Oracle Financial Services Liquidity Risk Regulatory Calculations for Bank Negara Malaysia
User Guide

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Oracle Financial Services Liquidity Risk Regulatory Calculations for Bank Negara Malaysia User Guide, Release 8.0.8.0.0

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1.1 Document Control

Table   Document Control

Version Number	Revision Date	Change Log
1.0	Created March 2019	Captured updates for 8.0.8.0.0 release:

This document provides a comprehensive working knowledge on Oracle Financial Services Liquidity Risk Regulatory Calculations for Bank Negara Malaysia, Release 8.0.8.0.0. The latest copy of this guide can be accessed from OHC Documentation Library.

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About the Guide

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.

2.1 Scope of the Guide

The objective of this user guide is to provide a comprehensive knowledge about the regulatory calculations supported in the Oracle Financial Services Liquidity Risk Regulatory Calculations for Bank Negara Malaysia, Release 8.0.8.0.0. This document is intended to help you understand the methodologies involved in computation of LCR and NSFR ratio and other regulatory metrics and computations.

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

2.2 Intended Audience

Welcome to Release 8.0.8.0.0 of the Oracle Financial Services Liquidity Risk Regulatory Calculations for Bank Negara Malaysia. 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.

2.3 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

2.3.1 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.

2.3.2 Related Information Sources

You can access the below documents online from the Oracle Help Center (OHC) documentation Library for OFS Liquidity Risk Solution (LRS) 8.x:

- OFS Liquidity Risk Solution Application Pack 8.0.8.0.0 Release Notes
- OFS Liquidity Risk Solution Application Pack 8.0.8.0.0 Installation Guide
- OFS Liquidity Risk Measurement and Management Release 8.0.8.0.0 Analytics User Guide
- OFS Liquidity Risk Measurement and Management Release 8.0.8.0.0 User Guide

You can access the OFS AAI documentation online from the OHC Documentation Library for OFS AAAI 8.x:

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

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Abbreviations

Table 3-1   Abbreviations

Abbreviation	Description
LRS	Liquidity Risk Solution
LRMM	Liquidity Risk Measurement and Management
LRRCBNM	Liquidity Risk Regulatory Calculations for Bank Negara Malaysia
LRRCBOT	Liquidity Risk Regulatory Calculations for Bank of Thailand
LRRCEBA	Liquidity Risk Regulatory Calculations for European Banking Authority
LRRCRBI	Liquidity Risk Regulatory Calculations for Reserve Bank of India
LRRCUSFED	Liquidity Risk Regulatory Calculations for US Federal Reserve
DICLRM	Deposit Insurance Calculations for Liquidity Risk Management
PIDM	Perbadanan Insurans Deposit Malaysia
OFS	Oracle Financial Services

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What is new in this release

This release of Liquidity Risk Regulatory Calculations for Bank Negara Malaysia includes the following features:

- Liquidity Coverage Ratio calculation for Investment Accounts as per guidelines specified by Bank of Negara Malaysia (BNM)
- Net Stable Funding Ratio calculation for Investment Accounts as per guidelines specified by BNM

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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. Oracle Financial Services Liquidity Risk Regulatory Calculations for Bank Negara Malaysia (LRRCBNM) application calculates the following two types of ratios:

5.1 Liquidity Coverage Ratio (LCR)

Liquidity coverage ratio addresses the short-term liquidity needs of a bank, or financial institution during a stress 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.

5.2 Net Stable Funding Ratio (NSFR)

Net Stable Funding Ratio addresses the medium and long-term liquidity needs of a bank, or financial institution during a stress situation. It specifies the minimum amount of stable funding required to be maintained in order to promote stable long term funding.

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Liquidity Coverage Ratio Calculation

LCR is the first standard which 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.

6.1 Inputs

The LRRCBNM application requires the below inputs for LCR calculation:

- Liquidity haircut for each asset level should be provided through business assumptions, with assumption category as valuation change, and assumption sub category as haircut.

- Business assumption which defines the outflow percentage should be defined through appropriate business assumptions. For example, Retail Deposit Run off is defined through a business assumption with assumption category as Incremental Cash Flow, and sub category as Run-off.

- Business assumption which defines the inflow percentage should be defined through appropriate business assumptions. For example, Roll over reverse repo is defined through a business assumption with assumption category as Cash Flow Movement, and sub category as Roll Over.

- Liquidity Horizon is specified as the Run time parameter.

6.2 Process Flow

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

6.2.1 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 Bank Negara Malaysia (BNM), are classified by the application as follows:

- Level 1 Assets
- Level 2A Assets
- Level 2B Assets
- Level 2B Non-RMBS I Assets
- Level 2B Non-RMBS II 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 of 15% of stock of HQLA. Any asset not classified as an HQLA is considered as Other Asset.

6.2.1.1 Identification and Treatment of Level 1 Assets

The application identifies the following as HQLA Level 1 assets:

For placements within the blanks, these include:

1. 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,

   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 on an overnight but automatically renewable basis (only where the bank has an existing deposit with the relevant central bank)

   c. The Wadiah acceptances

   d. The commodity Murabahah program

   e. Surplus cash balances that are held in the eSPICK and RENTAS accounts

   f. The bank's balances that are held under the Statutory Reserve Requirement (SRR)

   For Placements with other central banks, these include:

2. Overnight and term deposits with other central banks that:

   a. Are explicitly and contractually repayable on notice
   or

   b. Constitute of a loan against which the bank can borrow on a term basis, or on an overnight basis with an automatic renewal

3. Foreign bank branches are allowed to include the RCLF from Bank as HQLA up to 40% of the minimum LCR requirement.

4. Debt securities issued in currencies other than Malaysian Ringgit, in the country in which the liquidity risk is being taken or in the bank's home country where the issuer type is sovereign or central bank and the risk weight assigned to the sovereign is greater than 0%.

5. Excess reserves held with foreign central banks, where an international rating agency has assigned a 0% risk weight to the foreign sovereign.

6. Excess reserves held with foreign central banks, where an international rating agency has assigned a non-0% risk weight to the foreign sovereign and a 0% risk weight has been assigned at national discretion under Basel II Framework, to the extent these balances cover the bank's stressed net cash outflows in that specific currency.

7. Central bank excess reserves include the balance held by a bank at the central bank directly or through a correspondent bank less any minimum reserve requirement. It also includes overnight deposits or term deposits held with the central bank that meet the regulatory criteria. The value of eligible term deposits that is included is the amount net of any withdrawal penalty.

> **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 section below

8. Marketable securities representing claims on or claims explicitly guaranteed by sovereign and central banks, PSEs, the Bank for International Settlements, the International Monetary Fund, the European Commission, or multilateral development banks that satisfy all of the following conditions:

    • They have been assigned a rating corresponding to a 0% risk-weight as per the Capital Adequacy Framework or the Capital Adequacy Framework for Islamic Banks (Risk-Weighted Assets) by a recognized external credit assessment institution (ECAI).

    • Issuer type or guarantor type is a foreign sovereign

    • A rating corresponding to a 0% risk-weight as per the Capital Adequacy Framework or the Capital Adequacy Framework for Islamic Banks (Risk-Weighted Assets) by a recognized external credit assessment institution (ECAI) has been assigned to them.

    • Traded in large, deep and active repo or cash markets characterized by a low level of concentration

    • Have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions

    • Not an obligation of a financial institution or any of its affiliated entities

9. Non-0% risk weighted sovereign or central bank debt securities denominated in Malaysian ringgit:

    • In the country where the liquidity risk is being taken or in the home country of the banking institution
      or

    • Where the holdings of the debt and the currency needs of the banking institution's operations are a match
      or

    • Where an arrangement has been established between central banks of the country, which enable financial institutions operating in one jurisdiction to obtain liquidity denominated in that jurisdiction's local currency from the local central bank in which the liquidity risk is being taken by the sovereign or central bank.

    To meet this requirement the application identifies and updates the below flag as follows:

    • Account country liquidity risk flag:

        a. The existence of bank's operations in a particular jurisdiction is identified. 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 at a country and currency combination.

        b. The application then identifies whether the asset is held to meet the bank's net stressed cash outflows in that currency arising from bank's operations in that specific jurisdiction by checking the following conditions:

            i. If the issuer's country is the same as the account country

      ii. 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 (i) above.

      iii. If the account currency is the same as the currency in which local operations are present in a particular jurisdiction as identified in step (i) above.

      If all of the above criteria are met, the account country 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.

    c. Finally, the application identifies the amount to be included in the stock of HQLA when account country liquidity risk flag = "Yes" using the following calculation:

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

- Account and Branch Currency Match Flag

    a. Identifies all branches in the given solo and consolidated Run.

    b. Identifies currency of the branches in step (i), which are equal to the account currency.

    c. If the condition in Step (ii) is fulfilled, then the application updates the flag as "Yes" else "No".

10. Debt securities issued by a non-0% risk-weighted domestic sovereign or central bank denominated in foreign currencies, where the holdings of such debt matches the currency needs of the banking institution's operations in that jurisdiction

11. Debt securities issued in foreign currencies are eligible up to the amount of the bank's stressed net cash outflows in that specific foreign currency stemming from the bank's operations in the jurisdiction where the bank's liquidity risk is being taken, where the issuer type is domestic sovereign or central bank assigned a non-0% risk weight. Such marketable securities are included in the stock of HQLA only up to the extent of the bank's net stressed cash outflows in that currency arising from bank's operations in that foreign jurisdiction.

Assets classified as HQLA Level 1 are assigned a 0% haircut under the regulatory scenario prescribed by BNM.

6.2.1.2 Identification and Treatment of 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
- Local government organizations
- State agencies, state enterprises
- 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

2. Price has not decreased or haircut has not increased by more than 10% over a 30-day period during a relevant period of significant liquidity stress specified by the bank.

3. Corporate debt securities (including commercial paper) and covered bonds/sukuk that 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 (in case of covered bonds)

    - Either has;

        – A long-term credit rating by a recognized External Credit Assessment Institution (ECAI) equal to or greater than AAA or,

        – If long-term rating is not available, then a short-term credit rating by a recognized ECAI which is equal to or greater than P1 or,

        – If it does not have assessment by a recognized ECAI, the probability of default as per the internal rating corresponding to a rating which is equal to or greater than AAA

        – Price has not decreased or haircut has not increased by more than 10% over a 30-day period during a relevant period of significant liquidity stress which is specified by the bank.

4. Marketable debt securities, including commercial papers, issued by Cagamas Berhad with a rating of AAA/P1 by a recognized ECAI or internally rated as having a PD corresponding to a credit rating of AAA.

5. Either has a long term rating of AAA and short term rating of P1.

6. Banker's Acceptance and Islamic Bill of Exchange. Banker's Acceptance and Islamic Bill of Exchange which satisfy the following conditions:

    - Issuer type is not the bank itself for which the computations are being carried.

    - Either has

        – A long-term credit rating by a recognized External Credit Assessment Institution (ECAI) equal to or greater than AA or,

        – If long-term rating is not available, then a short-term credit rating by a recognized ECAI which is equal to or greater than P2 or MARC2.
          Price has not decreased or haircut has not increased by more than 10% over a 30-day period during a relevant period of significant liquidity stress which is specified by the bank.

7. Negotiable Instruments of Deposit (NIDs) or Islamic Negotiable Instruments which satisfy the following conditions:

    - Issuer type is not the bank itself for which the computations are being carried.

    - Either has

        – A long-term credit rating by a recognized External Credit Assessment Institution (ECAI) equal to or greater than AA or,

        – If long-term rating is not available, then a short-term credit rating by a recognized ECAI which is equal to or greater than P2 or MARC2,

Price has not decreased or haircut has not increased by more than 10% over a 30-day period during a relevant period of significant liquidity stress which is specified by the bank.

6.2.1.3 Identification and Treatment of Level 2B RMBS Assets

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

- Residential mortgage-backed securities (RMBS) issued by Cagamas MBS Berhad that either have long term rating of AAA by a recognized ECAI or equivalent short term rating.

- Are already included in a level 1 asset.
  Assets classified as HQLA level 2B RMBS asset and not level 2B Non-RMBS are assigned a 15% haircut under the regulatory scenario prescribed by BNM.

6.2.1.4 Identification and Treatment of Level 2B Non-RMBS I Assets

Corporate debt securities (including commercial paper) which satisfy the following conditions:

Assets classified as HQLA Level 2B Non-RBMS I are assigned a 20% haircut under the regulatory scenario prescribed by BNM.

Identification and Treatment of Level 2B Non-RMBS II Assets

Corporate debt securities (including commercial paper) which satisfy the following conditions:

- Denominated in non-Ringgit currencies

- 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.

- Either has

  – A long-term credit rating by a recognized External Credit Assessment Institution (ECAI) between A- to A+,

  – Price has not decreased or haircut has not increased by more than 10% over a 30-day period during a relevant period of significant liquidity stress which is specified by the bank.

6.2.1.5 Identification of 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 BNM. 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 i.e. the lowest quality collateral is marked as used first.

3. Inclusion and Exclusion of Certain Re-hypothecated Assets
Assets received under re-hypothecation rights as part of reverse repo and securities financing transactions are considered as eligible HQLA, if they are not re-hypothecated. An asset pledged to central banks or PSEs, but not used is considered eligible HQLA. Any asset that a bank receives under a re-hypothecation 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 re-hypothecation 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. **Exclusion of the HQLA assets used for Hedging**
The application assess whether an HQLA is encumbered based on the following factors:

   a. An asset must not be included in the stock if the sale of it without a replacement within a 30-day period removes a hedge that creates an open risk to the banking institution in the excess of an internal limit.

6.2.2 Calculation of 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:

$$
\begin{aligned}
Stock\ of\ HQLA = {} & Post\ Haircut\ Stock\ of\ Level\ 1\ Assets \\
& + Post\ Haircut\ Stock\ of\ Level\ 2A\ Assets \\
& + Post\ Haircut\ Stock\ of\ Level\ 2B\ RMBS\ Assets \\
& + Post\ Haircut\ Stock\ of\ Level\ 2B\ Non-RMBS\ Assets\ I + Assets \\
& + Post\ Haircut\ Stock\ of\ Level\ 2B\ Non-RMBS\ II\ Assets \\
& - Adjustment\ due\ to\ Cap\ on\ Level\ 2B\ Assets \\
& - Adjustment\ due\ to\ Cap\ on\ Level\ 2\ Assets
\end{aligned}
$$

Where,

Adjustment due to Cap on Level 2B Assets: Adjustment for 15% cap

Adjustment due to Cap on Level 2 Assets : Adjustment for 40% cap

The application applies the relevant liquidity haircuts to the market 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' comprises of the stock of HQLA. The stock includes bank's own 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 re-hypothecated.

> **Note:**
>
> All calculations are based on the market value of assets.

6.2.2.1 Calculation of Stock of Liquid Assets

1. Calculation of Stock of Level 1 Assets
   The stock of level 1 assets equals the market value of all level 1 liquid assets held by the bank as on the calculation date that are 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. Calculation of Stock of Level 2A Assets
   The stock of level 2A liquid assets equals 85 percent of the market 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. Calculation of Stock of Level 2B Assets
   The stock of level 2B liquid asset amount equals 50 percent of the market value of all level 2B liquid assets held by the bank as on the calculation date that are eligible HQLA, less hedge termination costs (if any).

4. Calculation of Stock of Level 2B RMBS Assets
   The stock of level 2B RMBS liquid asset amount equals 75 percent of the market value of all level 2B RMBS liquid assets held by the bank as of the calculation date that are eligible HQLA, less hedge termination costs (if any).

5. Calculation of Stock of Level 2B Non-RMBS I Assets
   The stock of level 2B liquid assets equals 50 percent of the market value of all level 2B non-RMBS liquid assets held by the bank as of the calculation date that are eligible HQLA, less hedge termination costs (if any).

6. Calculation of Stock of Level 2B Non-RMBS II Assets
   The stock of level 2B liquid assets include a deduction of 50 percent of the market value of all level 2B non-RMBS liquid assets held by the bank as of the calculation date that are eligible HQLA, less hedge termination costs (if any).

6.2.2.2 Identification of Eligible HQLA on Unwind

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

- Asset Level is level 1, 2A, 2B RMBS or 2B non-RMBS I and non-RBMS II assets
- Meets HQLA operational requirements on unwind

6.2.2.3 Identification of 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 BNM. 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 i.e. the lowest quality collateral is marked as used first.

3. Inclusion and Exclusion of Certain Re-hypothecated Assets
   Assets received under re-hypothecation rights as part of reverse repo and securities financing transactions are considered as eligible HQLA, if they are not re-hypothecated. An asset pledged to central banks or PSEs, but not used is considered eligible HQLA. Any asset that a bank receives under a re-hypothecation 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 re-hypothecation 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. **Exclusion of the HQLA assets used for Hedging**
   The application assess whether an HQLA is encumbered based on the following factors:

   a. An asset must not be included in the stock if the sale of it without a replacement within a 30-day period removes a hedge that creates an open risk to the banking institution in the excess of an internal limit.

6.2.2.4 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 is adjusted accordingly. This is done to avoid inclusion of any asset in the stock that may have to be returned to its owner before the end of the LCR horizon. The unwinding of transactions results in adjustments to the stock of HQLA, i.e. additions to or deductions from the stock of HQLA.

6.2.2.5 Calculation of Adjusted Stock of HQLA

1. Adjusted Stock of Level 1 Assets
   The formula for calculating adjusted stock of level 1 asset is as follows:

$$\begin{aligned}
\textit{Adjusted Stock of Level 1 Assets}\\
= \textit{Post Haircut Stock of Level 1 Assets}\\
+ \textit{Post Haircut Adjustments to Stock of Level 1 Assets}
\end{aligned}$$

> **Note:**
>
> Adjustments relate to the cash received or paid, and the eligible level 1 assets posted or received as collaterals, or underlying assets as part of secured funding, secured lending and asset exchange transactions.

2. Adjusted Stock of Level 2A Assets
   The formula for calculating adjusted stock of level 2A assets is as follows:

$$\begin{aligned}
\textit{Adjusted Stock of Level 2A Assets}\\
= \textit{Post} - \textit{Haircut Level 2A Assets}\\
+ \textit{Post Haircut Adjustments to Stock of Level 2A Assets}
\end{aligned}$$

> **Note:**
>
> Adjustments relate to eligible level 2A assets posted or received as collaterals, or underlying assets as part of secured funding, secured lending and asset exchange transactions.

3. Adjusted Stock of Level 2B Assets
   The formula for calculating adjusted stock of level 2B assets is as follows:

$$\begin{aligned}
\textit{Adjusted Stock of Level 2B Assets}\\
= \textit{Post} - \textit{Haircut Stock of Level 2B Assets}\\
+ \textit{Post Haircut Adjustments to Stock of Level 2B Assets}
\end{aligned}$$

> **Note:**
>
> Adjustments relate to eligible level 2B assets posted or received as collaterals, or underlying assets as part of secured funding, secured lending and asset exchange transactions.

4. Adjusted Stock of Level 2B RMBS Assets
   The formula for calculating adjusted stock of level 2B RMBS assets is as follows:

$$\begin{aligned}
\textit{Adjusted Stock of Level 2B RMBS Assets}\\
= \textit{Post} - \textit{Haircut Stock of Level 2B RMBS Assets}\\
+ \textit{Post Haircut Adjustments to Stock of Level 2B RMBS Assets}
\end{aligned}$$

> **Note:**
>
> Adjustments relate to eligible level 2B RMBS assets posted or received as collateral or underlying assets as part of a secured funding transaction, secured lending transaction, asset exchanges, or collateralized derivatives transaction.

5. Adjusted Stock of Level 2B Non-RMBS I Assets
   The formula for calculating adjusted stock of level 2B non-RMBS I assets is as follows:

$$\begin{aligned} Adjusted\ Stock\ of\ Level\ 2B\ Non &- RMBS\ \ Assets \\ = Post &- Haircut\ Stock\ of\ Level\ 2B\ Non - RMBS\ Assets \\ + Post &\ Haircut\ Adjustments\ to\ Stock\ of\ Level\ 2B\ Non \\ &- RMBS\ Assets \end{aligned}$$

> **Note:**
>
> Adjustments relate to eligible level 2B Non-RMBS assets posted or received as collateral or underlying assets as part of a secured funding transaction, secured lending transaction, asset exchanges, or collateralized derivatives transaction.

6. Adjusted Stock of Level 2B Non-RMBS II Assets
   The formula for calculating adjusted stock of level 2B non-RMBS II assets are as follows:

$$\begin{aligned} Adjusted\ Stock\ of\ Level\ 2B\ Non &- RMBS\ Assets \\ = Post &- Haircut\ Stock\ of\ Level\ 2B\ Non - RMBS\ Assets \\ + Post &\ Haircut\ Adjustments\ to\ Stock\ of\ Level\ 2B\ Non \\ &- RMBS\ Assets \end{aligned}$$

> **Note:**
>
> Adjustments relate to eligible level 2B Non-RMBS assets posted or received as collateral or underlying assets as part of a secured funding transaction, secured lending transaction, asset exchanges, or collateralized derivatives transaction.

6.2.2.6 Calculation of Adjustments to Stock of HQLA Due to Cap on Level 2 Assets

- Adjustment Due to Cap on Level 2B Assets
  Level 2B assets can only constitute up to 15% of the stock of HQLA after taking into account the impact of unwinding transactions maturing within the LCR horizon. Adjustment to stock of HQLA due to cap on Level 2B assets i.e. adjustment for 15% cap is calculated as follows:

$$Adjustment\ due\ to\ Cap\ on\ Level\ 2B\ Assets$$
$$= Maximum\left[\left\{Adjusted\ Level\ 2B\ Assets\right.\right.$$
$$-\left(\frac{15}{85}\right.$$
$$\times\ (Adjusted\ Level\ 1\ Assets$$
$$\left.\left.+\ Adjusted\ Level\ 2A\ Assets)\right)\right\},\left\{Adjusted\ Level\ 2B\ Assets\right.$$
$$\left.\left.-\left(\frac{15}{60}\times Adjusted\ Level\ 1\ Assets\right)\right\},0\right]$$

- Adjustment Due to Cap on Level 2 Assets
  Level 2 assets can only constitute up to 40% of the stock of HQLA after taking into account the impact of unwinding transactions maturing within the LCR horizon. Adjustment to stock of HQLA due to cap on Level 2 assets i.e. adjustment for 40% cap is calculated as follows:

$$Adjustment\ due\ to\ Cap\ on\ Level\ 2\ Assets$$
$$= Maximum\left[\left\{Adjusted\ Level\ 2A\ Assets\right.\right.$$
$$+\ Adjusted\ Level\ 2B\ Assets$$
$$-\ Adjustment\ due\ to\ Cap\ on\ Level\ 2B\ Assets$$
$$\left.\left.-\left(\frac{2}{3}\times Adjusted\ Level\ 1\ Assets\right)\right\},0\right]$$

6.2.3 Classification of Operational Deposits

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

- They are held in specifically designated accounts that are held as operational accounts, by the customers at the bank.

- They are priced without giving economic incentive to the customer to leave excess funds in the account.

- They arise out clearing, custody or cash management relationship with the bank.

- They do not arise out of correspondent banking services or in the context of prime brokerage services.

- The termination of such agreements requires a minimum notice period of 30 days.

- If the agreement can be terminated within 30 days, the customer has to 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 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 is truly

required to meet operational needs of the customer. For details see Calculation of Operational Amount.

6.2.4 Insurance Allocation

Identification of 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:

1. Ownership Category
   OFS LRRCBNM allocates the insurance limit separately for each ownership category level. Ownership categories include single accounts, joint accounts, trust accounts and so on. As per Perbadanan Insurans Deposit Malaysia (PIDM), a separate limit is assigned to a depositor combination based on the ownership category of accounts and hence users are required to provide the ownership categories that get a separate limit. If a particular customer gets a single limit irrespective of whether the accounts are held as single, joint or a combination, the ownership category should have a single default value.

2. 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 accounts of a customer whose product types matches those that are covered by the deposit insurance. In case of Malaysia, PIDM covers all types of deposits such as current accounts, savings accounts and term deposits, which need to be provided as inputs.

3. Product Type Prioritization
   The sequence in which the insured amount is to be allocated to each product type is captured. For instance, the product prioritization may be specified as current account, savings account and term deposit. This indicates that the insured amount is allocated first to a current account held by the customer. After current accounts have been fully covered, the remaining amount is allocated to savings accounts and finally to term deposits.

   > **Note:**
   >
   > In case product type prioritization is not specified, the default allocation will be proportionate to the EOP balance of each account irrespective of the product type.

4. Currency Eligibility for Insurance
   This is a list of currencies in which the accounts are denominated that are eligible for insurance coverage under a deposit insurance scheme. Some jurisdictions cover foreign currency deposits under their deposit insurance schemes. If eligible currencies are specified for the purpose of insurance, then the insured balance is allocated to all accounts belonging to the particular legal entity which have the associated attributes required for assigning the insured balance. For instance, if Perbadanan Insurans Deposit Malaysia (PIDM) insures only Malaysian Ringgit denominated deposits. The eligible currency against PIDM insurance scheme should be provided as Malaysian Ringgit.

   The application includes insurance exemption criteria covering deposits of foreign sovereigns, central and state governments, and banks and so on. The deposits that are eligible for insurance under a particular insurance scheme are identified based on the inclusion and exclusion criteria as specified by the users.

6.2.4.1 Allocation of Deposit Insurance

As part of the BNM Run, the application allocates the deposit insurance to accounts based on the guidelines specified by the PIDM. 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 insurance limit, that is the maximum deposit balance covered by an insurance scheme per customer, is captured against each insurance scheme – ownership category combination. Customers having account in multiple legal entities get a separate deposit insurance limit per legal entity. In case of PIDM insurance scheme, the limit amount needs to be provided in Stage Insurance Scheme Master Table at the granularity of insurance scheme.

The insurance limit is allocated to accounts as per the procedure given below:

1. The application identifies the established relationship flag at a customer level.

2. The accounts are sorted by the specified product type prioritizations.

3. The insurance allocation is done based on the principal balance from the highest to the least, in the order of product type prioritization.

4. The insurance limit available, is allocated to account 1 to n – 1 as per the formula given below:

$$\textbf{Insured Amount} = \textbf{\textit{If}} \left[\{ (\textbf{\textit{Insurance Limit Available}} - \textbf{\textit{Outstanding Balance}}) \geq 0 \}; \textbf{\textit{Outstanding Balance else }} 0 \right]$$

Where,

Insurance Limit Available : Limit available post allocation to previous accounts

= Insurance Limit Available$_{x-1}$ – Insured Amount $x-1$

x : Number of accounts up to the current account to which insured amount is to be allocated

n : Total number of accounts of a customer which are eligible for insurance coverage under a given ownership category

The remaining available insurance is allocated to the last account i.e. account n for which insurance was not allocated.

5. If insurance limit is available after allocating to the principal balances, it is allocated to the accrued interest from the highest to the least in the order of Product Type prioritization.
An illustration of this procedure is provided below considering a insurance limit of 2,50000 Malaysian Ringgit for each depositor combination under each ownership category for each legal entity. The inputs to this calculation, including account details and customer details are provided below.

Table 6-1   Insurance allocation

Legal Entity	Account Number	Account Balance	Principal Balance	Accrued Interest	Account Holding Type	Primary Holder	Secondary Holder 1	Secondary Holder 2	Insurance Scheme	Availability of Joint Account Balance Split	Number of Account Holders	Principal Balance Per Customer	Accrued Interest Per Customer
Legal Entity 1	100002	100980	95931	5049	Single	Customer A			DPA		1		
Legal Entity 1	100003	124342	112602	11740	Single	Customer A			DPA		1		
Legal Entity 1	100004	80900	73619	7281	Joint	Customer A	Customer B		DPA	Yes	2		
Legal Entity 1	100005	55226	55226		Joint	Customer A	Customer B	Customer D	DPA	No	3	18408.67	0.00
Legal Entity 2	200002	127132	127132		Joint	Customer B	Customer C		DPA	No	2	63566.00	0.00
Legal Entity 2	200003	138828	124946	13882	Joint	Customer C	Customer B		DPA	Yes	2		
Legal Entity 2	200004	135429	135429		Joint	Customer B	Customer A	Customer C	DPA	No	3	45143.00	0.00
Legal Entity 3	300001	117603	95259	22344	Single	Customer B			FDIC		1		
Legal Entity 3	300002	124775	107121	17654	Single	Customer B			FDIC		1		
Legal Entity 3	300003	76065	76065		Single	Customer C			FDIC		1		
Legal Entity 3	300004	82622	82622		Joint	Customer A	Customer B		FDIC	No	2	41311.00	0.00
Legal Entity 3	300005	113340	113340		Joint	Customer B	Customer A		FDIC	No	2	56670.00	0.00
Legal Entity 1	100001	959967	959967		Single	Customer A			DPA		1		
Legal Entity 2	200001	713335	713335		Single	Customer A			DPA		1		

The application allocates the insurance limit of Malaysian Ringgit 10,000,000 to all eligible accounts as follows:

Table 6-2   Insurance Allocation for Customer A

Insurance Scheme	Legal Entity	Account Number	Account Type	Account Currency	Principal Balance	Accrued Interest	Available Insurance Limit	Insured Principal Balance	Available Insurance Limit - Interest	Insured Accrued Interest	Total Insured Amount	Uninsured Principal Balance	Uninsured Accrued Interest	Total Uninsured Amount
PIDM	Legal Entity 1	100001	Current Account	MYR	Y	Single	959967.00	0.00	250000.00	250000.00	64924.67	0.00	250000.00	709967.00
		100002	Savings Account	SGD	N	Single	95931.00	5049.00	250000.00	95931.00	24630.30	5049.00	100980.00	0.00
		100005	Current Account	MYR	Y	Joint	18408.67	0.00	83333.33	18408.67	64924.67	0.00	18408.67	0.00
		100004	Savings Account	MYR	N	Joint	47852.35	5096.70	162500.00	47852.35	29727.00	5096.70	52949.05	0.00
		100003	Term Deposit	MYR	N	Single	112602.00	11740.00	154069.00	112602.00	41467.00	11740.00	124342.00	0.00
	Legal Entity 2	200001	Current Account	MYR	Y	Single	713335.00	0.00	250,000	250000.00	0.00	0.00	250000.00	463335.00
		200004	Current Account	MYR	N	Joint	45143.00	0.00	83,333	45143.00	38190.33	0.00	45143.00	0.00
	Legal Entity 3	300004	Current Account	INR	N	Joint	41311.00	0.00	125,000	41311.00	83689.00	0.00	41311.00	0.00
		300005	Current Account	INR	N	Joint	56670.00	0.00	83,689	56670.00	27019.00	0.00	56670.00	0.00

Table 6-3   Insurance Allocation of Customer B

Insurance Scheme	Legal Entity	Account Number	Account Type	Account Currency	Principal Balance	Accrued Interest	Available Insurance Limit	Insured Principal Balance	Available Insurance Limit - Interest	Insured Accrued Interest	Total Insured Amount	Uninsured Principal Balance	Uninsured Accrued Interest	Total Uninsured Amount
PIDM	Legal Entity 1	100005	Current Account	MYR	Y	Joint	18408.67	0.00	83333.33	18408.67	64924.67	0.00	18408.67	0.00
		100004	Savings Account	MYR	N	Joint	25766.65	2184.30	87500.00	25766.65	61733.35	2184.30	27950.95	0.00
	Legal Entity 2	200002	Current Account	MYR	N	Joint	63566.00	0.00	87500.00	63566.00	0.00	0.00	63566.00	0.00
		200004	Current Account	MYR	N	Joint	45143.00	0.00	83333.33	45143.00	0.00	0.00	45143.00	0.00
		200003	Savings Account	MYR	N	Joint	24989.20	2776.40	23934.00	23934.00	0.00	0.00	23934.00	1055.20
	Legal Entity 3	300001	Term Deposit	MYR	N	Single	95259.00	22344.00	250000.00	95259.00	9365.00	9365.00	104624.00	0.00
		300002	Savings Account	MYR	N	Single	107121.00	17654.00	154741.00	107121.00	27019.00	17654.00	124775.00	0.00
		300004	Current Account	INR	N	Joint	41311.00	0.00	125000.00	41311.00	27019.00	0.00	41311.00	0.00
		300005	Current Account	INR	N	Joint	56670.00	0.00	83689.00	56670.00	27019.00	0.00	56670.00	0.00

Table 6-4   Insurance Allocation of Customer C

Insurance Scheme	Legal Entity	Account Number	Account Type	Account Currency	Principal Balance	Accrued Interest	Available Insurance Limit	Insured Principal Balance	Available Insurance Limit - Interest	Insured Accrued Interest	Total Insured Amount	Uninsured Principal Balance	Uninsured Accrued Interest	Total Uninsured Amount
PIDM	Legal Entity 2	200002	Current Account	THB	63566.00	0.00	100000	63566.00	780228.60	0.00	63566.00	0.00	0.00	0.00
		200003	Current Account	THB	45143.00	0.00	936434.00	45143.00	780228.60	0.00	45143.00	0.00	0.00	0.00
		200004	Savings Account	THB	99956.80	11105.60	891291.00	99956.80	791334.20	11105.60	111062.40	0.00	0.00	0.00
	Legal Entity 3	300003	Current Account	INR	N	Single	76065.00	0.00	250000.00	76065.00	173935.00	0.00	76065.00	0.00

Table 6-5   Insurance Allocation of Customer D

Insurance Scheme	Legal Entity	Account Number	Account Type	Account Currency	Principal Balance	Accrued Interest	Available Insurance Limit	Insured Principal Balance	Available Insurance Limit - Interest	Insured Accrued Interest	Total Insured Amount	Uninsured Principal Balance	Uninsured Accrued Interest	Total Uninsured Amount
PIDM	Legal Entity 1	100005	Current Account	MYR	Y	Joint	18408.67	0.00	83,333	18408.67	64924.67	0.00	18408.67	0.00

6.2.5 Identification of 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 that 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:

  – Depositor holds more than one account with the bank, of which at least one account should be of a typed 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 specified earlier are classified as less stable deposits: This includes:

   - 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.

6.2.6 Treatment of Lien Marked Deposits

A bank does lien marking of a deposit when the bank's own deposit(s) is placed as a security against a loan(s) 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 lien, such as loans, line of credit, guarantees and so on forming a many to many relationship.

The outflows for lien marked deposits which will not mature within the LCR horizon may be excluded from the 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

6.2.6.1 Identification of Lien Marked Deposits

Lien marked deposits are identified in the staging area against deposits by a flag called lien marked indicator. The mapping between deposits which are lien marked and lien against it is of many to much nature and is a download for the application.

6.2.6.2 Treatment of Lien Marked Deposits

When all the conditions mentioned in the guidelines are satisfied, the encumbered portion of lien marked deposits is excluded and hence receives a 0% factor. The unencumbered portion of the lien marked deposits is included and receives 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 stable amount, which is unencumbered.

- Unencumbered less stable balance: This measure populates the portion of 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 pre-seeded assumptions on lien marked deposits.

6.2.7 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 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 there are multiple collaterals 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 collateral-account level. This means that if there are multiple collaterals securing an account, the collateral level information is processed at the same account- collateral level without aggregating any data.

6.2.8 Calculation of 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 has to be paid to the party at the earliest and results in an 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:

- Contractually Due Collateral
- Contractually Receivable Collateral

6.2.8.1 In Case of Derivatives

This section describes the computation for value of collateral that a bank is required to post contractually to its derivative counterparty and collateral that a derivative counterparty is required to post contractually to the bank.

6.2.8.1.1 Calculation of Contractually Due Collateral

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

1. If Secured Indicator = No, then the contractually due collateral is 0. Else,

2. If Secured Indicator = Yes and CSA Type = One way then the contractually due collateral is 0. Else,

3. If Secured Indicator = Yes, CSA Type = Two way and Gross Exposure is >= 0, then the contractually due collateral is 0. Else,

4. If Secured Indicator = Yes, CSA Type = Two way and Gross Exposure is <0, the application computes the contractually due collateral as follows:

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

Where,

Threshold: 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.

6.2.8.1.2 Calculation of Contractually Receivable Collateral

The application computes the value of 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 for the purpose of reporting.

6.2.8.2 In case of Other Assets and Liabilities

This section describes the computation of Contractually Due and Contractually Receivable Collaterals.

6.2.8.2.1 Calculation of Contractually Due Collateral

1. If Balance Sheet Category = Asset, then the contractually due collateral is 0. Else,

2. If Balance Sheet Category = Liability, and Secured Indicator = N, then the contractually due collateral is 0. Else,

3. If Balance Sheet Category = Liability, and Secured Indicator = Y, then the application computes the contractually due collateral as follows:

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

6.2.8.2.2 Calculation of Contractually Receivable Collateral

1. If Balance Sheet Category = Liability, then the contractually due collateral is 0. Else,

2. If Balance Sheet Category = Asset, and Secured Indicator = N, then the contractually due collateral is 0. Else,

3. If Balance Sheet Category = Asset, and Secured Indicator = Y then the application computes the contractually due collateral as follows

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

6.2.9 Calculation of Excess Collateral

Excess collateral is the value of collateral posted or received that is in excess of 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 in excess of its exposure and results in an 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
• Excess Collateral Receivable

6.2.9.1 In Case of Derivatives

This section describes the calculation of excess collateral due and excess collateral receivable.

6.2.9.1.1 Calculation of Excess Collateral Due

The application computes the value of collateral that a derivative counterparty has posted to the bank, in excess of the contractually required collateral, and therefore can be withdrawn by the counterparty, as per the below procedure:

- If Secured Indicator = No, then the excess collateral due is 0. Else,

- If Secured Indicator = Y and Gross Exposure is <=0, the application computes the excess collateral due as follows:

$$
\begin{aligned}
Excess\ &Collateral\ Due \\
&= Min[Adjusted\ Collateral\ Received, Non \\
&- segregated\ Collateral\ Received]
\end{aligned}
$$

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

- If Secured Indicator = Y and Gross Exposure is >0, the application computes the excess collateral due as follows:

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

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.

6.2.9.1.2 Calculation of Excess Collateral Receivable

The application computes the value of collateral that the bank has posted to its derivative counterparty, in excess of the contractually required collateral, and therefore can be withdrawn by the bank, as per the below procedure:

1. If Secured Indicator = No, then the excess collateral receivable is 0. Else,

2. If Secured Indicator = Y and Gross Exposure is >=0, the application computes the excess collateral receivable as follows:

$$
\begin{aligned}
Excess\ &Collateral\ Receivable \\
&= Min[Adjusted\ Collateral\ Posted, Non \\
&- segregated\ Collateral\ Posted]
\end{aligned}
$$

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 = Y and Gross Exposure is <0, the application computes the excess collateral receivable as follows:

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

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 for the purpose of reporting.

6.2.9.2 In case of Other Assets and Liabilities

This section describes the calculation of excess collateral due and receivables.

6.2.9.2.1 Calculation of Excess Collateral Due

The application computes the value of collateral that a derivative counterparty has posted to the bank, in excess of the contractually required collateral, and therefore can be withdrawn by the counterparty, as per the below procedure:

1. If Secured Indicator = No, then the excess collateral due is 0. Else,

2. If Secured Indicator = Y and Gross Exposure is <=0, the application computes the excess collateral due as follows:

$$\textbf{\textit{Excess Collateral Due}} \\ = Min[Adjusted\ Collateral\ Received, Non \\ - segregated\ Collateral\ Received]$$

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 = Y and Gross Exposure is >0, the application computes the excess collateral due as follows:

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

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.

6.2.9.2.2 Calculation of Excess Collateral Receivable

1. If Balance Sheet Category = Asset, then the contractually due collateral is 0. Else,

2. If Balance Sheet Category = Liability, and Secured Indicator = N, then the contractually due collateral is 0. Else,

3. If Balance Sheet Category = Liability, and Secured Indicator = Y, then the application computes the contractually due collateral as follows:

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

6.2.10 Calculation of Downgrade Impact Amount

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

6.2.10.1 Calculation of Downgrade Impact Amount for Derivatives

The downgrade impact amount for derivatives is calculated as follows:

- If a downgrade trigger does not exist for the derivatives contract or netting agreement, the downgrade impact amount is 0. Else,

- If Net Exposure >0, the downgrade impact amount is 0. Else,

- If Net Exposure <=0, the downgrade impact amount is calculated as follows:

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

6.2.10.2 Calculation of Downgrade Impact Amount for Other Liabilities

In case of other liabilities, including annuities, that have an associated downgrade, the downgrade impact amount is calculated as follows:

1. If a downgrade trigger does not exist for the liability account, the downgrade impact amount is 0. Else,

2. The downgrade impact amount for liabilities other than derivatives and securitization 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 ratings 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 ratings downgrade and the outflow percentage as specified by the regulator are part of the pre-configured business assumptions for LCR calculations.

6.2.11 Calculation of Net Derivative Cash Inflows and Outflows

This section describes the cash flow netting at derivative and agreement contract levels.

6.2.11.1 Cash Flow Netting at Derivative Contract Level

Cash flows from each derivative contract are netted as follows:

1. If the cash inflows and outflows are denominated in the same currency and occur in 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. If the 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. If the 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 outflow.

   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.

6.2.11.2 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. In case of 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. In case of 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.

6.2.12 Calculation of Twenty Four Month Look-back Amount

The application computes the 24 month look-back amount, for the purpose of defining outflows due to increased liquidity needs related to market valuation changes on derivatives as per the procedure given below:

- 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:

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

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

2. 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

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

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

4. 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 (i) to (iv) are repeated for each rolling 30-day historical time window.

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

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

> **✎ Note:**
>
> a. This calculation is done for each legal entity separately.
>
> b. The largest 30-day absolute net collateral flow is computed in 30 day blocks on a rolling basis that is first 30-day block is As of Date to As of Date - 29; second 30-day block is As of Date - 1 to As of Date - 30 and so on.
>
> c. 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 each 24 month period.

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

Table 6-6   24-month look-back calculations

Rolling 30-Day Period	Day	Mark-To-Market Collateral Outflows Due To Derivative Transaction Valuation Changes (a)	Mark-To-Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Mark-To-Market Collateral Change (c = a – b)	Cumulative Net Mark-To-Market Collateral Change (d = Cumulative c)	Absolute Net Mark-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
	As of Date - 10	45	9	36	95	95
	As of Date - 11	9	32	-23	72	72

Table 6-6   (Cont.) 24-month look-back calculations

Rolling 30-Day Period	Day	Mark-To-Market Collateral Outflows Due To Derivative Transaction Valuation Changes (a)	Mark-To-Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Mark-To-Market Collateral Change (c = a − b)	Cumulative Net Mark-To-Market Collateral Change (d = Cumulative c)	Absolute Net Mark-To-Market Collateral Change [e = Abs (d)]
	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
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

Table 6-6   (Cont.) 24-month look-back calculations

Rolling 30-Day Period	Day	Mark-To-Market Collateral Outflows Due To Derivative Transaction Valuation Changes (a)	Mark-To-Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Mark-To-Market Collateral Change (c = a – b)	Cumulative Net Mark-To-Market Collateral Change (d = Cumulative c)	Absolute Net Mark-To-Market Collateral Change [e = Abs (d)]
	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
	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

Table 6-6   (Cont.) 24-month look-back calculations

Rolling 30-Day Period	Day	Mark-To-Market Collateral Outflows Due To Derivative Transaction Valuation Changes (a)	Mark-To-Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Mark-To-Market Collateral Change (c = a − b)	Cumulative Net Mark-To-Market Collateral Change (d = Cumulative c)	Absolute Net Mark-To-Market Collateral Change [e = Abs (d)]
	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
	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

Table 6-6   (Cont.) 24-month look-back calculations

Rolling 30-Day Period	Day	Mark-To-Market Collateral Outflows Due To Derivative Transaction Valuation Changes (a)	Mark-To-Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Mark-To-Market Collateral Change (c = a – b)	Cumulative Net Mark-To-Market Collateral Change (d = Cumulative c)	Absolute Net Mark-To-Market Collateral Change [e = Abs (d)]
	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
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

Table 6-6   (Cont.) 24-month look-back calculations

Rolling 30-Day Period	Day	Mark-To-Market Collateral Outflows Due To Derivative Transaction Valuation Changes (a)	Mark-To-Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Mark-To-Market Collateral Change (c = a − b)	Cumulative Net Mark-To-Market Collateral Change (d = Cumulative c)	Absolute Net Mark-To-Market Collateral Change [e = Abs (d)]
	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
	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

Table 6-6   (Cont.) 24-month look-back calculations

Rolling 30-Day Period	Day	Mark-To-Market Collateral Outflows Due To Derivative Transaction Valuation Changes (a)	Mark-To-Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Mark-To-Market Collateral Change (c = a – b)	Cumulative Net Mark-To-Market Collateral Change (d = Cumulative c)	Absolute Net Mark-To-Market Collateral Change [e = Abs (d)]
	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
	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

Table 6-6   (Cont.) 24-month look-back calculations

Rolling 30-Day Period	Day	Mark-To-Market Collateral Outflows Due To Derivative Transaction Valuation Changes (a)	Mark-To-Market Collateral Inflows Due To Derivative Transaction Valuation Changes (b)	Net Mark-To-Market Collateral Change (c = a – b)	Cumulative Net Mark-To-Market Collateral Change (d = Cumulative c)	Absolute Net Mark-To-Market Collateral Change [e = Abs (d)]
	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) are computed as follows:

Table 6-7   30-day absolute net collateral flow

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	

Table 6-7   (Cont.) 30-day absolute net collateral flow

Rolling 30-Day Period	Largest 30-Day Absolute Net Collateral Flow [f = Max (e)]	24 Month Look-back Value [Max (f)]
As of Date - 4 to As of Date - 33	140	

6.2.13 Calculation of Operational Amount

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

1. All deposits classified as operational as per regulatory guidelines are identified. This is a separate process in LRRCBNM.

2. The EOP balances of eligible operational accounts are obtained over a 90-day historical window including the As of Date i.e. As of Date – 89 days. To identify historical observations, the f_reporting_flag has to be updated as 'Y' for one execution of the Run per day in the Liquidity Risk Solution (LRS) Run Management Execution Summary user interface. 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, you can 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 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 i.e. 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 below 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 below.

Table 6-8   Operational deposit computation

Clients With Operational Accounts	Eligible Operational Accounts	Historical Time Window															As of Date
A	10001	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	
		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 6-9   Rolling averages and cumulative average

Clients with Operational Accounts	Eligible Operational Accounts	5-day Rolling Average 2/18/2017	Cumulative Average(a)	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 6-10   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	Unsured Balance	Insured Operational Balance	Unsured Operational Balance	Insured Non-Operational Balance	Unsured 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:**
>
> 1. Negative historical balances are replaced by zero for the purposes of this computation.
>
> 2. For operational accounts that have an account start date >= historical days including the "as of date", missing balances are replaced by previous available balance.
>
> 3. For operational accounts that have an account start date < historical days including the "as of date":
>
>   - Missing balances between account start date and "as of date" are replaced by previous available balance.
>
>   - Rolling average is calculated only for the period from account start date to the "as of date".
>
> 4. The methodology to compute operational balance is optional. This can be turned On or Off using the Set up 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.

6.2.14 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 to the group-wide consolidated LCR calculations and hence require to be treated appropriately. OFS LRS, in the LCR consolidation process, includes the restricted HQLA from a subsidiary in the consolidated stock of HQLA only to the extent of that subsidiary's liquidity needs i.e. its net cash outflow, in accordance with 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 > 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 own 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 > 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 own net cash outflows computed as part of step 1 less stock of restricted level 1 assets. 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 > 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 own 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 till the consolidation entity itself.

> **Note:**
>
> 1. The allocation of restricted assets is done in the descending order of asset quality in order to maximize the stock of HQLA.
>
> 2. This calculation is part of the LCR consolidation process. To get a complete view of the process, refer Consolidation, where the consolidation process is described.

6.2.15 Calculation of 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 provided below:

1. Calculation of 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 section Regulations Addressed through Business Assumptions are pre-defined 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. Calculation of 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 section Regulations Addressed through Business Assumptions are pre-defined 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 are summed up to obtain the total cash outflow. These include outflows from liabilities, derivatives outflows, outflows due to changes in financial conditions such as ratings downgrade and valuation changes and so on.

3. Calculation of Net Cash Outflow
The total net cash outflows is defined as the total expected cash outflows minus total expected cash inflows for the LCR horizon i.e 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, i.e. if an asset is included as part of the "stock of HQLA" (i.e. the numerator), the associated cash inflows cannot also be counted as cash inflows (i.e. part of the denominator). Where there is potential that an item could be counted in multiple outflow categories, (e.g. committed liquidity facilities granted to cover debt maturing within the 30 calendar day period), a bank only has to assume up to the maximum contractual outflow for that product.

> **Note:**
>
> The inflow and outflow rates as prescribed by BNM for the purpose of computing LCR are pre-defined 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 in order to view the stock of HQLA, net cash outflows and LCR across multiple scenarios.

6.2.16 Consolidation

The approach to consolidation as per LCR approach followed by OFS LRRCBNM is detailed below:

1. Identification and Treatment of Unconsolidated Subsidiary
The application assess 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 such a case, legal entity 4 is treated as a third party for the purpose of 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.

2. 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:

   a. In case of a 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 transaction between all the branches lying 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.

   b. In case of 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 till 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.

3. 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 in accordance with the LCR approach.

   For instance a bank's organization structure is as follows:
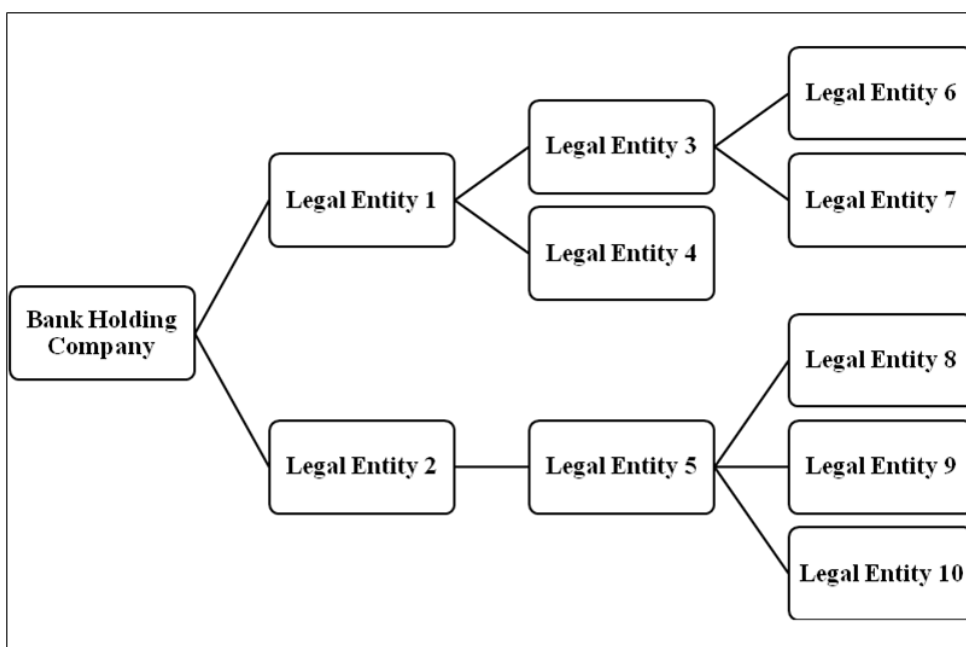
   In this case, at the first level of consolidation, calculation of net cash outflows and HQLA is done on a solo basis for legal entities 6, 7, 8, 9 and 10 as they do not have any subsidiaries. In case of regulated entities i.e. material entities, intercompany transactions are not eliminated; whereas in case of 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 point 2 above.

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

6.2.17 Calculation of Liquidity Coverage Ratio

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

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

6.2.17.1 Significant Currency Liquidity Coverage Ratio Calculation

Liquidity coverage ratio is also calculated for each legal entity at the level of each significant currency in order 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 BNM announcement as below, 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 solo and consolidated basis.

6.3 Pre-configured Regulatory LCR Scenario as per BNM

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

This section provides only the contextual information about all the business assumptions. For more detailed information refer OFS LRS application (UI).

For detailed Processes and Tasks, refer the Run Chart.

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

Table 6-11   Document Identifiers

Regulation Reference Number	Document Number	Document Name	Issued Date
BNMFAQ		Deposit InsuranceHandbook	
MC	BNM/RH/PD 029-13	Liquidity Coverage Ratio	25 Aug2016

The list of pre-configured business Rules and assumptions as well as the corresponding reference to the regulatory requirement that it addresses is provided in the tables listed in sections **Regulations Addressed through Business Assumptions** and **Regulations Addressed through Business Rules**.

The column Regulatory Reference for each rule or assumptions 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 above table.

6.3.1 Regulation Addressed through Business Rules

The application supports multiple pre-configured rules and scenarios based on BNM specified scenario parameters such as inflow rates, outflow rates, run-offs, haircuts and so on.

Table 6-12   Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - HQLA Level 1 - Cash and Central Bank Reserve	This rule reclassifies cash, central bank reserves as HQLA Level 1 assets in accordance with the criteria specified by BNM.	The classification of cash and central bank reserves as HQLA level 1 asset is configured as part of this rule.	Paragraph 10.1
LRM - BNM - HQLA Level 1 - Sovereign, CB , PSE and MDB Issued Zero Risk Weight Securities	This rule reclassifies zero risk weight securities issued by central banks, sovereigns, Public Sector Enterprises, International Organizations and multilateral development banks as HQLA Level 1 assets, in accordance with the criteria specified by BNM.	The classification of marketable zero risk weight securities, issued by foreign sovereigns, central banks and multinational development banks as HQLA Level 1 assets is configured as part of this rule.	Paragraph 10.1

Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - HQLA Level 1 - Sovereign, CB , PSE and MDB Guaranteed Zero Risk Weight Securities	This rule reclassifies zero risk weight securities guaranteed by central banks, sovereigns, Public Sector Enterprises, International Organizations and multilateral development banks as HQLA Level 1 assets, in accordance with the criteria specified by BNM.	The classification of marketable zero risk weight securities, guaranteed by foreign sovereigns, central banks and multinational development banks as HQLA Level 1 assets is configured as part of this rule.	Paragraph 10.1
LRM - BNM - HQLA Level 1 - Sec by Sovereign and CB with Non-Zero Risk Weight in Domestic Currencies	This rule reclassifies non-zero risk weight securities issued by sovereigns and central banks, denominated in their local currency as HQLA Level 1 assets, in accordance with the criteria specified by BNM.	The classification of marketable securities, issued by non-zero risk weight foreign sovereigns, central banks and multinational development banks, denominated in their local currency as HQLA Level 1 assets is configured as part of this rule.	Paragraph 10.1
LRM - BNM - HQLA Level 1 - Sec by Sovereign and CB with Non-Zero Risk Weight in Foreign Currency	This rule reclassifies non-zero risk weight securities issued by sovereigns and central banks, denominated in foreign currency as HQLA Level 1 assets, in accordance with the criteria specified by BNM.	The classification of marketable securities, issued by non-zero risk weight foreign sovereigns, central banks and multinational development banks, denominated in their foreign currency as HQLA Level 1 assets is configured as part of this rule.	Paragraph 10.1

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Table 6-12 (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - HQLA Level 1 - Restricted Committed Liquidity Facility	This rule reclassifies undrawn portion of committed facilities received from Central Bank of Malaysia under Restricted Committed Liquidity Facilities as HQLA Level 1 assets in accordance with the criteria specified by BNM.	The classification of the undrawn portion of committed facilities received from Central Bank of Malaysia under Restricted Committed Liquidity Facilities as HQLA Level 1 assets is configured as part of this rule.	Paragraph 10.1
LRM - BNM - 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 BNM.	The classification of marketable zero and non-zero risk weight securities either issued or guaranteed by foreign sovereigns, central banks and multinational development banks as HQLA Level 2A assets is configured as part of this rule.	Paragraph 10.1
LRM - BNM - HQLA Level 2A - Corporate Debt Securities	This rule reclassifies the corporate debt securities as HQLA Level 2A assets, in accordance with the criteria specified by BNM.	The classification of debt securities issued by corporates and covered bonds as HQLA Level 2A assets is configured as part of this rule.it also classifies	Paragraph 10.1

Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - HQLA Level 2A - Bankers Acceptance and Islamic Instruments	This rule reclassifies bankers acceptance, Cagamas Berhad debt securities, negotiable instruments of deposit and islamic negotiable instruments as HQLA level 2A assets in accordance with the criteria specified by BNM. This rule also reclassifies those securities that are guaranteed by sovereigns, multilateral development banks as HQLA Level 2A in accordance with the criteria specified by BNM.	The classification of debt securities issued by Cagmas Berhad as HQLA Level 2A assets is configured as part of this rule. It also classifies bankers acceptance, certificate of deposits, negotiable instruments of deposit and Islamic negotiable instruments as HQLA Level 2A assets as part of this rule.	Paragraphs 10.1, 10.2 and 10.3
LRM - BNM - HQLA Level 2B - Corporate Debt Securities and RMBS Securities	This rule reclassifies the corporate debt securities and residential mortgage-backed securities as HQLA level 2B RMBS and level 2B Non-RMBS assets in accordance with the criteria specified by BNM.	The classification of residential mortgage backed security, issued by Cagmas Berhad as HQLA level 2B RMBS assets is configured as part of this rule. It also classifies the debt securities including commercial papers, issued by non-financial corporates as HQLA level 2B Non-RMBS I and HQLA level 2B RMBS II as part of this rule.	Paragraph 10.1

Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - Bank Own Assets - Meets HQLA Operational Requirements Flag Update	This rule identifies whether bank's own assets, both unencumbered assets as well as those placed as collateral, meet the operational requirements prescribed by BNM guidelines, except for being unencumbered in the case of placed collateral. In 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 BNM for its inclusion in the stock of HQLA is configured as part of this rule.	Paragraphs 11 and 12
LRM - BNM - Mitigants - Meets HQLA Operational Requirements Flag Update	This rule identifies whether a mitigants meets the operational requirements prescribed by BNM guidelines, to be considered for inclusion in the stock of HQLA. It updates the Meets HQLA Operational Requirements Flag for such mitigants.	The identification of whether a collateral received from a counterparty, that is further placed as collateral, meets the operational requirements set forth by BNM on unwind is configured as part of this rule.	Paragraphs 11 and 12
LRM - BNM - Re-hypothecated Mitigants - Meets HQLA Operational Requirements Flag Update	This rule identifies whether a re-hypothecated mitigants meets the operational requirements prescribed by BNM guidelines, except for being unencumbered. It updates the Meets HQLA Operational Requirements on Unwind Flag for such mitigants.	The identification of whether the collateral received from counterparty meets the operational requirements set forth by BNM is configured as part of this rule.	Paragraphs 11 and 12

Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - Instruments - Eligible High Quality Liquid Assets Flag Update	This computation rule updates the HQLA Eligibility Flag for 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 Unwind flag for all assets placed as collateral that are classified as HQLA that fulfill the HQLA operational requirements on unwind and therefore are to be unwound.	The identification of whether a bank's asset classified as an HQLA, meets all the operational criteria and is therefore eligible to be included in the stock of HQLA is configured as part of this rule.	Paragraphs 11 and 12
LRM - BNM - 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 prescribed by BNM guidelines, and therefore can be included in the stock of HQLA.	The identification of whether the collateral received from counterparty, classified as an HQLA, meets all the operational criteria and is therefore eligible to be included in the stock of HQLA is configured as part of this rule.	Paragraphs 11 and 12

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Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - Level 1 Stock Adjustment - Deduction	This rule identifies all secured funding and asset exchange transactions involving HQLA that mature within the LCR horizon which are, therefore, required to be unwound and reclassifies them to the appropriate adjustment rule. In case of secured funding transactions, where the collateral posted is a non-level 1 HQLA, the type of adjustment to the stock of HQLA due to such an unwind is updated as deduction of the amount received. In case of asset exchange transactions, where the collateral posted is a non-level 1 HQLA and the collateral received in a level 1 HQLA the type of adjustment to the stock of HQLA due to such an unwind is updated as deduction of the collateral received.	The identification of secured funding and 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.	Paragraph 10.6

Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - Level 1 Stock Adjustment - Addition	This rule identifies all secured lending and asset exchange transactions involving HQLA that mature within the LCR horizon which are, therefore, required to be unwound and reclassifies them to the appropriate adjustment rule. In case of secured lending transactions, where the collateral received is a non-level 1 HQLA, the type of adjustment to the stock of HQLA due to such an unwind is updated as addition of the amount paid. In case of asset exchange transactions, where the collateral received is a non-level 1 HQLA and the collateral posted in a level 1 HQLA, the type of adjustment to the stock of HQLA due to such an unwind is updated as addition of the collateral posted.	The identification of secured lending and 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.	Paragraph 10.6

Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - Level 2A Stock Adjustment - Deduction	This rule identifies all secured lending and asset exchange transactions involving HQLA that mature within the LCR horizon which are, therefore, required to be unwound and reclassifies them to the appropriate adjustment rule. In case of secured lending transactions, where the collateral received is a level 2A HQLA, the type of adjustment to the stock of HQLA due to such an unwind is updated as deduction of the collateral received. In case of asset exchange transactions, where the collateral posted is an HQLA and the collateral received is a level 2A asset, the type of adjustment to the stock of HQLA due to such an unwind is updated as deduction of the collateral received.	The identification of secured lending and 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.	Paragraph 10.6

Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - Level 2A Stock Adjustment - Addition	This rule identifies all secured funding and asset exchange transactions involving HQLA that mature within the LCR horizon which are, therefore, required to be unwound and reclassifies them to the appropriate adjustment rule. In case of secured funding transactions, where the collateral posted is a level 2A HQLA, the type of adjustment to the stock of HQLA due to such an unwind is updated as addition of the collateral posted. In case of asset exchange transactions, where the collateral received is an HQLA and the collateral posted is a level 2A asset, the type of adjustment to the stock of HQLA due to such an unwind is updated as addition of the collateral posted.	The identification of secured funding and 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.	Paragraph 10.6

Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - Level 2B RMBS Stock Adjustment - Deduction	This rule identifies all secured lending and asset exchange transactions involving HQLA that mature within the LCR horizon which are, therefore, required to be unwound and reclassifies them to the appropriate adjustment rule. In case of secured lending transactions, where the collateral received is a level 2B RMBS HQLA, the type of adjustment to the stock of HQLA due to such an unwind is updated as deduction of the collateral received. In case of asset exchange transactions, where the collateral posted is an HQLA and the collateral received is a level 2B RMBS asset, the type of adjustment to the stock of HQLA due to such an unwind is updated as deduction of the collateral received.	The identification of secured lending and asset exchange transactions required to be unwound and the amount to be deducted from the stock of level 2B RMBS assets due to such an unwind is configured as part of this rule.	Paragraph 10.6

Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - Level 2B RMBS Stock Adjustment - Addition	This rule identifies all secured funding and asset exchange transactions involving HQLA that mature within the LCR horizon which are, therefore, required to be unwound and reclassifies them to the appropriate adjustment rule. In case of secured funding transactions, where the collateral posted is a level 2B RMBS HQLA, the type of adjustment to the stock of HQLA due to such an unwind is updated as addition of the collateral posted. In case of asset exchange transactions, where the collateral received is an HQLA and the collateral posted is a level 2B RMBS asset, the type of adjustment to the stock of HQLA due to such an unwind is updated as addition of the collateral posted.	The identification of secured funding and asset exchange transactions required to be unwound and the amount to be added to the stock of level 2B RMBS assets due to such an unwind is configured as part of this rule.	Paragraph 10.6

Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - Level 2B(I) Non-RMBS Stock Adjustment - Deduction	This rule identifies all secured lending and asset exchange transactions involving HQLA that mature within the LCR horizon which are, therefore, required to be unwound and reclassifies them to the appropriate adjustment rule. In case of secured lending transactions, where the collateral received is a level 2B I Non-RMBS HQLA, the type of adjustment to the stock of HQLA due to such an unwind is updated as deduction of the collateral received. In case of asset exchange transactions, where the collateral posted is an HQLA and the collateral received is a level 2B I Non-RMBS asset, the type of adjustment to the stock of HQLA due to such an unwind is updated as deduction of the collateral received.	The identification of secured lending and asset exchange transactions required to be unwound and the amount to be deducted from the stock of level 2B I Non-RMBS assets due to such an unwind is configured as part of this rule.	Paragraph 10.6

Table 6-12 (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - Level 2B(I) Non-RMBS Stock Adjustment - Addition	This rule identifies all secured funding and asset exchange transactions involving HQLA that mature within the LCR horizon which are, therefore, required to be unwound and reclassifies them to the appropriate adjustment rule. In case of secured funding transactions, where the collateral posted is a level 2B I Non-RMBS HQLA, the type of adjustment to the stock of HQLA due to such an unwind is updated as addition of the collateral posted. In case of asset exchange transactions, where the collateral received is an HQLA and the collateral posted is a level 2B I Non-RMBS asset, the type of adjustment to the stock of HQLA due to such an unwind is updated as addition of the collateral posted.	The identification of secured funding and asset exchange transactions required to be unwound and the amount to be added to the stock of level 2B I Non-RMBS assets due to such an unwind is configured as part of this rule.	Paragraph 10.6

Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - Level 2B(II) Non-RMBS Stock Adjustment - Deduction	This rule identifies all secured lending and asset exchange transactions involving HQLA that mature within the LCR horizon which are, therefore, required to be unwound and reclassifies them to the appropriate adjustment rule. In case of secured lending transactions, where the collateral received is a level 2B II Non-RMBS HQLA, the type of adjustment to the stock of HQLA due to such an unwind is updated as deduction of the collateral received. In case of asset exchange transactions, where the collateral posted is an HQLA and the collateral received is a level 2B II Non-RMBS asset, the type of adjustment to the stock of HQLA due to such an unwind is updated as deduction of the collateral received.	The identification of secured lending and asset exchange transactions required to be unwound and the amount to be deducted from the stock of 2B II Non-RMBS assets due to such an unwind is configured as part of this rule.	Paragraph 10.6

Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - Level 2B(II) Non-RMBS Stock Adjustment - Addition	This rule identifies all secured funding and asset exchange transactions involving HQLA that mature within the LCR horizon which are, therefore, required to be unwound and reclassifies them to the appropriate adjustment rule. In case of secured funding transactions, where the collateral posted is a level 2B II Non-RMBS HQLA, the type of adjustment to the stock of HQLA due to such an unwind is updated as addition of the collateral posted. In case of asset exchange transactions, where the collateral received is an HQLA and the collateral posted is a level 2B II Non-RMBS asset, the type of adjustment to the stock of HQLA due to such an unwind is updated as addition of the collateral posted.	The identification of secured funding and asset exchange transactions required to be unwound and the amount to be added to the stock of 2B II Non-RMBS assets due to such an unwind is configured as part of this rule.	Paragraph 10.6
LRM - BNM - HQLA Level 1 - Cash and Central Bank Reserve	This rule reclassifies cash, central bank reserves as HQLA Level 1 assets in accordance with the criteria specified by BNM.	The classification of cash and central bank reserves as HQLA level 1 asset is configured as part of this rule.	Paragraph 10.1

Table 6-12   (Cont.) Pre-configured rules and scenarios based on BNM specified scenario

Rule Name	Rule Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
LRM - BNM - HQLA Level 1 - Sovereign, CB , PSE and MDB Issued Zero Risk Weight Securities	This rule reclassifies zero risk weight securities issued by central banks, sovereigns, Public Sector Enterprises, International Organizations and multilateral development banks as HQLA Level 1 assets, in accordance with the criteria specified by BNM.	The classification of marketable zero risk weight securities, issued by foreign sovereigns, central banks and multinational development banks as HQLA Level 1 assets is configured as part of this rule.	Paragraph 10.1
LRM - BNM - HQLA Level 1 - Sovereign, CB , PSE and MDB Guaranteed Zero Risk Weight Securities	This rule reclassifies zero risk weight securities guaranteed by central banks, sovereigns, Public Sector Enterprises, International Organizations and multilateral development banks as HQLA Level 1 assets, in accordance with the criteria specified by BNM.	The classification of marketable zero risk weight securities, guaranteed by foreign sovereigns, central banks and multinational development banks as HQLA Level 1 assets is configured as part of this rule.	Paragraph 10.1
LRM - BNM - HQLA Level 1 - Sec by Sovereign and CB with Non-Zero Risk Weight in Domestic Currencies	This rule reclassifies non-zero risk weight securities issued by sovereigns and central banks, denominated in their local currency as HQLA Level 1 assets, in accordance with the criteria specified by BNM.	The classification of marketable securities, issued by non-zero risk weight foreign sovereigns, central banks and multinational development banks, denominated in their local currency as HQLA Level 1 assets is configured as part of this rule.	Paragraph 10.1

6.3.2 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 6-13   Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
Outflows				
1	BNM-Non-operational stable retail deposits	Run-offs on the stable portion of non-operational deposits from retail customers and unsecured wholesale funding from SMEs treated as retail.	The outflow rate on the stable portion of non-operational deposits, from retail customers and SMEs treated as retail customers, for the purpose of LCR, is pre-defined as part of this assumption. This assumption applies a 5% run-off on the stable portion of retail deposits, that are either not encumbered or encumbrance period is less than LCR horizon, which either mature or result in an early withdrawal, without incurring significant penalty, within the LCR horizon.	Paragraphs 14.1 to 14.3, 14.8, 15.17 to 15.18

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
2	BNM-Non-operational less stable retail deposits	Run-offs on the less stable portion of non-operational deposits from retail customers and unsecured wholesale funding from SMEs treated as retail.	The outflow rate on the less stable portion of non-operational deposits, from retail customers and SMEs treated as retail customers, for the purpose of LCR, is pre-defined as part of this assumption. This assumption applies a 10% run-off on the less stable portion of retail deposits, that are either not encumbered or encumbrance period is less than LCR horizon, which either mature or result in an early withdrawal, without incurring significant penalty, within the LCR horizon.	Paragraphs 14.1 to 14.2, 14.7, 14.8, 15.17 to 15.18

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
3	BNM-Non-op less stable retail deposit within 30 day	Run-offs on the less stable portion of non-operational deposits, maturing within 30 days from retail customers and unsecured wholesale funding from SMEs treated as retail.	The outflow rate on the less stable portion of non-operational deposits, from retail customers and SMEs treated as retail customers, for the purpose of LCR, is pre-defined as part of this assumption. This assumption applies a 10% run-off on the less stable portion of retail deposits, that are either not encumbered or encumbrance period is less than LCR horizon, which either mature or result in an early withdrawal, without incurring significant penalty, within the LCR horizon.	Paragraphs 14.1 to 14.2, 14.7, 14.8, 15.17 to 15.18
4	BNM-Insured Operational deposits	Run-off on the portion of operational balance, from deposits generated by clearing, custody and cash management activities, that is fully covered by deposit insurance.	The outflow rate on the insured portion of the balance held in operational accounts, with other financial institutions, for clearing, custody and cash management are pre-defined as part of this assumption. This assumption applies a 5% run-off on insured operational balances that are covered by deposit insurance.	Paragraph 15.6

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
5	BNM-Uninsured Operational deposits	Run-off on the portion of operational balance, from deposits generated by clearing, custody and cash management activities, that is not covered by deposit insurance.	The outflow rate on the uninsured portion of the balance held in operational accounts, with other financial institutions, for clearing, custody and cash management are pre-defined as part of this assumption. This assumption applies a 25% run-off on uninsured operational balances that are not covered by deposit insurance.	Paragraph 15.6
6	BNM-Outflows on non-operational part of operational account	Outflows on the non-operational portion of an operational deposit, provided by corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB.	The outflow rate on the non-operational portion of the balance held in operational accounts, with other financial institutions, for clearing, custody and cash management are pre-defined as part of this assumption. This assumption applies a 20% run-off on non-operational balances that are fully covered under deposit insurance and 40% run-off on accounts that are not fully covered under deposit insurance.	Paragraphs 15.12 to 15.13, 15.19, 15.20

Table 6-13 (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
7	BNM-Unsecured fully insured non-operational funding	Run-off on the portion of non-operational balance, from deposits generated by clearing, custody and cash management activities, that is fully covered by deposit insurance.	The outflow rate on the unsecured fully insured non-operational funding, received from non-financial corporates, sovereigns, central banks, multilateral development banks and PSEs, are pre-defined as part of this assumption. This assumption applies a 20% run-off on these balances.	Paragraphs 15.3, 15.20
8	BNM-Unsecured non-operational funding	Outflows on funding provided by corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB, that is not fully insured	The outflow rate on the unsecured non-operational funding that is not fully covered under deposit insurance, received from non-financial corporates, sovereigns, central banks, multilateral development banks and PSEs, are pre-defined as part of this assumption. This assumption applies a 40% run-off on these balances.	Paragraphs 15.3, 15.19

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
9	BNM-UWF from Non qualifying Borrowings and Annuity Contracts	Outflows on non-qualified term funding from annuity contracts and borrowings from central bank, sovereign, local government, PSE, state enterprise and MDB.	The outflow rate on the non-qualified borrowings and annuity contracts, received from non-financial corporates, sovereigns, central banks, multilateral development banks and PSEs, are pre-defined as part of this assumption. This assumption applies a 40% run-off on these balances.	Paragraphs 15.3, 15.19, 15.21
10	BNM-UWF from qualified Borrowings and Annuity Contract	Outflows on qualified term funding from annuity contracts and borrowings from central bank, sovereign, local government, PSE, state enterprise and MDB.	The outflow rate on the qualified borrowings and annuity contracts, received from non-financial corporates, sovereigns, central banks, multilateral development banks and PSEs, are pre-defined as part of this assumption. This assumption applies a 40% run-off rate on these balances in the form of 60% rollover rate.	Paragraphs 15.3, 15.19, 15.21

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
11	BNM-Unsecured part of secured non-op funding from Sov	Outflows on the unsecured portion of secured funding, provided by sovereigns, local governments or state enterprises, which are not classified as an operational deposit.	The run-off rates on the unsecured portion of secured funding, that is not classified as an operational deposit, received from sovereigns, local governments or state enterprises, are pre-defined as part of this assumption. This assumption applies a 20% run-off on unsecured balance from non-operational secured deposits that are fully covered by deposit insurance.	Paragraphs 15.9, 15.3, 15.20
12	BNM-Unsec part of Sec Non qualifying Borrowings and Annuity	Outflows on the unsecured non-qualifying portion of qualified secured borrowings and annuity contracts, provided by central bank, sovereign, local government, PSE, state enterprise and MDB.	The outflow rate on the unsecured portion of secured non-qualified borrowings and annuity contracts, received from non-financial corporates, sovereigns, central banks, multilateral development banks and PSEs, are pre-defined as part of this assumption. This assumption applies a 40% run-off rate on these balances.	Paragraphs 15.3, 15.19, 15.21

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
13	BNM-Outflows on non-op part of operational dep from other LE	Run-off on the portion of non-operational balance, from deposits generated by clearing, custody and cash management activities from entities other than corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB.	The outflow rate on the non-operational portion of the balance held in operational accounts, received from entities other than corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances	Paragraphs 15.12 to 15.13, 15.22
14	BNM-Non-op part of unsecured Operational deposits	Outflows on the non-operational balance of unsecured deposits generated by clearing, custody and cash management activities.	The outflow rate on the non-operational portion of the unsecured balance held in operational accounts, with other financial institutions, for clearing, custody and cash management are pre-defined as part of this assumption are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances	Paragraphs 15.12 to 15.13, 15.22

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
15	BNM-Outflows on Unsec CASA deposits from other LE	Outflows on the CASA deposits, provided by entities other than clearing, custody and cash management activities from entities other than corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB, that are not classified as operational deposits.	The outflow rate on the funding from CASA deposits, provided by entities other than clearing, custody and cash management activities, received from entities other than corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances	Paragraph 15.19
16	BNM-Outflows on Unsec CASA deposits	Outflows on the unsecured CASA deposits.	The outflow rate on the funding from unsecured CASA deposits, provided by entities other than clearing, custody and cash management activities are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances	Paragraph 15.19

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
17	BNM-Unsec non-op dep from other LE with non-qualifying Amt	Outflows on the non-qualifying portion of unsecured qualifying term deposits from entities other than central bank, corporates, SMEs, sovereign, local government, PSE, state enterprise and MDB, which are not classified as operational deposits.	The outflow rate on the funding from non-qualifying portion of unsecured qualifying term deposit, relieved from entities other than corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances	Paragraphs 15.3, 15.22
18	BNM-Unsec non-op dep with non-qualifying Amt	Outflows on the non-qualifying portion of unsecured qualifying term deposits, which are not classified as operational deposits.	The outflow rate on the funding from non-qualifying portion of unsecured qualifying term deposit, received from wholesale counterparties are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances	Paragraphs 15.3, 15.22

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
19	BNM-Unsec dep from other LE with qualifying Amt	Outflows on the qualifying portion of unsecured qualifying term deposits from entities other than central bank, corporates, SMEs, sovereign, local government, PSE, state enterprise and MDB.	The outflow rate on the funding from qualifying portion of unsecured qualifying term deposit, received from entities other than corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB are pre-defined as part of this assumption. This assumption applies a 0% run-off on these balances	Paragraphs 15.3, 15.22
20	BNM-Unsec funding from Term and Certificate of deposit	Outflows on the qualifying portion of unsecured qualifying term deposits and certificate of deposit.	The outflow rate on the funding from qualifying portion of unsecured qualifying term deposits and certificate of deposit, received from wholesale counterparties are pre-defined as part of this assumption. This assumption applies a 0% run-off on these balances	Paragraphs 15.3, 15.22
21	BNM-Other LE Unsec Funding from Non qualifying Borrowings	Outflows on the non-qualifying borrowings, provided by entities other than central bank, corporates, SMEs, sovereign, local government, PSE, state enterprise and MDB.	The outflow rate on the funding from non-qualifying borrowings, received from entities other than corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances	Paragraphs 15.3, 15.22

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
22	BNM-Outflows from Unsec Borrowings and Annuity Contracts	Outflows on the unsecured non-qualifying borrowings and annuity contracts.	The outflow rate on the funding from borrowings and annuity contracts, received from wholesale counterparties are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances	Paragraphs 15.3, 15.22
23	BNM-Outflows from Unsec cash flows from other LE	Outflows on the unsecured cash flows of qualifying borrowings and annuity contracts, provided by entities other than central bank, corporates, SMEs, sovereign, local government, PSE, state enterprise and MDB.	The outflow rate on the funding from unsecured cash flows of qualifying borrowings and annuity contracts, received from entities other than central bank, corporates, SMEs, sovereign, local government, PSE, state enterprise and MDB are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances in form of 0% rollover rate.	Paragraphs 15.3, 15.22
24	BNM-Outflows from Unsec qualified borrowings	Outflows on the unsecured cash flows of qualified borrowings and annuity contracts.	The outflow rate on the funding from unsecured cash flows of qualifying borrowings and annuity contracts, received from wholesale counterparties are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances.	Paragraphs 15.3, 15.22

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
25	BNM-Unsec part of sec non-qualified funding from other LE	Outflows on the unsecured portion of secured non-qualifying term funding from entities other than central bank, corporates, SMEs, sovereign, local government, PSE, state enterprise and MDB.	The outflow rate on the funding from unsecured portion of secured non-qualifying borrowings and annuity contracts, received from entities other than central bank, corporates, SMEs, sovereign, local government, PSE, state enterprise and MDB are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances.	Paragraphs 15.3, 15.22
26	BNM-Unsec part of sec non-qualified funding	Outflows on the unsecured portion of secured non-qualifying term funding.	The outflow rate on the funding from unsecured portion of secured non-qualifying borrowings and annuity contracts, received from wholesale counterparties are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances.	Paragraphs 15.3, 15.22

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
27	BNM-Unsec part of sec qualified funding from other LE	Outflows on the unsecured portion of secured qualifying term funding from entities other than central bank, corporates, SMEs, sovereign, local government, PSE, state enterprise and MDB.	The outflow rate on the funding from unsecured portion of secured qualifying borrowings and annuity contracts, received from entities other than central bank, corporates, SMEs, sovereign, local government, PSE, state enterprise and MDB are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances in form of 0% rollover rate.	Paragraphs 15.3, 15.22
28	BNM-Outflows on Non-op unsecured funding	Outflows on unsecured funding that are not classified as operational deposits.	The outflow rate on the unsecured funding from debt securities and sukkuks, which are not classified as operational deposits are pre-defined as part of this assumption. This assumption applies a 0% run off on the qualified funding from debt securities and sukkuks. It also applies run off of 10% and 100% for non-qualified securities issued exclusively to retail counterparties and those issued to counterparties other than retail respectively.	Paragraphs 15.3, 15.24 to 15.25

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
29	BNM-Unsec part of Sec cash flows from qualifying funding	Outflows on the unsecured cash flows of qualified secured borrowings and annuity contracts, provided by central bank, sovereign, local government, PSE, state enterprise and MDB.	The outflow rate on the funding from unsecured portion of cash flows of qualified secured borrowings and annuity contracts, received from central bank, corporates, SMEs, sovereign, local government, PSE, state enterprise and MDB are pre-defined as part of this assumption. This assumption applies a 40% run-off on these balances in form of 60% rollover rate.	Paragraphs 15.3, 15.19, 15.21
30	BNM-Non-Qualifying Unsecured part of secured non-op funding	Outflows on the unsecured non-qualifying portion of qualified secured term funding, provided by sovereigns, that is not classified as an operational deposit.	The run-off rates on the funding from unsecured non-qualifying portion of qualified secured term funding, that is not classified as an operational deposit, received from sovereigns, local governments or state enterprises, are pre-defined as part of this assumption. This assumption applies a 20% run-off on unsecured balance from non-operational secured deposits that are fully covered by deposit insurance.	Paragraphs 15.3, 15.20

Table 6-13　(Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
31	BNM-Unsecured Non Op Funding with qualifying Amt	Outflows on the qualified portion of qualifying term deposit, provided by corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB, that is not classified as an operational deposit.	The run-off rates on the funding from unsecured qualified portion of qualifying term deposit, that is not classified as an operational deposit, received from sovereigns, local governments or state enterprises, are pre-defined as part of this assumption. This assumption applies a 0% run-off on unsecured balance from non-operational secured deposits that are fully covered by deposit insurance.	Paragraphs 15.3, 15.19
32	BNM-Non Op Unsec Wholesale Funding with Non qualifying Amt	Outflows on the non-qualifying portion of qualifying term deposit, provided by corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB, that is not classified as an operational deposit.	The outflow rate on the non-qualifying portion of qualifying term deposit, that are not classified as operational deposits, received from corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB, pre-defined as part of this assumption. This assumption applies a 20% run-off on non-operational balances that are fully covered under deposit insurance and 40% run-off on accounts that are not fully covered under deposit insurance.	Paragraphs 15.3, 15.19, 15.20

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
33	BNM-Secured Funding -Security Lending and Collateral Swaps	Outflows on collateral swap transactions and security lending from entities such as central banks, sovereigns, local governments, PSEs, state enterprises and MDBs.	The run-off rates on the secured funding, including collateral swaps, from all counterparties, are pre-defined as part of this assumption. This assumption applies the regulatory run-offs applicable to each counterparty type.	Paragraphs 16.1 to 16.3
34	BNM-Secured funding outflows based on secured balance	Outflows on repurchase agreement and security lending from entities such as central banks, sovereigns, local governments, PSEs, state enterprises and MDBs.	The outflow rates on the repurchase agreement and security lending, received from central bank, sovereign, local government, PSE, state enterprise, MDB, are pre-defined as part of this assumption. This assumption applies the regulatory run-off rates applicable to each counterparty type on secured balance.	Paragraphs 16.1 to 16.3
35	BNM-Additional Collateral Required Due to Ratings Downgrade	Increased liquidity needs arising from the requirement to post additional collateral due to a 3-notch ratings downgrade.	The outflow rate, on the additional collateral required to be posted on contracts with downgrade triggers, due to a 3-notch ratings downgrade, is pre-defined as part of this assumption. This assumption applies a 100% outflow on the downgrade impact amount arising from a 3-notch ratings downgrade.	Paragraph 17.7

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
36	BNM-Loss of Re-hypothecation Rights 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 ratings downgrade.	The outflow rate, on the additional cash outflows arising on contracts with downgrade triggers, which result in a loss of re-hypothecation rights due to a 3-notch ratings downgrade, is pre-defined 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.	Paragraph 17.7
37	BNM-Increased Liquidity Needs Due to Change in Coll Val	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 asset posted as collateral is pre-defined 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.	Paragraph 17.5

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
389	BNM-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 pre-defined as part of this assumption. This assumption applies a 100% outflow on the value of excess collateral.	Paragraph 17.9
39	BNM-Increased Liquidity Needs from Contractually Due Coll	Increased liquidity needs arising from 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 pre-defined as part of this assumption. This assumption applies a 100% outflow on the value of contractually due collateral.	Paragraph 17.6
40	BNM-Increased Liquidity Needs Due to Market Valuation Change	Increased liquidity needs arising from market valuation changes on derivatives and other transactions.	The outflow rate on the collateral outflows occurring due market valuation changes on derivative and other transactions is pre-defined 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.	Paragraph 17.5

Table 6-13 (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
41	BNM-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 pre-defined 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. It also applied 100% run-off on the EOP balance of the structured financing facilities that mature beyond the LCR horizon but have redemption notice period of 30 days or less.	Paragraph 18

Table 6-13 (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
42	BNM-Loss of Funding from Financing Facility, Return of Asset	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 pre-defined 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. It also applies a 100% run-off on the value of the assets that are returnable beyond the LCR horizon but have redemption notice period of 30 days or less	Paragraph 18
43	BNM-Loss of Funding from Financing Facility Liquidity 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 pre-defined 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.	Paragraph 18

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
44	BNM-Draws on Committed Facilities Extended to Banks	Drawdowns on committed credit and liquidity facilities extended to banks.	The outflow rate on the undrawn amount available to be drawn down on the committed credit and liquidity facilities extended to banks is pre-defined as part of this assumption. This assumption applies the relevant outflow as a drawdown rate.	Paragraphs 19.1 to 19.6
45	BNM-Drawdowns on Committed Credit and Liquidity Facilities	Drawdowns on the cash flows occurring on the loan that has been approved but not yet disbursed, within the LCR horizon.	The outflow rate on the cash flows occurring on the loan that has been approved but not yet disbursed, within the LCR horizon is pre-defined as part of this assumption. This assumption applies a 100% outflow rate as a drawdown rate.	Paragraphs 19.1 to 19.6
46	BNM-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 other legal entities is pre-defined as part of this assumption. This assumption applies the relevant outflow as a drawdown rate.	Paragraphs 19.1 to 19.6

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
47	BNM-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 pre-defined 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.	Paragraphs 21.1
48	BNM-Other Contingent Funding Obligation Outflows	Outflows related to trade and non-trade finance related instruments.	The outflow rate on the trade and non-trade finance related instruments is pre-defined as part of this assumption. This assumption applies a 0.5% run-off on such trade finance obligations.	Paragraphs 21.1

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
49	BNM-Other Contractual Obligations to Non-Financial Customers	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 pre-defined as part of this assumption. This assumption applies a 100% outflow on the excess contractual obligation amount.	Paragraph 20.1 (ii)
50	BNM-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 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 pre-defined as part of this assumption. This assumption applies a 100% outflow on the excess contractual obligation amount.	Paragraph 20.1 (i)

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
51	BNM-Contractual Interest Payment Outflows	Outflows related to contractual payments of interest.	The outflow rate on the interest payments contractually due within the LCR horizon is pre-defined as part of this assumption. This assumption applies a 100% outflow on interest in the form of a 0% rollover rate.	Paragraph 20.2
52	BNM-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 pre-defined as part of this assumption. This assumption applies a 0% outflow rate on the non-contractual obligations. The outflow rate is allowed to be updated to reflect the rates specified by national regulators.	Paragraph 21.1
53	BNM-Outflows Related to Short Positions	Outflows related to customer and bank short positions.	The outflow rate on the customer and firm short positions is pre-defined as part of this assumption. This assumption specifies outflows on the short positions based on assets covering such short positions.	Paragraph 21.1

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
54	BNM-Derivative cash outflows	Net cash outflows from derivative transactions.	The inflow rate on the 30-day cash inflows from derivative transactions is pre-defined 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.	Paragraph 17.1
55	BNM-Non-qualifying retail stable deposits	Run offs on the Non-qualifying stable portion of qualifying term deposits from customers treated as retail.	The run-off rates on the Non-qualifying stable portion of qualifying term deposits from retail customers and SMEs who are treated like retail customers for the purposes of LCR are pre-defined as part of this assumption. This assumption applies a 5% run-off on the stable portion of retail deposits.	Paragraphs 14.1 to 14.3, 14.8, 15.17 to 15.18

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
56	BNM-Non-qualifying retail less stable deposits	Run offs on the Non-qualifying less stable portion of qualifying term deposits from customers treated as retail.	The run-off rates on the Non-qualifying less stable portion of qualifying term deposits from retail customers and SMEs who are treated like retail customers for the purposes of LCR are pre-defined as part of this assumption. This assumption applies a 10% run-off on the less stable portion of retail deposits.	Paragraphs 14.1 to 14.2, 14.7, 14.8, 15.17 to 15.18
57	BNM-Qualifying retail deposits	Run offs on the qualifying portion of qualifying term deposits from customers treated as retail.	The run-off rates on the qualifying portion of qualifying term deposits from retail customers and SMEs who are treated like retail customers for the purposes of LCR are pre-defined as part of this assumption. This assumption applies a 0% run-off on these balances.	Paragraph 14.8, 15.17 to 15.18

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
58	BNM-Secured funding outflows from other entities	Outflows on security lending from entities other than corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB	The outflow rates on secured funding, excluding collateral swaps from entities other than central bank, sovereign, local government, PSE, state enterprise, MDB, are pre-defined as part of this assumption. This assumption applies the regulatory run-off rates applicable to each counterparty type on market value of received collateral.	Paragraphs 16.1 to 16.3
59	BNM-Secured balance outflows from other entities	Outflows on repurchase agreements and security lending from entities other than corporates, SMEs, sovereign, central bank, local government, state enterprise or MDB.	The outflow rates on the repurchase agreement and security lending from entities other than central bank, sovereign, local government, PSE, state enterprise, MDB, are pre-defined as part of this assumption. This assumption applies the regulatory run-off rates applicable to each counterparty type on secured balance.	Paragraphs 16.1 to 16.3

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
60	BNM-Drawdowns on Committed Funding Facilities	Drawdowns on committed facilities received by the bank.	The inflow rate on the undrawn amount available to be drawn down, on the committed credit and liquidity facilities received by the bank, is pre-defined as part of this assumption. This assumption applies a 0% inflow rate on the credit and liquidity lines received by the bank.	Paragraph 21.1
61	BNM-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 pre-defined as part of this assumption. This assumption applies a 100% run-off on structured financing instruments that mature within the LCR horizon.	Paragraph 18.1

Table 6-13 (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
62	BNM-Increased Liquidity Needs Due to Substitutable Collateral	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 pre-defined 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.	Paragraph 17.10
63	BNM-Other Contingent Funding Obligations with DS issued	Outflows related to debt securities issued by bank having maturity greater than 30 days.	The run-off rate on the debt securities issued where the bank is the dealer or market maker, with remaining maturity greater than 30 days are pre-defined as part of this assumption. This assumption applies a 10% run-off on the market value of the debt security.	Paragraph 21.1
64	BNM - Contractual Dividend Payment Outflows	Outflows related to contractual payments of dividends.	The outflow rate on the dividends payable within the LCR horizon is pre-defined as part of this assumption. This assumption applies a 100% outflow on dividends payable.	Paragraph 20.2

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
65	BNM-Secured funding outflows based on secured cash flow	Outflows on annuity contracts, borrowings and deposits from central bank, sovereign, local government, PSE, state enterprise and MDB.	The outflow rates on secured funding, excluding repos, security lending transactions, derivatives, issued securities and credit/liquidity facilities, received from central bank, sovereign, local government, PSE, state enterprise, MDB, are pre-defined as part of this assumption. This assumption applies the regulatory run-off rates applicable to each counterparty type in the form of rollover rates i.e. 1 – run-off rates on secured cash flows.	Paragraphs 16.1 to 16.3
66	BNM- Secured cash flow from other entities	Outflows on annuity contracts, borrowings and deposits from entities other than central bank, SMEs, corporates, sovereign, local government, PSE, state enterprise and MDB.	The outflow rates on the annuity contracts, borrowings from entities other than central bank, sovereign, local government, PSE, state enterprise, MDB, are pre-defined as part of this assumption. This assumption applies the regulatory run-offs applicable to each counterparty type in the form of rollover rates i.e. 1 – run-off rates on secured cash flows.	Paragraphs 16.1 to 16.3

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
71	BNM-Funds Fully Invested in Liquid Assets	Outflows on the total value of the funds which are fully invested in liquid assets	The outflow rate on the total value of fund which is fully invested in liquid assets is pre-defined as part of this assumption. This assumption applies a 10% run-off on these balances	Paragraph 27.7
72	BNM-Funds Not Fully Invested In Liquid Assets-Based on Party	Outflows on funding provided by corporate, sovereign, central bank, MDB and PSE, retail, unsecured wholesale counterparties for UA funds that are not fully invested in liquid assets	The outflow rate on the value of fund, received from retail, central bank, corporates, SMEs, sovereign, PSE, and MDB, where the fund is not fully invested in liquid assets are pre-defined as part of this assumption. This assumption applies a 10% run-off on the outflows from retail and SME's treated as retail and customers and 40% for all other customers.	Paragraph 27.7
73	BNM-Funds Not Fully Invested In Liquid Assets-Others	Outflows on funding provided by parties other than corporate, sovereign, central bank, MDB and PSE, retail, unsecured wholesale counterparties for UA funds that are not fully invested in liquid assets	The outflow rate on the value of fund, received from customers other than retail, central bank, corporates, SMEs, sovereign, PSE, and MDB, where the fund is not fully invested in liquid assets are pre-defined as part of this assumption. This assumption applies a 100% run-off on these balances.	Paragraph 27.7
Inflows				

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
1	BNM-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 is pre-defined as part of this assumption. This assumption applies a 100% rollover on the inflows from such assets. The inflow rate on the deposits, held by the bank at other institutions for operational purposes, are also pre-defined as part of this assumption. It applies a 0% inflow on such operational deposits.	Paragraphs 22.3, 22.4, 26.2

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
2	BNM - Open Maturity Loans-retail and wholesale parties	Inflows due to minimum payments received within the LCR horizon on open maturity loans with retail counterparties	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 with retail counterparties and SMEs that are treated as wholesale, is pre-defined as part of this assumption. This assumption applies a 50% inflow on such minimum payments from retail counterparties and non-financial wholesale counterparties. it also applies a 100% inflow on such minimum payments from financial wholesale counterparties	Paragraph 22.4
3	BNM - Other Deposit Inflows	Inflows from deposits placed with the central bank or with other banks that are not included as a level 1 asset in the stock of HQLA.	The inflow rate on the deposits held with central banks and other financial institutions maturing within the LCR horizon is pre-defined as part of this assumption. This assumption applies a 100% inflow on interest in the form of a 0% rollover rate.	Paragraph 26.1

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
4	BNM - Secured Lending - Repo and Security Borrowings	Inflows from secured lending transactions excluding collateral swaps.	The inflow rates on the secured lending, excluding collateral swaps, are pre-defined as part of this assumption. This assumption applies the regulatory inflows to secured lending transactions based on the asset level of the collateral received.	Paragraphs 23.1 to 23.2
5	BNM-Other Inflows from Retail and SME	Other inflows from fully performing loans, which have a specified maturity and are extended to retail customers and SMEs treated as retail.	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 pre-defined as part of this assumption. This assumption applies a 50% rollover i.e. 50% inflow on performing retail loans.	Paragraph 22.2

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
6	BNM - 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 (PSE).	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 pre-defined as part of this assumption. This assumption applies a 0% rollover i.e. 100% inflow on performing loans from central banks and a 50% rollover i.e. 50% inflow on those from other non-financial counterparties specified earlier.	Paragraph 22.2
7	BNM - Secured Lending - Collateral Swaps	Inflows from collateral swap transactions.	The inflow rates on collateral swaps are pre-defined 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.	Paragraphs 23.1 to 23.2

Table 6-13   (Cont.) Pre-configured business assumptions and the corresponding reference

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
8	BNM-Derivative cash inflows	Net cash inflows from derivative transactions.	The inflow rate on the 30-day cash inflows from derivative transactions is pre-defined 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.	Paragraph 24

7

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.

7.1 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%.

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

7.2 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 LRRCBNM application. The ASF and RSF factors are applied as weights at the account level and the Total ASF and Total RSF is obtained by taking a sum of the all the weighted amounts. The ratio is then computed by the application as the (Total ASF amount)/(Total RSF amount) A set of pre-defined business assumptions for ASF and RSF as defined in the NSFR guidelines are prepackaged in the application. For the complete list of pre seeded ASF and RSF assumptions refer section Regulation Addressed through Business Assumptions.

7.2.1 Identification of 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 BNM NSFR band is pre-defined as per regulatory guidelines and has values as follows:

- 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 the above bands depending on the maturity date. It must be noted that to categorize any product into open maturity, the Rule "LRM -

Classification of Products as Open Maturity" has to be edited and the product must be included in the rule.

7.2.2 Computation of 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 the accounts falling under the dimensional combinations defined. The weights are as 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 required meeting the minimum requirement of NSFR.

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

$$\text{Available Amount of Stable Funding} = \sum_{i=1}^{n} \text{Carrying value of capital or liability instrument}_i * Factor_i$$

An example of the application of ASF factor is given below:

Consider an assumption defined with the following dimensional combination and ASF factors, with the based on measure being Total stable balance:

Table 7-1   Total stable balance

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

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

Table 7-2   ASF factors

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

LRRCBNM 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, the LRRCBNM application picks up the respective standard accounting head balances and applies the respective ASF factors.

In case OFS Basel is not installed, then the items mentioned below must be provided as a download in 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

7.2.3 Computation of 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 as 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 in a similar manner as that of the ASF. The formula which is used for calculating the Required Amount of Stable Funding is as follows:

$$
\begin{aligned}
\textbf{Required Amount of Stable Funding} \\
= \left(\sum_{i=1}^{n} \text{Carrying value of asset}_i * \textbf{Factor}_i \right) \\
+ \left(\sum_{i=1}^{m} \textbf{Off Balance Sheet}_i * \textbf{Factor}_i \right)
\end{aligned}
$$

where n=Number of asset accounts

where m = Number of off balance sheet accounts

7.2.3.1 Computation of 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 line of credit have a pre-defined RSF factor as guided and are available as pre seeded assumptions. Other off balance sheet products such as Variable Rate Demand Notes (VRDN) and Adjustable Rate Notes (ARN) do

not have pre-defined factors and are left to the discretion of the jurisdictions. For such products, the user can define assumptions and apply desired RSF factors as applicable.

7.2.4 Computation of Derivatives

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

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.

7.2.5 Computation of Net Stable Funding Ratio

The Net Stable Funding Ratio is calculated as follows:

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

7.3 Pre-configured BNM Regulatory NSFR Scenarios

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

This section explains the business assumptions which support NSFR as per BNM master circular BNM/RH/ED 029-3: Regulations on the Net Stable Funding Ratio (NSFR), September 2017.

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

Table 7-3   Document Identifiers

Regulation Reference Number	Document Number	Document Name	Issued Date
MC	BNM/RH/ED 029-3	Regulations on the Net Stable Funding Ratio (NSFR)	27 Sept 17
BNM FAQ		Deposit Insurance Handbook	

This section gives only the contextual information about all the business assumptions. For more detailed information refer OFS LRS application (UI).

7.3.1 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 pre-configured business assumptions and the corresponding reference to the regulatory requirement that it addresses is provided in the following tables:

7.3.1.1 Available Stable Funding Factor

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

Table 7-4   Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM- ASF- Capital items, DTL and minority interest	Tier 1 and Tier 2 capital, deferred tax liabilities and minority interest	This assumption defines the long-term funding sources with 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 8.9, 8.12(c), 8.13(a), 8.14(a), 8.15

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM-ASF-Stable retail deposits	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 pre-defined as part of this assumption. This assumption applies a 95% ASF factor on the stable portion of the retail deposits and a 100% ASF factor on the stable portion of retail deposits with remaining maturity of 1 year or more.	Paragraphs 8.9, 8.10
BNM-ASF-Stable retail deposits-Cash flow basis	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 within 1 year and greater 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 remaining maturity of more than 1 year with cash flow maturities within 1 year and greater than 1 year, are pre-defined 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 a 100% ASF factor on the stable portion of cash flows with cash flow maturity of 1 year or more.	Paragraphs 8.9, 8.10

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM-ASF-Less stable retail deposits	ASF- Less stable deposits as defined in the LCR from customers treated as retail.	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 pre-defined as part of this assumption. This assumption applies a 90% ASF factor on the stable portion of retail deposits with remaining maturity of less than 1 year and a 100% ASF factor on the stable portion of retail deposits with remaining maturity of 1 year or more.	Paragraphs 8.9, 8.11(a)
BNM-ASF-Less stable retail deposits-Cash flow basis	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 and 1 year or more.	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 remaining maturity of more than 1 year with cash flow maturity within 1 year and greater than 1 year, are pre-defined 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 a 100% ASF factor on the stable portion of cash flows with cash flow maturity of 1 year or more..	Paragraphs 8.9, 8.11(a)

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM-ASF-Other funds from retail	Other funding from customers treated as retail.	The ASF factors applicable to the funding other than deposits, from customers who are treated as retail for the purposes of LCR, are pre-defined as part of this assumption. This assumption applies a 0% ASF factor on the funding with remaining maturity of less than 6 months and 50% on the funding with remaining maturity between 6 months to 1 year and 100% on the funding with remaining maturity of 1 year or more.	Paragraphs 8.9, 8.11(b)
BNM-ASF-Other funds from retail with mat more than 1yr	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 remaining maturity of more than 1 year with cash flow maturity within 1 year and greater than 1 year, are pre-defined 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 month to 1 year and a 100% ASF factor on cash flows with maturity of 1 year or more.	Paragraphs 8.9, 8.11(b)

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM- ASF - Op dep with mat less than 1 yr	BNM ASF on the operational portion of operational deposits, generated by clearing, custody and cash management activities, with remaining maturity of less than 1 year.	The ASF factor applicable to the balance held in operational accounts to fulfill operational requirements are pre-defined as part of this assumption. This assumption applies a 50% ASF factor on the operational balances with remaining maturity of less than 1 year.	Paragraphs 8.9, 8.12(c), 8.13(a)
BNM-ASF-Non op portion of op dep from SME with mat 1 yr	BNM ASF on non-operational portion for operational accounts from SMEs AoP, Trusts, partnerships and HUFs not treated as retail, with remaining maturity less than 1 year.	The ASF factor on non-operational portion of operational accounts, from small and medium enterprises, association of persons, trusts, partnerships and Hindu undivided families not treated as retail, with remaining maturity of less than 1 year are pre-defined as part of this assumption. This assumption applies a 0% ASF factor on non-operational balances of operational accounts with remaining maturity of less than 1 year.	Paragraphs 8.9, 8.12(c), 8.13(a)

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM-ASF-Non op dep from SME	BNM ASF on 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 pre-defined as part of this assumption. This assumption applies a 0% ASF factor on non-operational funding with remaining maturity of less than 6 months and a 50% ASF factor on non-operational funding with remaining maturity between 6 months to 1 year and 100% ASF factor on non-operational funding with remaining maturity of 1 year or more	Paragraphs 8.9, 8.12(c), 8.13(a)
BNM-ASF-Non op dep from SME - Cash flow basis	BNM ASF on 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 flow maturity is within 1 year and greater than 1 year	The ASF factor applicable to non-operational cash flows, from SMEs AoP, Trusts, partnerships and HUFs not treated as retail, with remaining maturity of greater than 1 year with cash flow maturity within 1 year and greater than 1 year, are pre-defined as part of this assumption. This assumption applies a 0% ASF factor on non-operational cash flows with cash flow maturity of less than 6 months and a 50% ASF factor on non-operational cash flows with remaining maturity between 6 months to 1 year and a 100% ASF factor on non-operational cash flows with cash flow maturity of 1 year or more.	Paragraphs 8.9, 8.12(c), 8.13(a)

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM-ASF-Non op portion of op dep-CB with mat less than 1 yr	BNM ASF on the non-operational portion of operational deposits, from Central banks, PSE, MDB, NDB, generated by clearing, custody and cash management activities, with remaining maturity of less than 1 year.	The ASF factor applicable to non-operational portion of operational accounts from central banks, public sector entity (PSE), multilateral development bank (MDB), national development bank (NDB), with remaining maturity of less than 1 year, are pre-defined as part of this assumption. This assumption applies a 0% ASF factor on non-operational portion of operational accounts from central banks with remaining maturity of less than 1 year and a 50% ASF factor on non-operational portion of operational accounts from central banks, PSE, MDB, and NDB with remaining maturity of less than 1 year.	Paragraphs 8.9, 8.12(a), 8.12(b), 8.12(c), 8.13(a)

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM-ASF-Non op funds from CB PSE MDB NDB - Cash Flow Basis	BNM ASF on non-operational funding, from central banks, PSE, MDB, NDB, with remaining maturity greater than 1 year and where the cash flows are maturing within 1 year and greater than 1 year.	The ASF factor applicable to non-operational cash flows from central banks, PSE, MDB, NDB, with remaining maturity of greater than 1 year with cash flow maturity within 1 year and greater than 1 year, are pre-defined 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 less 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 8.9, 8.12(a), 8.12(b), 8.12(c), 8.13(a)

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM-ASF-Non op funds from CB PSE MDB NDB	BNM ASF on non-operational funding, from Central banks, financial institutions (banks) PSE, MDB, NDB.	The ASF factor on non-operational funding from central banks, PSE, MDB, NDB, are pre-defined as part of this assumption. This assumption applies a 0% ASF factor on non-operational funding from central banks with remaining maturity of less 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 remaining maturity of 1 year or more.	Paragraphs 8.9, 8.12(a), 8.12(b), 8.12(c), 8.13(a)
BNM-ASF-Non op portion of op dep-corp with mat less than 1yr	BNM ASF on the non-operational portion of operational deposits, from financial and non-financial corporates, generated by clearing, custody and cash management activities, with remaining maturity of less than 1 year.	The ASF factor applicable to non-operational portion of operational accounts from financial and non-financial corporates, with remaining maturity of less than 1 year, are pre-defined as part of this assumption. This assumption applies a 0% ASF factor on non-operational portion of operational accounts from financial corporates with remaining maturity of less than 1 year and a 50% ASF factor on non-operational portion of operational accounts from non-financial corporates with remaining maturity of less than 1 year.	Paragraphs 8.9, 8.12(a), 8.12(b), 8.12(c), 8.13(a)

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM-ASF-Non op funds from Corp - Cash flow basis	BNM ASF on 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 and greater than 1 year.	The ASF factor applicable to non-operational cash flows from financial and non-financial corporates, with remaining maturity of greater than 1 year with cash flow maturity within 1 year and greater than 1 year, are pre-defined 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 less than 6 months and between 6 months to 1 year. The assumptions applies a 0% ASF factor on non-operational cash flows from financial corporates with cash flow maturity of less 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.	Paragraphs 8.9, 8.12(a), 8.12(b), 8.12(c), 8.13(a)

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM-ASF-Non op funds from Corp	BNM ASF on non-operational funding, from financial and non-financial corporates.	The ASF factor on non-operational funding from financial and non-financial corporates, are pre-defined as part of this assumption. This assumption applies a 0% ASF factor on non-operational funding from financial corporates with remaining maturity of less than 6 months and a 50% ASF factor for non-operational funding from financial corporates with remaining maturity between 6 months to 1 year. The assumptions also applies a 50% ASF factor on non-operational funding from non-financial corporates with remaining maturity of less than 6 months, between 6 months to 1 year and a 50% ASF factor on non-operational funding from non-financial corporates with remaining maturity of 1 year or more.	Paragraphs 8.9, 8.12(a), 8.12(b), 8.12(c), 8.13(a)

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM-ASF-Non op of op dep oth party with mat less than 1 yr	BNM ASF on 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 remaining maturity of less than 1 year.	The ASF factor applicable to 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 pre-defined as part of this assumption. This assumption applies a 0% ASF factor on 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 remaining maturity of less than 1 year.	Paragraphs 8.9, 8.12(a), 8.12(b), 8.12(c), 8.13(a)

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM-ASF-Non op funds other parties	BNM ASF on 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 pre-defined 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 remaining maturity of less 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 remaining maturity of 1 year or more.	Paragraphs 8.9, 8.12(a), 8.12(b), 8.12(c), 8.13(a)

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM-ASF-Non op funds other parties - Cash flow basis	BNM ASF on 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 and greater than 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 pre-defined 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 less 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, sovereign, PSE, MDB and NDB with cash flow maturity of 1 year or more.	Paragraphs 8.9, 8.12(a), 8.12(b), 8.12(c), 8.13(a)

Table 7-4   (Cont.) Pre seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
BNM-ASF-Trade date payables	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 pre-defined in this assumption. This assumption applies 0% ASF factor on the trade payable cash flows.	Paragraph 8.13(d)
BNM-ASF-Liabilities with open maturity	[BNM] : Secured deposits and all other borrowings and which do not have a stated maturity.	The ASF factor applicable to all the other funding's without any stated maturity is pre-defined in this assumption. This assumption applies 0% ASF factor on all the funding's without any maturity.	Paragraphs 8.13 (a), 8.13 (b)
BNM- ASF-Borr and Liabilities with maturities beyond 1 year (Catch all for cash flows beyond 1 year)	Borrowings and liabilities with residual maturities and cash flows falling beyond 1 year.	The ASF factors applicable to all other funding's with remaining maturity of greater than 1 year with cash flow maturity within 1 year, are pre-defined in this assumption. This assumption applies 0% ASF factor on the cash flows.	Paragraph 8.9

7.3.1.2 Required Stable Funding Factor

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

Table 7-5   List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Coins and banknotes	Coins, banknotes, cash and restricted cash held by the bank.	The RSF factor applicable to coins, banknotes, and cash held by the bank, is pre-defined as a part of this assumption. This assumption applies 0% RSF factor on the coins, banknotes, and cash held by bank.	Paragraph S 9.11.a
BNM-RSF-Central Bank Reserves	All central bank reserves, including, required reserves and excess reserves.	The RSF factors applicable to required and excess central bank reserves, are pre-defined as a part of this assumption. This assumption applies 0% RSF factor to all central bank reserves.	Paragraph S 9.11.b
BNM-RSF-Unencumbered Claims on Central Banks	Unencumbered loans and other claims on central banks	The RSF factors applicable to fully performing unencumbered loans and claims on central banks, with remaining maturity of less than 1 year, are pre-defined as part of this assumption. This assumption applies 0%, 50% and 100% RSF factors to the loans and claims on central banks with remaining maturity of less than 6 months, between 6 months and 1 year, and 1 year or more respectively.	Paragraphs S.9.11.c S.9.15.e S.9.18.c

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Encumbered Claims on Central Banks	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 pre-defined as part of this assumption. For the qualifying assets with encumbrance period of less than 6 months, the assumption applies 0%, 50%, and 100% RSF factors based on a remaining maturity of less than 6 months, between 6 months and 1 year, and 1 year or more respectively. For assets 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. A 100% RSF factor is applied to all assets maturing within a year and encumbrance period of 1 year or more.	Paragraphs S.9.11.c S.9.15.e S.9.18.c

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Unenc loans to fin insti sec by level 1 asset	Unencumbered loans to financial institutions where the loan is secured against level 1 assets as defined in the LCR.	The RSF factors applicable on the unencumbered loans given to financial institutions secured by a level 1 asset, with residual maturity less than 1 year, are pre-defined 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 remaining maturity of less than 6 months, 6 months to 1 year and 1 year or more respectively, where the collateral received can be re-hypothecated for the life of 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 remaining maturity of less than 6 months, 6 months to 1 year and 1 year or more respectively, where the collateral received cannot be re-hypothecated for the life of loan.	Paragraphs S.9.13 S.9.14.d S.9.15.e S.9.18.c

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Encum loans to fin insti sec by level 1 asset	Encumbered loans to financial institutions where the loan is secured against level 1 assets as defined in the LCR.	The RSF factors applicable on the encumbered loans given to financial institutions secured by a level 1 asset, with residual maturity less than 1 year, are pre-defined 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 re-hypothecated to raise funds.	Paragraphs S.9.13 S.9.14.d S.9.15.e S.9.18.c
BNM-RSF-Unenc loans to fin insti sec by assets of oth lvls	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 on 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 pre-defined as a part of this assumption. The assumption applies RSF factor of 15%,50%,100% on the unencumbered secured loans given to financial institutions secured by assets belonging to levels other than level 1 with remaining maturity of less than 6 months, 6 months to 1 year and 1 year or more respectively.	Paragraphs S.9.13 S.9.14.d S.9.15.e S.9.18.c

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Encum loans to fin insti sec by assets of oth lvls	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 on the encumbered loans given to financial institutions secured by a assets belonging to levels other than level 1, with residual maturity less than 1 year, are pre-defined 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 S.9.13 S.9.14.d S.9.15.e S.9.18.c
BNM-RSF-Unenc unsec loans to financial instituitions	Unencumbered unsecured loans excluding overdrafts to financial institutions.	The RSF factors applicable on the unencumbered unsecured loans given to financial institutions, with residual maturity less than 1 year, are pre-defined 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 remaining maturity of less than 6 months, 6 months to 1 year and 1 year or more respectively.	Paragraphs S.9.13 S.9.14.d S.9.15.e S.9.18.c

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM -RSF- Enc unsecured loans to financial instituitions	Encumbered unsecured loans to financial institutions.	The RSF factors applicable on the encumbered unsecured loans given to financial institutions, with residual maturity less than 1 year, are pre-defined 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 S.9.13 S.9.14.d S.9.15.e S.9.18.c
BNM-RSF-Unenc loans to others, mat less than 1yr	Unencumbered loans with residual maturity less than a year to other counterparties i.e. 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 remaining maturity of less than 1 year, are per defined 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 remaining maturity of less than 1 year.	Paragraphs S.9.16.b S.9.17.c

Table 7-5 (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Enc loans to others, mat less than 1yr	Encumbered loans with residual maturity less than a year to other counterparties i.e. 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 remaining maturity of less than 1 year, are per defined 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 remaining maturity of less than 1 year.	Paragraphs S.9.16.b S.9.17.c

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Unenc loans to others, mat more than 1 yr	Unencumbered loans with residual maturity more than a year to other counterparties i.e. 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 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 a 65 % RSF factors on the loans to non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises and sovereigns with remaining maturity of more than 1 year and risk weight more than or equal to 35%. It applies a RSF factor of 85% on the loans to non-financial corporates, retail and small business customers, sovereigns, Public sector enterprises and sovereigns with remaining maturity of more than 1 year and risk weight greater than 35%.	Paragraphs S.9.16.b S.9.17.c

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Enc Loans to others, mat more than 1yr	Encumbered loans with residual maturity more than a year to other counterparties i.e. 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 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 S.9.16.b S.9.17.c
BNM-RSF-Unenc non HQLA assets	Unencumbered securities, with maturity less than 1 year, which do not qualify as High quality liquid assets under the LCR Rule	The RSF factors applicable to unencumbered securities, with remaining maturity of less than 1 year and which do not qualify, as High quality liquid assets under the LCR Rule, are pre-defined 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 remaining maturity of less than 1 year	Paragraphs S.9.15.g, S.9.17.d

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Unenc non HQLA securities mat greater than 1yr	Unencumbered securities, with maturity greater than 1 year which do not qualify as HQLA under the LCR Rule	The RSF factors applicable to unencumbered securities, with remaining maturity of more than 1 year and which do not qualify as High quality liquid assets under the LCR Rule , are pre-defined as part of this assumption. The assumption applies a 85% RSF factor on unencumbered securities, with remaining maturity of more than 1 year and which do not qualify as High quality liquid assets under the LCR Rule.	Paragraphs S.9.15.g, S.9.17.d

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Enc non HQLA assets	Encumbered portion of securities, with maturity less than 1 year which do not qualify as High quality liquid assets under the LCR Rule	The RSF factors applicable to encumbered portion of the securities, with remaining maturity of less than 1 year and which do not qualify as High quality liquid assets under the LCR Rule , are pre-defined as part of this assumption. The assumption applies a 50% RSF factor on encumbered portion of the securities, with 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 encumbered portion of the securities, with 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 S.9.15.g, S.9.17.d

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Enc non HQLA assets mat greater than 1yr	Encumbered portion of securities, with maturity greater than 1 year which do not qualify as HQLA under the LCR Rule	The RSF factors applicable to encumbered portion of the securities, with remaining maturity of more than 1 year and which do not qualify as High quality liquid assets under the LCR Rule, are pre-defined as part of this assumption. The assumption applies a 85% RSF factor on encumbered portion of the securities, with 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 encumbered portion of the securities, with 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 S.9.15.g, S.9.17.d
BNM-RSF-Unencumbered level 1 assets	Unencumbered assets which 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 pre-defined as a part of this assumption. The assumption applies a 5% RSF factor on the unencumbered Level 1 assets.	Paragraphs S.9.12

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Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Unencumbered level 2A assets	Unencumbered assets which 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 pre-defined as a part of this assumption. The assumption applies a 15% RSF factor on the unencumbered Level 2A assets and a RSF factor of 50% on the unencumbered Level 2B assets.	
BNM-RSF-Encumbered level 1 assets	Encumbered portion of assets which qualify for inclusion in Level 1 of High quality liquid assets as defined in the LCR.	The RSF factors applicable to encumbered portion of assets, which qualify for inclusion in Level 1 of High quality liquid assets as, defined in the LCR, are pre-defined 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 and1 year or more respectively.	Paragraphs S.9.12

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Encumbered level 2A assets	Encumbered level 2 assets	The RSF factors applicable to encumbered portion of assets, which qualify for inclusion in Level 2A, and 2B of High quality liquid assets as defined in the LCR, are pre-defined 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 less than 6 months, between 6 months to 1 year and1 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 and1 year or more respectively.	
BNM-RSF-Unenc Operational bal with other banks	Operational portion of Unencumbered deposits held at other financial institutions, for operational purpose and are subject to the 50% ASF treatment.	The RSF factors applicable to operational portion of unencumbered deposits held at other financial institutions to fulfill the operational requirements, with remaining maturity of less than 1 year, are pre-defined as part of this assumption. The assumption applies RSF factor of 50% and 100% on operational portion of unencumbered deposits held at other financial institutions, with remaining maturity of less than 1 year and1 year or more respectively.	S.9.14.c S.9.15.d S.9.15.f

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Unenc Non Op balances with other banks	Non-operational portion of Unencumbered deposits held at other financial institutions, for operational purpose and are subject to the 50% ASF treatment.	The RSF factors applicable to non-operational portion of unencumbered deposits held at other financial institutions to fulfill the operational requirements, with remaining maturity of less than 1 year, are pre-defined as part of this assumption. The assumption applies RSF factor of 15%, 50% and 100% on non-operational portion of unencumbered deposits held at other financial institutions, with remaining maturity of less than 6 months, between 6 months to 1 year and1 year or more respectively.	S.9.14.c S.9.15.d S.9.15.f

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Unencumbered Residential Mortgage Loans	Unencumbered residential mortgage loans which would qualify for a) 35% or lesser risk weight and b) higher than 35% risk weight as per Capital Adequacy framework and capital Adequacy Framework for Islamic banks	The RSF factors applicable to unencumbered residential mortgage loans, with standardized risk weights under Basel 2 approach, are per defined as part of this assumption. The assumption applies RSF factors of 50% and 65% on the unencumbered residential mortgage loans, with remaining maturity of less than 1 year and1 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 remaining maturity of less than 1 year and1 year or more respectively, with risk weights greater than 35%.	Paragraphs S.9.16.a S.9.17.c

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Encumbered Residential Mortgage loans	Encumbered residential mortgage loans which would qualify for a) 35% or lesser risk weight and b) higher than 35% risk weight as per Capital Adequacy framework and capital Adequacy Framework for Islamic banks	The RSF factors applicable to fully performing encumbered residential mortgage loans, with standardized risk weights under Basel 2 approach, are per defined as part of this assumption. This assumption applies RSF factors of 50% and 65 % on the encumbered residential mortgage loans, with 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 a RSF factor of 100% on the encumbered residential mortgage loans with remaining maturity of more than 1 year, encumbrance period of more than 1 year and risk weight is more than 35%.	Paragraphs S.9.16.a S.9.17.c

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Trade date receivables	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 pre-defined as part of this assumption. The assumption applies 0% RSF factor to the trade receivables, which expected to settle within settlement cycle.	Paragraphs S.9.17.f
BNM-RSF-Undrawn amount from credit lines received	Undrawn portion from credit lines received from the central bank of Malaysia which qualify as Level 1 HQLA.	The RSF Factor applicable to the undrawn portion of Credit lines, which qualifies for a Level 1 asset are defined in this assumption. The assumption applies a 5% factor.	Paragraphs S.9.12.
BNM-RSF-Unenc Level 1 Debt securities	Unencumbered Level 1 qualified debt securities and Sukuk with customers other than Central bank	The RSF Factor applicable to Unencumbered Level 1 qualifying Debt securities and Sukuk, with all counterparties except Central Bank are defined in this assumption. The assumption applies a 5% factor.	Paragraphs S.9.12.
BNM-RSF-Enc Level 1 Debt securities	Encumbered Level 1 qualified debt securities and Sukuk with customers other than Central bank	The RSF Factor applicable to Encumbered Level 1 qualifying Debt securities and Sukuk, with all counterparties except Central Bank are defined in this assumption. The assumption applies a factor based on the encumbrance period.	Paragraphs S.9.12, S.9.17.c

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Enc deposits with other banks	Encumbered deposits, held at other financial institutions	The RSF Factor applicable to Encumbered deposits held at financial institutions are defined as a part of this assumption. The assumption applies a factor based on the encumbrance period.	Paragraphs S.9.14.c, S.9.15.d, S.9.15.f
BNM-RSF-Unencumbered commodities	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.	Paragraphs S.9.17 f
BNM-RSF-Encumbered commodities	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	Paragraphs S.9.17 f
BNM-RSF-Unenc debt securities issued by non fin corp	Unencumbered debt securities issued by non financial corporates which are assigned an ECAI rating between A- and A+ and are denominated in Ringgit.	The RSF Factor for Unencumbered debt securities issued by non financial corporates which are assigned an ECAI rating between A- and A+ and are denominated in Ringgit are defined as a part of this assumption. The assumption applies a 50% Factor.	Paragraphs S.9.15 c

Table 7-5   (Cont.) List of pre-seeded assumptions

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-RSF-Enc debt securities issued by non fin corp	Encumbered debt securities issued by non financial corporates which are assigned an ECAI rating between A- and A+ and are denominated in Ringgit.	The RSF Factor for Encumbered debt securities issued by non financial corporates which are assigned an ECAI rating between A- and A+ and are denominated in Ringgit are defined as a part of this assumption. The factor applied is based on the encumbrance period.	Paragraphs S.9.15 c
BNM-RSF-Unencumbered common equity shares	Unencumbered common equity shares that are issued by non financial corporates.	The RSF Factor for unencumbered common equity shares issued by non financial corporates are defined as a part of this assumption. The factor applied is 50%.	Paragraphs S.9.15 b
BNM-RSF-Encumbered common equity shares	Encumbered common equity shares that are issued by non financial corporates.	The RSF Factor for encumbered common equity shares issued by non financial corporates are defined as a part of this assumption. The factor applied is based on the encumbrance period.	Paragraphs S.9.15 b

7.3.1.3 Derivatives

Table 7-6   Derivatives

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-Additional Derivative Liability for RSF	RSF Additional portion of derivative liabilities to be included as part of RSF.	The RSF factor applicable to all derivative contracts including netted derivative contracts, where the aggregate mark to market value of the contracts prior to any variation margin adjustment is negative, is pre-defined as part of this assumption. The assumption applies a 100% RSF factor to the 20% of negative mark-to-mark value for the aforementioned derivative contracts.	Paragraph 9.18(d)
BNM-Net NSFR Derivative Liabilities	ASF derivative liabilities net of derivative assets, where derivative liability is net of any variation margin posted and 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 market value of the contracts for an entity including any variation margin adjustment is negative, is pre-defined 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 market value of the contracts is negative.	Paragraphs 8.13(c), 10.3

Table 7-6   (Cont.) Derivatives

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference: BNM/RH/ED 029-3
BNM-Net NSFR Derivative assets	RSF derivative assets net of derivative liabilities, where derivative liability is net of any variation margin posted and 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 market value of the contracts for an entity including any cash margin adjustment is positive, is pre-defined 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 market value of the contracts is positive.	Paragraphs 9.18(b), 10.7
BNM-Margin for derivatives	RSF Treatment of initial margin posted against derivative transactions.	The RSF factor applicable to the initial margin posted for the derivative contracts is pre-defined as part of this assumption. The assumption applies a 85% RSF factor to the initial margin posted against the derivative contracts.	9.17(b)

7.3.1.4 Off-Balance Sheet Items

Table 7-7   Off-Balance Sheet Items

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference : BNM/RH/ED 029-3
BNM-RSF- Credit and liquidity facilities to client	Off balance 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 pre-defined 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.	Paragraph 9.22
BNM-RSF- Guarantees and letters of credit	Off balance sheet exposures- Guarantees and letters of credit	The RSF factor applicable to the Guarantees and Letters of credit offered by the bank, is pre-defined 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.	Paragraph 9.22
BNM-RSF- Non contractual obligations type	Non contractual obligations type such as managed funds etc	The RSF factor applicable to the non-contractual obligations type such as managed funds, is pre-defined as part of this assumption. The assumption applies 5% RSF factor to the aforesaid non-contractual obligations amount.	Paragraph 9.22

Table 7-7   (Cont.) Off-Balance Sheet Items

Assumption Name	Assumption Description	Regulatory Requirement Addressed	Regulatory Reference : BNM/RH/ED 029-3
BNM-RSF- Non contractual obligations	Non contractual obligations type such as Adjustable Rate Notes and Variable Rate Demand Notes (VRDNs).	The RSF factor applicable to the non-contractual obligations for structured products such as Variable rate notes (VRDNs), Adjustable rate notes (ARDNs) etc. offered by the bank, is pre-defined as part of this assumption. The assumption applies 100% RSF factor to the EOP balance for aforesaid non-contractual obligations.	Paragraph 9.22
BNM-RSF- Debt Buy Back Requests	Non contractual obligations type such as requests for debt repurchases.	The RSF factor applicable to the non-contractual obligations for debt repurchase, is pre-defined as part of this assumption. The assumption applies 10% RSF factor to the debt buy back amount if the bank acts as dealer or market maker and 5% in case the bank is not the market maker or dealer for the debt securities issued or sponsored.	Paragraph 9.22

8
Investment Accounts

Investment accounts are a Shariah compliant source of financing for banks and its customers. The returns on the underlying asset depend on the type of Shariah contract applied to the investment account. The three types of Shariah contracts are:

- Musharakah – Profit and loss sharing
- Mudarabah – Profit sharing and loss bearing
- Wakalah – Customer pays an agency fee based on the profits

The two types of Investment Accounts are Restricted Investment Accounts (RA) and Unrestricted Investment Accounts (UA). The differences between the two are illustrated in the table below:

Table 8-1   Difference between Restricted Investment Accounts and Unrestricted Investment Accounts

Restricted Investment Accounts (RA)	Unrestricted Investment Accounts (UA)
Specific underlying assets	General underlying assets
Fixed/unfixed tenure and balance	Fixed tenure and balance
Specific withdrawal terms	Flexible withdrawal terms

8.1 Liquidity Coverage Ratio (LCR)

The Liquidity Coverage Ratio ensures that the bank holds sufficient High-Quality Liquid Assets (HQLA). For the purpose of LCR computations in Investment Accounts, the bank uses only Unrestricted Investment Accounts (UA) as Restricted Investment Accounts (RA) are subject to redemption conditions, fulfillment of which would significantly mitigate the liquidity risk.

8.1.1 Calculation of LCR

In case of Investment Accounts, if the LCR ratio is lower than the minimum required level, then the deficit amount to the total net cash outflows must be added to the banks net total cash flow while calculating the LCR at the banking level

8.1.1.1 Calculation of Stock of HQLA

The bank must calculate the LCR for each UA fund by including the HQLA specific to that UA fund. These calculations must be done based on the specified haircuts, definitions, and limits. Any asset that is held specifically for investment accounts cannot be included in the LCR calculations for the bank.

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:

```
Stock of HQLA=Post Haircut Stock of Level 1 Assets


+Post Haircut Stock of Level 2A Assets


+Post Haircut Stock of Level 2B RMBS Assets


+Post Haircut Stock of Level 2B Non-RMBS Assets I+Assets


+Post Haircut Stock of Level 2B Non-RMBS II Assets


-Adjustment due to Cap on Level 2B Assets


-Adjustment due to Cap on Level 2 Assets
```

Where, Adjustment due to Cap on Level 2B Assets : Adjustment for 15% cap

Adjustment due to Cap on Level 2 Assets : Adjustment for 40% cap

The application applies the relevant liquidity haircuts to the market 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' comprises of the stock of HQLA. The stock includes bank's own 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 re-hypothecated.

> **Note:**
>
> All calculations are based on the market value of assets.

8.1.1.2 Calculation of 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 provided below:

1. **Calculation of 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 section Regulations Addressed through Business Assumptions are pre-defined 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, held specific for a UA fund.

2. **Calculation of 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 section Regulations Addressed through Business Assumptions are pre-defined 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 are summed up to obtain the total cash outflow. These include outflows from liabilities, derivatives outflows, outflows due to changes in financial conditions such as ratings downgrade and valuation changes and so on, held specific for a UA fund.

3. **Calculation of Net Cash Outflow**

   The total net cash outflows is defined as the total expected cash outflows minus total expected cash inflows for the LCR horizon i.e. 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:

   Figure 8-1   Net cash outflow

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

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

   > **Note:**
   >
   > The inflow and outflow rates as prescribed by BNM for the purpose of computing LCR are pre-defined 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 in order to view the stock of HQLA, net cash outflows and LCR across multiple scenarios.

8.1.1.3 Regulation Addressed through Business Assumptions

The application supports multiple pre-configured rules and scenarios based on BNM specified scenario parameters. The table displays the assumptions for Investment accounts.

Table 8-2   Assumptions for Investment accounts

Sl. No.	Business Assumption Name	Business Assumption Description	Regulatory Requirement Addressed	Regulatory Reference BNM/RH/PD 029-13
1	BNM-Funds Fully Invested in Liquid Assets	Outflows on the total value of the funds which are fully invested in liquid assets	The outflow rate on the total value of fund which is fully invested in liquid assets is pre-defined as part of this assumption. This assumption applies a 10% run-off on these balances	Paragraph 27.7
2	BNM-Funds Not Fully Invested In Liquid Assets-Based on Party	Outflows on funding provided by corporate, sovereign, central bank, MDB and PSE, retail, unsecured wholesale counterparties for UA funds that are not fully invested in liquid assets	The outflow rate on the value of fund, received from retail, central bank, corporates, SMEs, sovereign, PSE, and MDB, where the fund is not fully invested in liquid assets are pre-defined as part of this assumption. This assumption applies a 10% run-off on the outflows from retail and SME's treated as retail and customers and 40% for all other customers.	Paragraph 27.7

8.1.1.4 Calculation of UA fully invested in Liquid Assets

1. The application identifies the underlying asset of the fund as quick asset by checking the following conditions.

   - **Eligible HQLA**
     The application captures this information by using the Eligible HQLA flag.

   - **Active Secondary Market**

The application checks if the UA fund is invested in assets that are traded in secondary markets using the Active Secondary Market flag.

- **Exchange Traded Commodities**
  Identifies if the UA fund is invested in exchange traded commodities

- **Balances with banks with residential maturity/callable period within 30 days**
  Identifies the deposits with residual maturity within 30 days or if the callable period for the deposit is within 30 days.

  If the underlying asset of the fund meets the above conditions then the application will mark the underlying asset as quick asset.

2. If the conditions in Step (1) is fulfilled for all the underlying assets of the fund, then the application updates the value of the flag as "Yes" else "No".

8.1.2 Calculation of NSFR

For NSFR calculation, only UA funds are considered. RA funds are excluded from this calculation. For more details on the calculation of NSFR, refer to Net Stable Funding Ratio Calculation

8.1.2.1 Calculation of Available Amount of Stable Funding

For detailed calculations of ASF and the regulation addressed through business rules, refer to Calculation of ASF

8.1.2.2 Calculation of Required Amount of Stable Funding

For detailed calculations of RSF and the regulation addressed through business rules, refer to Calculation of RSF

8.1.2.3 Consolidation

This section explains the legal entity consolidation with different scenarios of UA funds.

8.1.2.3.1 Legal Entity Consolidation

For the legal entity (LE) consolidation, the application removes all the intercompany transactions and then computes the NSFR for the Bank.

8.1.2.3.2 Legal Entity Consolidation with UA funds

Case 1: Where the UA fund has excess NSFR and legal entity has a deficit NSFR

1. The application compares the investment mandate of the fund with the RSF attribute of the legal entity. If the assets of fund are not same as that held in the bank, then no transfer will occur between the fund and the bank

2. If the above condition is met, then the below conditions need to be checked:
   Encumbered flag = 'N' and revised maturity <= 1 year

   If the above conditions, in step 1 and 2 are met, then the amount to be the transferred between the UA fund and the bank is calculated by using the following formula:

   Maximum Amount to be transferred to calculated as: MIN (Amount of eligible asset available in Bank, Amount equivalent to composition of UA fund)

> **Note:**
>
> Only weighted amounts are used for the calculation

> **Note:**
>
> If the NSFR ratio for the UA fund goes below 100%, then no transfer will
> occur between the UA fund and the bank

Case 2: Where UA fund has deficit NSFR

The deficit for the fund is met by the transfer of the excess RSF amount from the fund
to the RSF amount of the bank, so that the fund achieves the minimum required NSFR
ratio. The transfer shall occur even if post transfer the NSFR ratio for the bank falls
below the minimum required ratio.

A

Data Transformations/Functions used in LRRCBNM

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

- **TB_DATE_ASSIGNMENT**
  This function performs the following:

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

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

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

- **UPD_PROCESS_SCENARIO_KEY**
  This function updates the process scenario Skey in DIM_FCST_RATES_SCENARIO tables. It performs the following:

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

  2. Populates the Contractual/Business as usual Run name, Run type, Run description into DIM_FCST_RATES_SCENARIO table from DIM_RUN.

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

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

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

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

  7. Updates both local and natural currency amount columns in FCT_LRM_LE_SUMMARY 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 contracts for which a mitigant is received. This loan account is captured in STG_LOAN_CONTRACTS table and the mitigant information is captured in STG_MITIGANTS. The link between the loan account and the mitigant is captured in STG_ACCOUNT_MITIGANT_MAP table. From STG_ACCOUNT_MITIGANT_MAP table, data moves to FCT_ACCOUNT_MITIGANT_MAP table.

  The function identifies the account mitigant mapping from FCT_ACCOUNT_MITIGANT_MAP and updates the attributes of the mitigant against the

loan account in 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 repo contract where the bank has placed collateral. The repo contract is captured in STG_REPO_CONTRACTS and moved to FSI_LRM_INSTRUMENT table. The collateral placed against the repo contract is captured in STG_PLACED_COLLATERAL table. The relationship between placed collateral and the REPO contract is captured in STG_ACCT_PLACED_COLL_MAP and is moved to FCT_ACCT_PLACED_COLL_MAP.

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

Similarly, the function updates the following attributes of the underlying asset (Mitigant/Placed Collateral) in 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 DT 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) and updates the same against the account in 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 FCT_ACCT_PLACED_COLL_MAP.N_DRWN_PORTION_COLL_AMT.

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 of 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 FSI_LRM_INSTRUMENT against the placed collateral records, that is, FLI.N_PERCENT_ENCUMBERED.

B

User Configuration and Settings

This section details the standard product type and standard party type reclassifications.

B.1 Standard Reclassifications

The regulatory guidelines specify classifications and computations based on certain generic product and party types. Each bank, internally, will have its own product and party types, which differ from bank to bank. In order 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 LRRCBNM respectively.

B.1.1 Standard Product Type Reclassification

Banks should to map their specific product types to the Standard Product Types as part of the rule BNM 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.

B.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.

C

OFSAA Suport

Raise a Service Request (SR) in My Oracle Support (MOS) for queries related to the OFSAA Applications

C.1 Send Us Your Comments

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