	HKMA RCF - Unencumbered securities, with maturity less than 1 year, which does not qualify as High quality liquid assets under the LCR Rule	The RCF factors applicable to unencumbered securities, with a remaining maturity of less than 1 year and which do not qualify, as High quality liquid assets under the LCR Rule, are predefined as part of this assumption. The assumption applies a 50% RCF factor on unencumbered securities, which do not qualify as High quality liquid assets under the LCR Rule, with a remaining maturity of less than 1 year	Paragraphs 89, 90
11	HKMA RCF - Unencumbered Non HQLA Securities-Maturity over 1yr	HKMA RCF - Unencumbered securities, with a maturity greater than 1 year which do not qualify as HQLA under the LCR Rule	The RCF factors applicable to unencumbered securities, with a remaining maturity of more than 1 year and which do not qualify as High quality liquid assets under the LCR Rule, are predefined as part of this assumption. The assumption applies an 85% RCF factor on unencumbered securities, with a remaining maturity of more than 1 year and which do not qualify as High quality liquid assets under the LCR Rule.	Paragraphs 89, 90
12	HKMA RCF - Listed Common Equities	HKMA RCF - Common equities that are listed on the recognized stock exchange.	The RCF factor applicable to Common equities that are listed on the recognized stock exchange is predefined in this assumption. This assumption applies a 100% ACF factor on Common equities.	Paragraphs 89, 90

13	HKMA RCF - Unencumbered L1 Assets	HKMA RCF - Unencumbered assets that qualify for inclusion in Level 1 of High quality liquid assets as defined in the LCR.	The RCF factors applicable to unencumbered assets, which qualify for inclusion in Level 1 of High quality liquid assets as defined in the LCR, are predefined as a part of this assumption. The assumption applies a 0% RCF factor on the unencumbered Level 1 assets.	Paragraph 89
14	HKMA RCF - Unencumbered L2A and L2B Assets	HKMA RCF - Unencumbered assets that qualify for inclusion in Level 2A and 2B of High quality liquid assets as defined in the LCR.	The RCF factors applicable to unencumbered assets, which qualify for inclusion in Level 2A, and 2B of High quality liquid assets as defined in the LCR, are predefined as a part of this assumption. The assumption applies a 0% RCF factor on the unencumbered Level 2A assets and Level 2B assets.	Paragraph 89
15	HKMA RCF - Unencumbered Residential Mortgage Loans	HKMA RCF - Unencumbered residential mortgage loans.	The RCF factors applicable to unencumbered residential mortgage loans are per defined as part of this assumption. The assumption applies RCF factors of 0% and on the unencumbered residential mortgage loans.	Paragraphs 93, 94
16	HKMA RCF - Trade Date Receivables	HKMA RCF - Trade date receivables arising from purchases of foreign currencies, financial instruments, and commodities that are expected to settle or have failed but are expected to settle within the standard settlement cycle.	The RCF factor applicable to trade date receivables arising from purchases of foreign currencies, financial instruments, and commodities that are expected to settle or have failed but are expected to settle within the standard settlement cycle, are predefined as part of this assumption. The assumption applies a 0% RCF factor to the trade receivables, which expected to settle within the settlement cycle.	Paragraph 96
17	HKMA RCF - Unencumbered commodities	HKMA RCF - Unencumbered physically traded commodities, including gold.	The RCF Factor applicable to unencumbered physically traded commodities is defined as a part of this assumption. The assumption applies an 85% factor.	Paragraph 85
18	HKMA RCF - Unencumbered Export Bills	HKMA RCF - Unencumbered export bills.	The RCF factor applicable to export bills is predefined in this assumption. This assumption applies a 0% and 50% ACF factor on debt securities, with residual maturity of less than 6 months and between 6 months to 1 year respectively. It applies a 100% ACF factor on debt securities with open maturity and maturity of 1 year or more.	Paragraph 74

6.3.1.3 Derivatives

This section enlists all the preseeded assumptions for CFR Derivatives.

Table 34: Preconfigured Derivatives Assumptions HKMA CFR

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference
1	HKMA ASF - Net CFR Derivative Liabilities	HKMA ACF - derivative liabilities net of derivative assets, where derivative liability is net of any variation margin posted and the derivative asset is net of cash margin received.	The ACF factor applicable to all derivative contracts including netted derivative contracts, where the net aggregate mark to the market value of the contracts for an entity including any variation margin adjustment is negative, is predefined as part of this assumption. The assumption applies a 0% ACF factor to the derivative liabilities net of derivative assets, where the net aggregate mark to the market value of the contracts is negative.	Annexure1
2	HKMA RCF - Net NSFR Derivative Assets	HKMA RCF - derivative assets net of derivative liabilities, where derivative liability is net of any variation margin posted and the derivative asset is net of cash margin received.	The RCF factor applicable to all derivative contracts including netted derivative contracts, where the net aggregate mark to the market value of the contracts for an entity including any cash margin adjustment is positive, is predefined as part of this assumption. The assumption applies a 100% RCF factor to the derivative assets net of derivative liabilities, where the net aggregate mark to the market value of the contracts is positive.	Annexure1
3	HKMA RCF - Margin for Derivatives	HKMA RCF - Treatment of initial margin posted against derivative transactions.	The RCF factor applicable to the initial margin posted for the derivative contracts is predefined as part of this assumption. The assumption applies an 85% RCF factor to the initial margin posted against the derivative contracts.	Annexure1

6.3.1.4 Off Balance Sheet

This section enlists all the preseeded assumptions for CFR Off-Balance Sheet items.

Table 35: Preconfigured Off-Balance Sheet Assumptions HKMA CFR

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference
1	HKMA RCF - Credit and Liquidity Facilities to Client	HKMA RCF- Off balance sheet exposures- Irrevocable, revocable and conditionally revocable credit and liquidity facilities offered to any clients by the bank.	The RCF factor applicable to irrevocable, revocable, and conditionally revocable credit and liquidity facilities offered to any clients by the bank is predefined as part of this assumption. The assumption applies a 5% RCF factor to the undrawn amount of irrevocable and conditionally revocable credit and liquidity facilities and RCF factor of 0% in case of revocable credit and liquidity facilities.	Annexure 2
2	HKMA RCF - Guarantees and Letters of Credit	HKMA RCF- Off balance sheet exposures- Guarantees and letters of credit.	The RCF factor applicable to the Guarantees and Letters of credit offered by the bank is predefined as part of this assumption. The assumption applies a 0% RCF factor to the EOP balance of the trade-related and non-trade related Guarantees and Letters of credit.	Annexure 2

6.3.2 Regulation Addressed through Business Rules

The application supports multiple pre-configured rules and scenarios based on HKMA specified scenario parameters such as inflow rates, outflow rates, run-offs, haircuts, and so on. See the Regulation Addressed through Business Rules for details.

7 Performance Recommendations for HKMA

See the OFS LRS Performance Tuning Guide for details.

8 Appendix A: Data Transformations/Functions used in LRRCHKMA

This section provides information about the Data Transformations (DTs) or functions used in the LRRCHKMA application.

- **TB_DATE_ASSIGNMENT**

  This function performs the following actions:

  a. Identifies the dates between the bucket start day and bucket end day.

  b. Populates the intermediate dates based on the chosen FIC-MIS date, in the FSI_LRM_TIME_BUCKET_DAYS table.

  c. The business day convention (prior, conditional prior, following, no-Adjustment) is applied, taking into account the holiday calendar applicable for a Legal Entity, and is populated in the FSI_LRM_TIME_BUCKET_DETAILS table for each Legal Entity.

- **BOT_INS_UNINS_AMT_CALC**

  This function calculates the insured and uninsured amounts, and updates this information at an account-customer combination in the FSI_LRM_ACCT_CUST_DETAILS table.

- **UPD_PROCESS_SCENARIO_KEY**

  This function updates the process scenario Skey in the DIM_FCST_RATES_SCENARIO tables. It performs the following actions:

  a. Reads the current Run information from the FCT_LRM_RUN_PARAM and DIM_RUN tables.

  b. Populates the Contractual/Business As Usual, Run name, Run type, Run description into the DIM_FCST_RATES_SCENARIO table from DIM_RUN.

  c. Updates the process key for the current Run in the FCT_AGG_BASE_CCY_LR_GAP table storing liquidity risk gap measures in base currency.

  d. Updates the process key for the current Run in the FCT_AGG_BASE_CCY_LR_GAP table storing liquidity risk gap measures in consolidated currency.

  e. Updates both local and natural, inflow, and outflow amount columns in the FCT_AGG_CASH_FLOWS table using exchange rate conversion.

  f. Updates both inflow and outflow local currency amount columns in the FCT_ACCOUNT_CASH_FLOWS table using exchange rate conversion.

  g. Updates both local and natural currency amount columns in the FCT_LRM_LE_SUMMARY table using exchange rate conversion.

- **UPDATE_UNDERLYING_ASSETS**

  This function updates all the attributes of the underlying assets, mitigants or placed collateral of an account such as asset level, fair value, market value, and so on, in the FSI_LRM_INSTRUMENT table. For example, consider a loan contract for which a mitigant is received. This loan account is captured in the STG_LOAN_CONTRACTS table and the mitigant information is captured in the STG_MITIGANTS table. The link between the loan account and the mitigant is captured in the STG_ACCOUNT_MITIGANT_MAP table. From the

STG_ACCOUNT_MITIGANT_MAP table, data moves to the FCT_ACCOUNT_MITIGANT_MAP table.

The function identifies the account mitigant mapping from the FCT_ACCOUNT_MITIGANT_MAP table and updates the attributes of the mitigant against the loan account in the FSI_LRM_INSTRUMENT table. For example, if the market value of the mitigant is $500, then the function updates the column FSI_LRM_INSTRUMENT.N_UNDERLYING_RECV_LEG_MKT_RCY as $500 for the loan contract account.

Similarly, consider another example of a repo contract where the bank has placed collateral. The repo contract is captured in the STG_REPO_CONTRACTS table and moved to the FSI_LRM_INSTRUMENT table. The collateral placed against the repo contract is captured in the STG_PLACED_COLLATERAL table. The relationship between placed collateral and the REPO contract is captured in the STG_ACCT_PLACED_COLL_MAP table and is moved to the FCT_ACCT_PLACED_COLL_MAP table.

The function updates the asset level of the placed collateral against the repo contract in the FSI_LRM_ISNTRUMENT table, which indicates that the FSI_LRM_INSTRUMENT.N_UNDERLYING_ASSET_LEVEL_SKEY column is updated.

Similarly, the function updates the following attributes of the underlying asset (Mitigant/Placed Collateral) in the FSI_LRM_ISNTURMENT table:

- N_UNDERLYING_ASSET_LEVEL_SKEY
- N_UNDERLYING_MKT_RCY
- N_UNDERLYING_FAIR_RCY
- F_UNDERLY_QUALIF_UNENCUMB
- N_UNDERLY_RISK_WEIGHT_SKEY
- N_UNDERLY_STD_ISSUER_TYPE_SKEY
- N_UNDERLY_STD_PROD_TYPE_SKEY
- N_UNDERLYING_INST_BASEL_RATING
- F_UNDERLY_COLL_COVER_SHORT_POS
- F_UNDRLY_COVER_BANK_SHORT_POS
- F_UNDRLY_COVER_CUST_SHORT_POS
- F_UNDERLY_ISSUER_FINAN_ENTITY
- F_UNDERLY_REHYPOTHECATED_FLAG
- F_UNDERLYING_ISSUER_US_FLAG
- F_UNDERLYING_GUARANTOR_US_FLAG
- F_UNDRLYNG_PLACED_HQLA_FLAG
- F_UNDERLYING_HELD_BY_CLIENT
- F_UNDRLYNG_ASST_SEGREGATED_IND
- N_HQLA_MIT_VAL_RCY

- N_NON_HQLA_MIT_VAL_RCY
- N_EXP_NOT_COV_BY_HQLA_MIT_RCY

These columns are used for calculating the adjustments to be performed in the stock of HQLA process and also in business as usual assumptions.

This data transformation identifies the underlying asset of an account from the mapping tables (FCT_ACCOUNT_MITIGANT_MAP and FCT_ACCT_PLACED_COLL_MAP), reads the attributes of the underlying asset (mitigant from FCT_MITIGANTS and placed collateral from FSI_LRM_INSTRUMENT tables) and updates it against the account in the FSI_LRM_INSTURMENT table using the following steps:

1. Assigns the used portion of a placed collateral in FCT_ACCT_PLACED_COLL_MAP table, that is, updates the FCT_ACCT_PLACED_COLL_MAP.N_DRWN_PORTION_COLL_AMT column.
2. Assigns the underlying asset level.
3. Assigns the underlying asset level Skey of SUBSTITUTABLE COLLATERAL to:
   - Derivative Products
   - Non-Derivative Products

   Updates the N_COLL_SUBSTITU_ASSET_LVL_SKEY and N_SBSTBL_ASST_LVL_ENT_SKEY columns of the FSI_LRM_INSTRUMENT table.
4. Assigns revised maturity date Skey for (CS, REVREPO, DRB, SECBORR) product, that is FLI.N_REVISED_MATURITY_DATE_SKEY.

   Updates the encumbrance percent in the FSI_LRM_INSTRUMENT table against the placed collateral records, that is, FLI.N_PERCENT_ENCUMBERED.

9 Appendix B: Pre-requisite for HKMA LCR Batch Execution

The following pre-requisite must be performed before you begin the HKMA LCR batch executions.

The batch users must resave the given hierarchies and update the SETUP_MASTER table as follows.

SL NO.	Bug ID	Metadata Objects	Metadata Type	Actions
1	22312455	FN_GATHER_STATS_FCT	DT	Update V_COMPONENT_VALUE in SETUP_MASTER to Atomic schema name against V_COMPONENT_CODE -> GATHER_STAT_OWNER

10 Appendix C: User Configuration and Settings

Topics:

10.1 Standard Reclassifications

The regulatory guidelines specify classifications and computations based on certain generic products and party types. Each bank, internally, will have its product and party types, which differ from bank to bank. To ensure consistency in computations, the application supports two standard dimensions based on the regulatory guidelines:

- Standard Product Type
- Standard Party Type

The bank-specific product and party types, which are accepted as a download in the staging tables, are required to be reclassified to standard product and party types supported by OFS LRRCHKMA respectively.

Topics:

10.1.1 Standard Product Type Reclassification

Banks should map their specific product types to the Standard Product Types as part of the rule HKMA LCR - Standard Product Type Reclassification. The application then reclassifies the bank product types to Standard Product Types and utilizes the Standard Product Types for further processing.

10.1.2 Standard Party Type Reclassification

Banks are required to map their specific party types to the Standard Party Types as part of the rule LRM - Standard Party Type Reclassification. The application then reclassifies the bank party types to Standard Party Types and utilizes the Standard Party Types for further processing. Party types include customer type, issuer type, and guarantor type.

10.2 Mitigant Sub Type Classifications

Banks are required to map their mitigant product types to the Standard Product Types as part of the rule LRM - Mitigant Sub Type Classification. The application then reclassifies the bank mitigant types to Standard product Types and utilizes this for further processing.

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