BANK OF MAURITIUS

Guideline on Liquidity Risk Management

January 2000
Revised October 2009
Revised August 2010
Revised October 2017
Revised April 2019

Table of Contents

INTRODUCTION

Liquidity reflects the capacity of a bank to deploy cash, convert assets into cash, or secure funds in a timely manner to meet obligations as they come due without incurring undue losses. A bank transforms short term deposits into long term loans which makes it inherently vulnerable to liquidity risk. This vulnerability can extend beyond the bank and affect the market as a whole. Effective liquidity risk management protects the bank and the system as a whole from disruptive effects of liquidity shortfall. Liquidity shortfall at one institution can have system-wide repercussions.

The Bank of Mauritius expects all institutions to have appropriate risk control measures to identify, manage and monitor liquidity risk exposures under various stress situations in order to protect their operations from disruption and adverse financial consequences.

This guideline draws on the analysis and recommendations of Basel Committee on Banking Supervision (BCBS) contained in reports 'Principles for Sound Liquidity Risk Management and Supervision, September 2008' and 'Basel III: Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools, January 2013'.

Authority

This guideline is issued under the authority of section 50 of the Bank of Mauritius Act 2004 and section 100 of the Banking Act 2004.

Scope of application

This guideline applies to all banks licensed by the Bank of Mauritius.

Effective date

This revised guideline shall come into effect on 3 November 2017. Subsequent changes to this guideline, if any, shall come into effect as indicated in relevant communiqués[1].

[1] Amended on 3 April 2019

Fundamental principle for the management and supervision of liquidity risk

Principle 1 (BCBS Principle 1)

A bank is responsible for the sound management of liquidity risk. A bank should establish a robust liquidity risk management framework that ensures it maintains sufficient liquidity, including a cushion of unencumbered, high quality liquid assets, to withstand a range of stress events, including those involving the loss or impairment of both unsecured and secured funding sources.

1. In implementing this principle, the Bank of Mauritius expects banks to have:

   (a) a board-approved liquidity risk management policy to ensure that they can meet on-going liquidity obligations and liquidity stress situations;

   (b) an adequate liquidity cushion comprising readily marketable assets to survive a period of liquidity stress;

   (c) a methodology to manage intra-day liquidity risks;

   (d) documented contingency funding plans to meet funding mismatches and liquidity stress situations; and

   (e) public disclosure of their liquidity position together with the risk management framework.

Governance of liquidity risk management

Principle 2 (BCBS Principle 2)

A bank should clearly articulate a liquidity risk tolerance that is appropriate for its business strategy and its role in the financial system.

Principle 3 (BCBS Principle 3)

Senior management should develop a strategy, policies and practices to manage liquidity risk in accordance with the risk tolerance and to ensure that the bank maintains sufficient liquidity. Senior management should continuously review information on the bank's liquidity developments and report to the board of directors on a regular basis. A bank's board of directors should review and approve the strategy, policies and practices related to the management of liquidity at least annually and ensure that senior management manages liquidity risk effectively.

2. The board of directors has the prime responsibility for determining the bank's liquidity risk

tolerance. The level of tolerance depends on the bank's business strategy and its role in the financial system as well as its financial condition and funding capacity. The Bank of Mauritius expects a bank to ensure that its liquidity situation is such that it can withstand a prolonged period of stress. The liquidity risk tolerance should be reviewed at least once a year and the related risk management strategy and processes more frequently. The level of risk tolerance should be properly communicated to all levels of management to ensure that they understand the trade-offs between risk and profits.

3. Senior management and the board must have a thorough understanding of the close links between funding liquidity risk and market liquidity risk, as well as how other risks, including credit, market, operational and reputation risks affect the institution's overall liquidity risk strategy. Senior management is responsible for implementing approved liquidity management and funding policies taking into account the bank's risk tolerance. Such policies must be well articulated and clearly understood by staff. More specifically, such policies should deal with:

   (a) the decision levels within the bank for liquidity management, including the establishment of risk management committees and independent risk management functions which would address liquidity risk and its interaction with other risks;

   (b) composition and maturities of assets and liabilities;

   (c) diversity and stability of funding sources;

   (d) approaches to intraday liquidity management;

   (e) size and composition of liquid assets available in situations of stress; and

   (f) contingency funding plans.

4. Senior management must closely monitor current trends and potential market developments that may present challenges to liquidity management so that they can make appropriate and timely changes to the liquidity strategy as needed. Management must ensure that the bank has adequate internal controls whereby liquidity risk oversight is assigned to a person or a unit that is independent of business operations. Ideally such function should reside with the chief risk officer taking into account the size and complexity of a bank's operations. Internal audit should regularly review the implementation and effectiveness of the agreed framework for controlling liquidity risk.

5. The board should review regular reports on the liquidity position of the bank. The board should be informed immediately of new or emerging liquidity concerns. These include increasing funding costs or concentrations, the growing size of a funding gap, the drying up of alternative sources of liquidity, material and/or persistent breaches of limits, a significant decline in the cushion of unencumbered, highly liquid assets, or changes in external market conditions which could signal future difficulties. The board should ensure that senior management takes appropriate remedial actions to address the concerns.

6. The Bank of Mauritius will assess the suitability and effectiveness of above steps in the context of the bank's stated liquidity tolerance.

Principle 4 (BCBS Principle 6)

A bank should actively monitor and control liquidity risk exposures and funding needs within and across legal entities, business lines and currencies, taking into account legal, regulatory and operational limitations to the transferability of liquidity.

7. Banks with operations in other countries and currencies often organise enterprise wide liquidity management in a centralised manner. Management would ideally retain the ability to monitor and control enterprise-wide liquidity across different time horizons. It is important for the head office to have appropriate information flow from foreign subsidiaries to identify problem spots in order to mobilise injection of liquidity if a subsidiary is unable to manage by itself. It would be quite appropriate for the parent bank to have a formalised liquidity support arrangement with subsidiaries when need arises. Such arrangements should take into account potential transferability constraints imposed by host regulators.

Measurement and management of liquidity risk

Principle 5 (BCBS Principle 5)

A bank should have a sound process for identifying, measuring, monitoring and controlling liquidity risk. The process should include a robust framework for comprehensively projecting cash flows arising from assets, liabilities and off-balance sheet items over an appropriate set of time horizons.

8. A sound framework for identifying, measuring, and monitoring sources of liquidity together with commensurate risks, has several dimensions, including a combination of

   (a) a comprehensive liquidity measurement program tied to and integrated with the liquidity management strategy and contingency funding plans of the bank. Such program should cover

      (i) a process for measuring pro-forma funding requirements arising from the projected contractual as well as contingent cash flows; and

      (ii) holding a stock of high quality unencumbered liquid assets readily convertible into cash without incurring undue losses;

   (b) a contingency funding plan that addresses stress testing results and is effective at managing any level of funding and market liquidity risk;

   (c) processes in respect of:

(i) internal limit setting and controls in accordance with the bank's articulated risk tolerance limit;

(ii) controlling risk-taking propensity of individual business lines of a bank to ensure that it is consistent with the liquidity risk exposures, structural or contingent, permitted by the bank; and

(iii) managing access to a diversified source for funding and tenors;

(d) Appropriate systems and personnel to ensure timely and accurate measuring, monitoring and reporting of liquidity positions against prescribed limits to management and the board for information and action as necessary.

(e) An early warning system consisting of indicators pointing to emerging vulnerabilities in liquidity risk position or potential funding needs. Such indicators may be qualitative or quantitative in nature and may include, among others:

(i) rapid asset growth;

(ii) growing concentrations in assets and liabilities;

(iii) growing currency mismatches;

(iv) significant deterioration in bank's earnings, asset quality, and overall health;

(v) repeated breaching of internal or regulatory limits;

(vi) credit rating downgrade;

(vii) increasing retail deposit outflows; and

(viii) significant deterioration in a bank's financial health.

Principle 6 (BCBS Principle 10)

A bank should conduct stress tests on a regular basis for a variety of short-term and protracted institution-specific and market-wide stress scenarios (individually and in combination) to identify sources of potential liquidity strain and to ensure that current exposures remain in accordance with a bank's established liquidity risk tolerance. A bank should use stress test outcomes to adjust its liquidity risk management strategies, policies and positions and to develop effective contingency plans.

9. The Bank of Mauritius expects banks to implement a comprehensive stress testing program applied to multiple situations of varying degrees of stress over time. An assessment of the level of available liquidity to meet cash flow requirements depends greatly on the timing of

such cash flows under different conditions. The supervisory assessment of an effective stress testing program will depend on the bank's design of scenarios that are extreme but plausible and that capture, for example:

(a) projected events impacting liquidity, such as loss of wholesale funding access, inability to draw on commitments from counterparties, need to pledge additional security due to multi-notch downgrade and honouring a non-contractual obligation to protect against reputational risk;

(b) market-wide disruptions that might cause a mass flight to quality assets; and

(c) a combination of the above.

10. The impact of the tests such as the above should be compared against the risk tolerance of the bank. The extent and frequency of testing should be commensurate to the size of the bank and its liquidity risk exposure.

11. A common objective of all stress tests is the assessment of the contingent liquidity risks embedded in the bank's balance sheet and funding profile. This should cover both contractual and legal requirements to meet any unexpected funding obligations. For banks with significant foreign currency operations, the stress testing has an additional dimension of the impact of a disruption to cross-border funding channels and currencies. In addition, the stress testing must cover and assess the reputational impact of failing to meet any non-contractual and revocable liquidity obligations.

12. In considering the severity of estimated funding gaps, management of a bank must consider, among others, the:

(a) the size and timing of funding gap relative to total funding;

(b) the level of actual stress (institution-specific or market-wide) relative to the modelled level of stress;

(c) the level and diversity of funding sources available to meet the shortfall; and

(d) the size of unencumbered high quality liquid assets to meet the shortfall.

13. The results of the above analysis should be reported to management and to the board for its consideration.

14. In assessing the severity of stress, bank management must employ forward-looking measures to determine the funding requirements under stress. The tool commonly employed to project cash flows under stress is the maturity ladder. It is a useful method to gauge for various time intervals, the combination of normal contractually driven cash flows and behaviourally modified cash flows in stress situation. The results of this test should be reported to senior management and subsequently to the board.

15. It is important to review behavioural assumptions under stress situations. Contingent cash flows arising under stress situations are often low probability events but with large funding implications. As such, it is important to employ an extra degree of conservatism in designing cash flow assumptions i.e. assigning later dates to cash inflows and earlier dates to cash outflows, in uncertain situations. For example, for each secured and unsecured funding source, a bank should use a behavioral assumption on whether each liability with an impending contractual maturity will be paid up or partially or fully rolled over. For liabilities without contractual maturity or having embedded options that could reduce the effective term, the bank should develop a schedule for run-off possibilities over the stress horizon. Assumption must be made about the capacity of the funding market to continue to roll over existing debt and to provide additional debt in a situation where the bank's credit worthiness is in question.

16. A bank should use a conservative approach in stipulating stress testing assumptions. Taking account of the severity of the scenario, a bank must consider appropriateness of a number of relevant assumptions, such as

    (a) asset market illiquidity, with erosion of asset values;

    (b) the run-off of retail funding;

    (c) the unavailability of secured and unsecured wholesale funding sources;

    (d) additional margin calls and collateral requirements;

    (e) liquidity drains arising from complex products or transactions;

    (f) access to foreign exchange markets;

    (g) ability of the bank to monetise assets; and

    (h) estimates of future growth of balance sheet assets and liabilities.

17. In stress tests, a bank should consider the likely behavioural response of other market participants to market stress and the extent to which a common response might exacerbate and amplify market movements.

Principle 7 (BCBS Principle 12)

A bank should maintain a cushion of unencumbered, high quality liquid assets to be held as insurance against a range of liquidity stress scenarios, including those that involve the loss or impairment of unsecured and typically available secured funding sources. There should be no legal, regulatory or operational impediment to using these assets to obtain funding.

18. In order to satisfy potential funding requirements, a bank must maintain a reserve of high

quality, unencumbered liquid assets that can be readily converted into cash. Such assets are traded in an active secondary market or can be liquidated through a repurchase or similar agreement without incurring a substantial discount. This would assure their status as a dependable source of cash flow under stress contingencies, which would make them eligible for any prescribed regulatory stress test requirements.

19. The purpose of having an inventory of liquid assets is to provide the bank with a source of available funds to meet normal and contingent cash flow needs as evidenced by a stress test outcome. The process should permit the bank sufficient time to:

    (a) access adequate external sources of funds at reasonable cost; and

    (b) survive a institution-specific or market-wide liquidity stress contingency until other long term solutions can be put in place and take effect.

20. In general, a bank's ability to raise, in the short term, unsecured funds, draw on commitments or access new secured funding will not be considered a viable option compared to maintaining a stock of liquid assets.

21. There is a variety of other factors governing the extent of liquid asset stock to be maintained by a bank relative to its risk profile. These include:

    (a) *the stability of funding sources* - banks relying on less permanent forms of deposits and using wholesale unsecured funding sources should hold a larger amount of liquid assets;

    (b) *diversity of funding sources* - banks with higher funding costs and those that rely on third-party brokered deposits should hold a larger stock of liquid assets;

    (c) *short-term funding* - banks with a funding mix slanted towards short-term maturity liabilities should hold a larger stock of liquid assets;

    (d) *financial strength of the parent institution and the degree of integration of liquidity management with that of the parent*;

    (e) *the regulatory regime of the country of the parent institution*.

22. It is important to make a periodic assessment of the liquidity value of a bank's assets. This involves assigning liquidity values to particular asset classes and assets. This would involve an assessment of possible discounts a bank may face in liquidating specific assets or borrowing against them to meet funding shortfall. Such an assessment should provide an indication of the level of stress. It is prudent to be conservative in assigning liquidity values. Management of a bank should implement a policy of annual review of liquidity values, with the results duly reported to the board with appropriate recommendation. In periods of market-wide stress, liquidity values should be assessed more frequently and action taken as necessary.

Principle 8 (BCBS Principle 9)

A bank should actively manage its collateral positions, differentiating between encumbered and unencumbered assets. A bank should monitor the legal entity and physical location where collateral is held and how it may be mobilised in a timely manner.

23. In determining assets that can be included in the stock of liquid assets, a bank must first identify if the assets are subject to any encumbrances that would prevent a quick sale to meet its cash flow requirements. For example, assets pledged to secure particular obligations, such as margin requirements, or overnight advances from the Bank of Mauritius, should not be considered part of an inventory of liquid assets available to meet any unexpected cash outflows. An evaluation of actual encumbrances and potential for assets making up the stock to become encumbered, should be taken into account. If such an assessment is not possible, the bank should hold a larger stock of liquid assets to compensate for uncertainty of encumbrance.

24. A bank should establish a policy for pledging of assets and monitor its execution. A bank should have the capability to calculate all of its collateral positions, including assets currently pledged and the possibility that unencumbered assets might become encumbered.

25. Cash flow processes can be a basis for identifying funding mismatches. A bank should employ measures to assess structural imbalances between its illiquid assets and sources of long term funding. Also, banks should be prudent enough not to place complete reliance on any single entity or group because a withdrawal of funding support from it could have very serious implications.

Principle 9 (BCBS Principle 11)

A bank should have a formal contingency funding plan (CFP) that clearly sets out the strategies for addressing liquidity shortfalls in emergency situations. A CFP should outline policies to manage a range of stress environments, establish clear lines of responsibility, include clear invocation and escalation procedures and be regularly tested and updated to ensure that it is operationally robust.

26. A CFP represents a set of policies, procedures and plans of action to respond to severe disruption to a bank's ability to fund some or most of its activities in a timely and cost effective manner.

27. A bank's ability to manage liquidity disruption, relative to the bank only or market-wide, depends on the calibre of its newly established CFP with its objective of maintaining market confidence in the bank and protecting its franchise. A well-constituted CFP will normally consist of, or be based, among others, on:

    (a) a set of early warning signals, possibly arising from a stress test, that point to increased liquidity risk and heightened funding needs, which is likely to trigger CFP;

(b) an outline of options for dealing with institution-specific and market-wide stress event;

(c) timely reporting to senior management and the board;

(d) identification of specific roles and responsibilities of various levels of management for the evolving stress situation;

(e) urgent action plans for assets and liabilities of the bank to protect/realise their value (e.g. market assets more aggressively, lengthen maturities of liabilities, raise interest rates on deposits) and possibly use off-balance sheet sources as necessary;

(f) identification of alternative sources of funds to meet the contingency and set out, in priority, liquidity consuming activities;

(g) identification of borrowers and trading customers in terms of their importance to the bank to preserve customer relationship; and

(h) processes for communicating with the providers of funds, customers, and media and public.

28. In a CFP or other emergency situation, the bank must immediately inform the Bank of Mauritius of the situation as well as provide regular progress updates in a timely manner.

29. The CFP should be assessed and tested at regular intervals no longer than a year to ensure its effectiveness and continuing validity. The results should be communicated to the board regularly and in emergency situation with due dispatch.

Principle 10 (BCBS Principle 4)

A bank should incorporate liquidity costs, benefits and risks in the internal pricing, performance measurement and new product approval process for all significant business activities (both on- and off-balance sheet), thereby aligning the risk-taking incentives of individual business lines with the liquidity risk exposures their activities create for the bank as a whole.

30. In measuring business performance, all relevant costs, including those relating to liquidity, must be factored in. This applies also to operations relating to new products or upgrades of existing products. Management should also factor in the cost and benefit of liquidity in internal fund transfer pricing programs. This would charge business lines the cost of funding liquidity, including the cost of holding liquid assets on standby to meet potential draws.

Principle 11 (BCBS Principle 7)

A bank should establish a funding strategy that provides effective diversification in the sources and tenor of funding. It should maintain an ongoing presence in its chosen funding

markets and strong relations with funds providers to promote effective diversification of funding sources. A bank should regularly gauge its capacity to raise funds quickly from each source. It should identify the main factors that affect its ability to raise funds and monitor those factors closely to ensure that estimates of fund raising capacity remain valid.

31. A prudent funding strategy requires funding diversification without relying on one source. A bank should cultivate relations with fund providers to facilitate access when need arises. The frequency of contact and fostering of continuing relations leads to reliability.

32. Market access is critical to effective liquidity risk management as it affects initiatives for both the ability to raise funds and to liquidate assets. The Bank of Mauritius expects banks to periodically review their initiatives to develop continuing relations with a diversified group of liability holders and to develop an asset sales market. They should establish a continuing presence in different funding markets and monitor market developments to readjust or take anticipatory actions, such as lengthening funding profile. In the interest of diversification of sources, a bank should establish internal limits on maximum amounts it will accept from any one counterparty.

33. Developing markets for asset sales or making arrangements for a bank to borrow against assets is an important way to manage market access. A continuing relationship with the asset sales market strengthens a bank's ability to execute sales under adverse conditions. This relationship must be cultivated over time to develop a degree of trust.

34. As an extra step, a bank should identify alternative sources of funding to withstand institution-specific or market-wide liquidity shock. Depending on the nature and severity of shock, some of the following sources may potentially provide needed funds:

    (a) deposit growth;

    (b) short and long-term borrowings;

    (c) lengthening of maturities of liabilities;

    (d) drawing down committed facilities;

    (e) asset securitisation; and

    (f) sale of unencumbered assets.

Principle 12 (BCBS Principle 8)

A bank should actively manage its intraday liquidity positions and risks to meet payment and settlement obligations on a timely basis under both normal and stressed conditions and thus contribute to the smooth functioning of payment and settlement systems.

35. Intraday liquidity risks have become more serious as the payment and settlement systems

have become exceedingly automated. Having recognised the serious liquidity implications of a disruption, banks should develop contingency plans and should consider back-up facilities to avoid cash flow disruptions.

Public disclosure

Principle 13 (BCBS Principle 13)

A bank should publically disclose information on a regular basis that enables market participants to make an informed judgment about the soundness of its liquidity risk management framework and liquidity position.

36. A bank should disclose all appropriate information about its management of liquidity risk to enable its shareholders and other stakeholders to make an informed judgment about the bank's ability to meet its liquidity needs. Such information should include:

    (a) the bank's organisation to manage its liquidity risk;

    (b) roles and responsibilities of the board, senior management and any committees established to implement and monitor the implementation of the framework;

    (c) an outline of liquidity tolerance acceptable and how compliance is effected;

    (d) an outline of any limit setting policies;

    (e) information about any stress tests employed; and

    (f) information about Liquidity Coverage Ratio as outlined in Annex 2.

Liquidity Monitoring Tools

Liquidity coverage ratio

37. Liquidity Coverage Ratio (LCR) represents a standard that is designed to ensure that a bank has an adequate inventory of unencumbered high quality liquid assets (HQLA) that consist of cash or assets convertible into cash at little or no loss of value in market, to meet its liquidity requirements for a 30 days' liquidity stress period, by which time, management and the Bank of Mauritius will be able to take appropriate corrective action to resolve the stress situation in an orderly manner.

    Details on the computation of LCR are given in Appendix 1.

Maturity mismatch

38. Contractual maturity mismatch

The contractual maturity mismatch profile identifies the gaps between the contractual inflows and outflows of liquidity for defined time bands. These maturity gaps indicate how much liquidity a bank would potentially need to raise in each of these time bands if all outflows occurred at the earliest possible date. This metric provides insight into the extent to which the bank relies on maturity transformation under its current contracts.

39. Behavioural maturity mismatch

Banks should conduct their own maturity mismatch analyses, based on going-concern behavioural assumptions of the inflows and outflows of funds in both normal situations and under stress. These analyses should be based on strategic and business plans and should be shared and discussed with the Bank of Mauritius, and the data provided in the contractual maturity mismatch should be utilised as a basis of comparison.

The minimum requirements for maturity mismatch and gap analysis are detailed in Appendix 2.

APPENDIX 1 – LIQUIDITY COVERAGE RATIO

Objective of the Liquidity Coverage Ratio

1. The objective of the LCR is to ensure that a bank maintains an adequate stock of unencumbered high quality liquid assets (HQLA) that consist of cash or assets that can be converted into cash at little or no loss of value in private markets, to meet its liquidity needs for a 30 calendar day time period under a severe liquidity stress scenario.

2. The LCR has two components:

   (a) the value of the stock of HQLA in stressed conditions; and

   (b) total net cash outflows, calculated according to the scenario parameters outlined below.

3. The LCR is the percentage ratio:

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

4. A bank must include an appropriate buffer of HQLA over the LCR requirement in line with its liquidity risk tolerance.

5. During a period of financial stress, a bank may need to liquidate part of its stock of HQLA to cover cash outflows, as a consequence of which the LCR may fall below the minimum requirement of 100 per cent. In such instances, the bank must notify the Bank of Mauritius in writing of its intent to utilise its stock of HQLA within one business day after the utilisation of the liquid assets and:

   (a) provide its justification for the utilisation of the HQLA;

   (b) set out the cause of the liquidity stress situation with supporting documents, as necessary; and

   (c) detail the steps which it has taken and/or is going to take to resolve the liquidity stress situation.

Application issues for the LCR

Frequency of calculation and reporting

6. The LCR should be used on an ongoing basis to help monitor and control liquidity risk. The LCR should be reported to the Bank of Mauritius on a bimonthly basis, as at the fifteenth and the end of every month, not later than 10 working days after the fifteenth and the end of every

month respectively[2]. A bank should, however, have the operational capacity to increase the frequency to weekly or even daily in stressed situations.

Exemptions

7. The Bank of Mauritius may grant exemptions on specific provisions of the LCR standards based on its assessment of the liquidity risk exposure of the concerned financial institutions. With respect to banking groups, the Bank of Mauritius will, inter-alia, also take into consideration liquidity transfer restrictions imposed under laws, regulations or supervisory requirements in applicable jurisdictions as well as the overall liquidity risk profile and liquidity management framework of concerned banking groups before granting any exemption. Applications for exemptions should be duly supported by the underlying rationale and a description of measures including systems and controls put in place to mitigate the associated risks. The Bank of Mauritius may at any time review or cancel exemptions granted to financial institution based on its on-going assessment of the liquidity profile of the concerned institution. The financial institution which has been granted such exemptions should immediately notify the Bank of Mauritius of any deterioration in their liquidity profile.

Scope of application

8. The LCR standard should be applied at two levels: (i) the bank on a standalone (solo) level; and (ii) the consolidated (group) level.

9. The Bank of Mauritius will determine which investments in banking, securities and financial entities of a banking group that are not consolidated should be considered significant, taking into account the liquidity impact of such investments on the group under the LCR standard. Normally, a non-controlling investment (e.g. a joint-venture or minority-owned entity) can be regarded as significant if the banking group will be the main liquidity provider of such investment in times of stress (e.g. when the other shareholders are non-banks or where the bank is operationally involved in the day-to-day management and monitoring of the entity's liquidity risk).

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

11. As stated above, the LCR is to be met by a bank on both a solo and consolidated basis. Where a bank has a banking presence (branch or subsidiary) in other jurisdictions, the bank in calculating its consolidated LCR must apply the requirements outlined in this guideline to such branch or subsidiary. The only exceptions are:

    (a) for retail and small business deposits, where the host supervisors' outflow assumptions must be applied; and

[2] Amended on 3 April 2019. It is noted that the template for reporting of LCR was also revised on 7 January 2019.

(b) alternative liquid assets, as provided for in the BCBS global framework for liquidity risk and allowed by the host supervisor, can be included.

12. Where a bank has a banking presence (branch or subsidiary) in jurisdictions that do not apply the global framework of BCBS for liquidity risk, the cash flow assumptions outlined in this guideline must be applied in calculating its consolidated LCR.

13. Banks with material banking subsidiaries in other jurisdictions must ensure that the subsidiary maintains at least a 100 per cent LCR. The Bank of Mauritius may allow a bank to include assets that are formally recognised as eligible liquid assets by the host supervisor.

14. For the calculation of the consolidated LCR, a bank must take into account restrictions on the transferability of liquid assets across borders. No excess liquidity is to be recognised in the consolidated LCR unless there is reasonable certainty about the availability of such liquidity.

15. The Bank of Mauritius reserves the right to impose stricter parameters where necessary.

Currencies

16. While the LCR is expected to be met and reported in a single currency, banks are expected to be able to meet their liquidity needs in each currency and maintain HQLA consistent with the distribution of their liquidity needs by currency. The bank should be able to use the stock to generate liquidity in the currency and jurisdiction in which the net cash outflows arise. As such, LCR should be monitored and reported as mentioned hereunder, to allow the bank and the Bank to track any potential currency mismatch issues that could arise.

    (a) on a consolidated basis (either in MUR or USD, depending on the reporting currency of the bank);

    (b) for assets and liabilities denominated in MUR; and

    (c) for assets and liabilities denominated in each significant currency, whereby a currency is significant if liabilities in that currency amount to 10 per cent or more of a bank's total liabilities.

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

Treatment of liquidity transfer restrictions

18. As a general principle, no excess liquidity should be recognised by a cross-border banking group in its consolidated LCR if there is reasonable doubt about the availability of such liquidity. Liquidity transfer restrictions in jurisdictions in which a banking group operates

will affect the availability of liquidity by inhibiting the transfer of HQLA and fund flows within the group. The consolidated LCR should reflect such restrictions in a manner consistent with paragraph 32 of this Appendix. For example, the eligible HQLA that are held by a legal entity being consolidated to meet its local LCR requirements (where applicable) can be included in the consolidated LCR to the extent that such HQLA are used to cover the total net cash outflows of that entity, notwithstanding that the assets are subject to liquidity transfer restrictions. If the HQLA held in excess of the total net cash outflows are not transferable, such surplus liquidity should be excluded from the standard. For practical reasons, the liquidity transfer restrictions to be accounted for in the consolidated ratio are confined to existing restrictions imposed under applicable laws, regulations and supervisory requirements. A banking group should have processes in place to capture all liquidity transfer restrictions to the extent practicable, and to monitor the rules and regulations in the jurisdictions in which the group operates and assess their liquidity implications for the group as a whole.

Transitional arrangements

19. The transitional arrangements are detailed as follows[3]:

	As from 30 November 2017	As from 31 January 2018	As from 31 January 2019	As from 1 July 2019	As from 31 January 2020
LCR in MUR	100%	100%	100%	100%	100%
LCR in material foreign currencies	60%	70%	80%	80%	100%
Consolidated LCR (in either MUR or USD)	60%	70%	80%	80%	100%
Reporting timeframe	Within 20 working days from month end	Within 10 working days from month end		Within 10 working days from the fifteenth and the end of every month	

LCR disclosure requirements

20. Banks are required to comply with the disclosure requirements in respect of the LCR as set out in Annex 2.

Eligible stock of high-quality liquid assets

21. There are three categories of assets that can be included in the stock of HQLA. Assets to be included in each category are those that the bank is holding on the first day of the stress period, irrespective of their residual maturity. The highest quality liquid assets (HQLA1) can be included without limit, while other high-quality liquid assets, HQLA2 (which consist of HQLA2A and HQLA2B) can only comprise up to 40 per cent of the stock. HQLA2B can only comprise up to 15 per cent of the stock and must be included in the within the overall 40 per cent cap on HQLA2.

[3] Amended on 3 April 2019

22. The calculation of the 40 per cent cap on HQLA2 and 15 per cent on HQLA2B must take into account the impact on the stock of HQLA of the amounts of HQLA1 and HQLA2 involved in secured funding, secured lending and collateral swaps transactions maturing within 30 calendar days. The maximum amount of adjusted HQLA2 in the stock of high-quality liquid assets is equal to two-thirds of the adjusted amount of HQLA1 after haircuts have been applied.

23. The adjusted amount of HQLA1 is defined as the amount of HQLA1 that would result after unwinding those short-term secured funding, secured lending and collateral swap transactions involving the exchange of any HQLA for any HQLA1 that meet, or would meet if held unencumbered, the operational requirements for HQLA set out in paragraphs 31 to 33 of this Appendix. The adjusted amount of HQLA2 is defined as the amount of HQLA2 that would result after unwinding those short-term secured funding, secured lending and collateral swap transactions involving the exchange of any HQLA for any HQLA2 that meet, or would meet if held unencumbered, the operational requirements for HQLA set out in paragraphs 31 to 33 of this Appendix. In this context, short-term transactions are transactions with a maturity date up to and including 30 calendar days. Relevant haircuts are applied prior to calculation of the cap.

24. The stock of HQLA held by the bank must be well diversified within the asset classes themselves (except for sovereign debt of the bank's home jurisdiction or from the jurisdiction in which the bank operates, central bank reserves, central bank debt securities and cash).

HQLA1

25. HQLA1 can comprise an unlimited share of the stock of eligible HQLA. HQLA1 are included at market value and are not subject to a haircut under the LCR. These assets are limited to:

    (a) coins and banknotes;

    (b) central bank reserves (including required reserves), in excess of the daily Cash Reserve Ratio;

    (c) marketable securities representing claims on or claims guaranteed by sovereigns, central banks, public sector entities (PSEs), the Bank for International Settlements (BIS), the International Monetary Fund (IMF), the European Central Bank (ECB) and European Union (EU) or multilateral development banks (MDBs), and that satisfy all of the following conditions:

        (i) assigned a zero per cent risk-weight under the *Guideline on Standardised Approach to Credit Risk*;

        (ii) traded in large, deep and active repo or cash markets characterised by a low level of concentration;

(iii) have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions; and

(iv) not an obligation of a financial institution or any of its associated entities;

(d) for non-zero per cent risk-weighted sovereigns: sovereign or central bank debt securities issued in domestic currencies by the sovereign or central bank in the country in which the liquidity risk is being taken or in the bank's home country; and

(e) for non-zero per cent risk-weighted sovereigns: domestic sovereign or central bank debt securities issued in foreign currencies are eligible up to the amount of the bank's stressed net cash outflows in that specific foreign currency stemming from the bank's operations in the jurisdiction where the bank's liquidity risk is being taken.

HQLA2

26. HQLA2 (comprising HQLA2A and HQLA2B) are limited to 40 per cent of HQLA after haircuts have been applied.

27. A 15 per cent haircut is applied to the current market value of each HQLA2A held in the stock of eligible HQLA. HQLA2A are limited to:

(a) marketable securities representing claims on or guaranteed by sovereigns, central banks, PSEs or MDBs that satisfy all of the following conditions:

(i) assigned a 20 per cent risk-weight under the *Guideline on Standardised Approach to Credit Risk*;

(ii) traded in large, deep and active repo or cash markets characterised by a low level of concentration;

(iii) have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions (i.e. maximum decline of price not exceeding 10 per cent or increase in haircut not exceeding 10 percentage points over a 30-day period during a relevant period of significant liquidity stress); and

(iv) not an obligation of a financial institution or any of its affiliated entities;

(b) corporate debt securities (including commercial paper) and covered bonds that satisfy all of the following conditions:

(i) in the case of corporate debt securities: are not issued by a financial institution or any of its affiliated entities and are plain vanilla assets whose valuation is readily available based on standard methods and does not depend on private knowledge (i.e. these do not include complex structured products or subordinated debt);

(ii) in the case of covered bonds[4]: are not issued by the bank itself or any of its affiliated entities;

(iii) the assets have a long term credit rating from a recognised external credit assessment institution (ECAI) of at least AA- or in the absence of a long term rating, a short term rating equivalent in quality to the long term rating; or do not have a credit assessment by a recognised ECAI and are internally rated as having a probability of default (PD) corresponding to a credit rating of at least AA-;

(iv) traded in large, deep and active repo or cash markets characterised by a low level of concentration; and

(v) have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions (i.e. maximum decline of price or increase in haircut over a 30-day period during a relevant period of significant liquidity stress not exceeding 10 per cent).

HQLA2B

28. A larger haircut is applied to the current market value of each HQLA2B held in the stock of HQLA. Subject to approval of the Bank of Mauritius, HQLA2B are limited to:

(a) Residential mortgage backed securities (RMBS) that satisfy all of the following conditions may be included in HQLA2B, subject to a 25 per cent haircut:

(i) not issued by, and the underlying assets have not been originated by the bank itself or any of its affiliated entities;

(ii) have a long-term credit rating from a recognised ECAI of AA or higher, or in the absence of a long term rating, a short-term rating equivalent in quality to the long-term rating;

(iii) traded in large, deep and active repo or cash markets characterised by a low level of concentration;

(iv) have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions (i.e. maximum decline of price not exceeding 20 per cent or increase in haircut not exceeding 20 percentage points over a 30-day period during a relevant period of significant liquidity stress);

(v) the underlying asset pool is restricted to residential mortgages and cannot contain structured products;

[4] *Covered bonds* are bonds issued and owned by a bank or mortgage institution whereby the proceeds deriving from their issue must be invested in conformity with the law in assets which, during the whole period of the validity of the bonds, are capable of covering claims attached to the bonds and which, in the event of the failure of the issuer, would be used on a priority basis for the reimbursement of the principal and payment of the accrued interest.

(vi) the underlying mortgages are "full recourse'' loans (i.e. in the case of foreclosure the mortgage owner remains liable for any shortfall in sales proceeds from the property) and have a maximum loan-to-value ratio (LTV) of 80% on average at issuance; and

(vii) the securitisations are subject to "risk retention" regulations which require issuers to retain an interest in the assets they securitise.

(b) Corporate debt securities (including commercial paper) that satisfy all of the following conditions may be included in HQLA2B, subject to a 50 per cent haircut:

(i) not issued by a financial institution or any of its affiliated entities and are plain vanilla assets whose valuation is readily available based on standard methods and does not depend on private knowledge (i.e. these do not include complex structured products or subordinated debt);

(ii) the assets have a long term credit rating from a recognised (ECAI) between A+ and BBB- or in the absence of a long term rating, a short term rating equivalent in quality to the long term rating; or do not have a credit assessment by a recognised ECAI and are internally rated as having a PD corresponding to a credit rating corresponding to a credit rating between A+ and BBB-;

(iii) traded in large, deep and active repo or cash markets characterised by a low level of concentration; and

(iv) have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions (i.e. maximum decline of price not exceeding 20 per cent or increase in haircut not exceeding 20 percentage points over a 30-day period during a relevant period of significant liquidity stress).

(c) Common equity shares that satisfy all of the following conditions may be included in HQLA2B, subject to a 50 per cent haircut:

(i) not issued by a financial institution or any of its affiliated entities;

(ii) exchange traded and centrally cleared;

(iii) a constituent of the major stock index in the home jurisdiction or where the liquidity risk is taken, as decided by the supervisor in the jurisdiction where the index is located;

(iv) denominated in the domestic currency of a bank's home jurisdiction or in the currency of the jurisdiction where a bank's liquidity risk is taken;

(v) traded in large, deep and active repo or cash markets characterised by a low level of concentration; and

(vi) have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions (i.e. maximum decline of price not exceeding 40 per cent or increase in haircut not exceeding 40 percentage points over a 30-day period during a relevant period of significant liquidity stress.

HQLA to cover for liquidity needs in other currencies

29. HQLA denominated in major currencies that are freely convertible, transferable and actively traded in global foreign exchange markets[5] may be used to cover liquidity needs in other currencies, subject to approval of the Bank of Mauritius. HQLA used to cover liquidity needs in other currencies will be subject to a minimum haircut of 8 per cent or the 30-day moving volatility of the exchange rate (mean + 3 standard deviations) of the currency pair over a ten-year period, whichever is the higher.

HQLA held by parent banks

30. Subject to approval of the Bank of Mauritius, HQLA which are kept by parent banks may, on a case by case basis, be allowed to be counted as HQLA provided that there are appropriate agreements confirming that the HQLA held by the head office are earmarked for the local bank and would be transferred to the local bank if need be. Further, there should be no liquidity transfer restriction including ring-fencing, non-convertibility and foreign exchange controls imposed under applicable laws, regulations or supervisory requirements in the jurisdiction of the parent bank which may inhibit the transfer of the HQLA and fund flows to the bank in Mauritius.

Operational requirements

31. All assets in the stock of eligible HQLA must be managed as part of that stock and are subject to the following operational requirements:

(a) the assets must be available for the bank to convert into cash at any time;

(b) the assets must be unencumbered[6] and be under the control of the specific function charged with managing the liquidity risk of the bank, typically the treasurer who must have the continuous authority, and legal and operational capability, to monetise any asset in the stock. Control must be evidenced either by maintaining assets in a separate pool managed by the function with the sole intent to use as a source of contingent funds, or by demonstrating that the function can monetise the asset at any point in the 30-day stress

[5] These refer to currencies that exhibit significant and active market turnover in the global foreign currency market (e.g. the average market turnover of the currency as a percentage of the global foreign currency market turnover over a ten-year period is not lower than 10%).

[6] Unencumbered means free of legal, regulatory, contractual or other restrictions on the ability of the bank to liquidate, sell, transfer or assign the asset.

period and that the proceeds of doing so are available to the function throughout the 30-day stress period without directly conflicting with a stated business or risk management strategy; and

(c) the assets must not be pledged to secure, collateralise or credit-enhance any transactions or be designated to cover operational costs (such as rents and salaries). Assets received in reverse repo and securities financing transactions that are held at the bank, have not been rehypothecated and are legally and contractually available for the bank's use can be considered as part of the stock of HQLA.

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

33. If a liquid asset no longer qualifies as HQLA (e.g. due to rating downgrade), a bank is permitted to keep such assets in its stock of liquid assets for an additional 30 calendar days. This would allow the bank additional time to adjust its stock as needed or replace the asset.

Total net cash outflows

34. Total net cash outflows represent the total expected cash outflows minus total expected cash inflows in the specified stress scenario for the subsequent 30 calendar days. Total expected cash outflows are calculated by multiplying the outstanding balances of various categories or types of liabilities and off-balance sheet commitments by the rates at which they are expected to run off or be drawn down. Total expected cash inflows are calculated by multiplying the outstanding balances of various categories of contractual receivables by the rates at which they are expected to flow in under the scenario, up to an aggregate cap of 75 per cent of total expected cash outflows.

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

35. The run off rates on cash outflows and rates on cash inflows prescribed in this appendix are representative of the stress scenario to be applied for the calculation of LCR. Banks should validate these assumptions with their internal data and apply the most conservative rates.

36. A bank must not double-count items. That is, if assets are included as part of the stock of HQLA (the numerator of the LCR), the associated cash inflows cannot also be counted as cash inflows.

Annex 1 provides a summary of the factors that are applied to each category.

Cash outflows

I Retail deposit outflows

37. For the purposes of the LCR, 'retail deposits' are defined as deposits placed with a bank by a natural person. Deposits from legal entities, sole proprietorships or partnerships are captured in wholesale deposit categories. Retail deposits include demand deposits and term deposits, unless otherwise excluded under the criteria set out in paragraphs 42 and 43 of this Appendix.

38. Retail deposits (which usually receive a run-off factor of 5 per cent) are divided into 'stable' and 'less stable' portions of funds, as described below.

39. Stable deposits are the portion of deposits that are fully insured by an effective deposit insurance scheme or by a public guarantee that provides equivalent protection and where:

    (a) the depositor has other established relationships with the bank that make deposit withdrawal highly unlikely; or

    (b) the deposits are in transactional accounts (e.g. accounts where salaries are automatically credited).

40. Less stable deposits are the portion of deposits that do not meet the requirements of stable deposits. They receive run-off rates of 10 per cent and higher.

41. If a bank is not able to readily identify which retail deposits would qualify as 'stable' according to the above definition, it should place the full amount in the 'less stable' buckets.

Retail fixed-term deposits

42. Cash outflows related to retail fixed or term deposits with a residual maturity or withdrawal notice period of greater than 30 days will be excluded from LCR calculations if the depositor has no legal right to withdraw deposits within the 30-day horizon of the LCR, or if early withdrawal results in a significant penalty that is materially greater than the loss of interest.

43. If a bank allows a depositor to withdraw such deposits without applying the corresponding penalty or despite a clause that says the depositor has no legal right to withdraw, the entire category of these funds must be treated as demand deposits.

44. However, in exceptional circumstances, a bank can allow depositors experiencing hardship to withdraw their term deposits without changing the treatment of the entire pool of deposits.

II Unsecured wholesale funding run-off

45. For the purposes of the LCR, 'unsecured wholesale funding' is defined as those liabilities and general obligations that are raised from non-natural persons (i.e. legal entities, including

sole proprietorships and partnerships) and are not collateralised by legal rights to specifically designated assets owned by the borrowing institution in the case of bankruptcy, insolvency, liquidation or resolution. Obligations related to derivative contracts are explicitly excluded from this definition.

46. The wholesale funding included in the LCR is defined as all funding that is callable within the LCR's horizon of 30 days or that has its earliest possible contractual maturity date within this horizon (such as maturing term deposits and unsecured debt securities), as well as funding with an undetermined maturity. This must include all funding with options that are exercisable at the investor's discretion within the 30-day horizon.

47. Wholesale funding that is callable by the funds provider subject to a contractually defined and binding notice period surpassing the 30-day horizon is not included. For the purpose of the LCR, unsecured wholesale funding is to be categorized as below, with the run-off rates listed for each category.

Unsecured wholesale funding provided by small business customers

48. Unsecured wholesale funding provided by small business customers can be treated as retail deposits where:

    (a) the deposits and other extensions of funds made by non-financial small business customers are managed as retail exposures and are generally considered as having similar liquidity risk characteristics to retail accounts; and

    (b) the total aggregated funding raised from a small business customer is less than MUR20 million (on a consolidated basis where applicable).

Operational deposits generated by clearing, custody and cash management

49. For the purpose of the LCR, operational deposits are those where financial and non-financial customers place, or leave, deposits with a bank in order to facilitate their access and ability to use payment and settlement systems and otherwise make payments. Balances can only be included if the customer has a substantive dependency on the bank and the deposit is required for such activities.

50. Qualifying activities in this context refer to clearing, custody or cash management activities whereby the customer is reliant on the bank to perform these services as an independent third-party intermediary in order to fulfil its normal banking activities over the next 30 days.

51. Qualifying operational deposits generated by such an activity are ones where the deposits are:

    (a) by-products of the underlying services provided by the bank;

(b) not offered by the bank in the wholesale market in the sole interest of offering interest income; and

(c) held in specifically designated accounts and priced without giving an economic incentive to the customer to leave excess funds on these accounts.

52. Any excess balances that could be withdrawn without jeopardising these clearing, custody or cash management activities do not qualify as operational deposits.

Notwithstanding the above, if the deposit under consideration arises out of a correspondent banking or from the provision of prime brokerage services, it will be treated as if there were no operational activity for the purpose of determining the run-off factors.

III Secured funding run-off

53. A bank shall include as secured funding cash outflows any liabilities and general obligations that are collateralised by legal rights to specifically designated assets owned by the borrowing institution in the case of bankruptcy, insolvency, liquidation or resolution. The bank shall include forward repurchase transactions and collateral swaps that start prior to, but mature within the 30-day LCR horizon in this category.

54. Annex 1 provides a summary of the cash outflow rates that applies to each category for outstanding secured funding transactions that matures within the 30-day LCR horizon. A bank shall apply the outflow rates to the amount of funds raised through the secured funding transaction.

IV Additional requirements

Derivatives cash outflows

55. The sum of all net cash outflows should receive a 100 per cent factor. Banks should calculate, in accordance with their existing valuation methodologies, expected contractual derivative cash inflows and outflows. Banks should exclude from such calculations those liquidity requirements that would result from increased collateral needs due to market value movements or falls in value of collateral posted. Options should be assumed to be exercised when they are 'in the money' to the option buyer.

56. Banks may calculate cash flows by counterparty on a net basis subject to the following conditions:

(a) There should either be a valid master netting agreement or the agreement for each swap transaction being netted off should involve full exchange of principal on a simultaneous basis or within the same day;

(b) The netting off should be between major currencies which are freely convertible, transferable and actively traded in global foreign exchange markets; and

(c) A haircut equal to the higher of 8 per cent or the 30-day moving volatility of the exchange rate (mean + 3 standard deviations) of the currency pair over a ten-year period, whichever is the higher.

57. Where derivative payments are collateralised by HQLA, cash outflows should be calculated net of any corresponding cash or collateral inflows that would result, all other things being equal, from contractual obligations for cash or collateral to be provided to the bank, if the bank is legally entitled and operationally capable to re-use the collateral in new cash raising transactions once the collateral is received. This is in line with the principle that banks should not double count liquidity inflows and outflows.

Liquidity facilities

58. A liquidity facility is any committed, undrawn back-up facility that would be used to refinance the debt obligations of a customer in situations where such a customer is unable to rollover that debt in financial markets. The amount of any commitment to be treated as a liquidity facility is the amount of the outstanding debt issued by the customer (or proportionate share of a syndicated facility) maturing within a 30-day period that is backstopped by the facility. Any additional capacity of the facility is to be treated as a committed credit facility. General working capital facilities for corporate entities (e.g. revolving credit facilities in place for general corporate or working capital purposes) must not be classified as liquidity facilities, but as credit facilities.

59. Notwithstanding paragraph 57 of this Appendix, any facilities provided to hedge funds, money market funds and special purpose funding vehicles, or other vehicles used to finance a bank's own assets, must be captured in their entirety as a liquidity facility to a financial institution.

Cash inflows

60. When considering its available cash inflows, a bank must only include contractual inflows from outstanding exposures that are fully performing and for which it has no reason to expect a default within the 30-day time horizon. Contingent inflows are not included in total net cash inflows.

I Secured lending, including reverse repos and securities borrowing

61. A bank must assume that maturing reverse repurchase or securities borrowing agreements secured by HQLA1 will be rolled over and will not give rise to any cash inflows (zero per cent). Maturing reverse repurchase or securities borrowing agreements secured by other HQLA are to be modelled as cash inflows equivalent to the haircut for the specific assets, as outlined in Annex 1. Collateralised loans extended to customers for the purpose of taking leveraged trading positions are to be modelled with a 50 per cent cash inflow from contractual inflows made against non-HQLA1 or non-HQLA2.

62. As an exception to paragraph 60 of this Appendix, if the collateral obtained through reverse repo, securities borrowing or collateral swaps, which matures within the 30-day horizon, is re-used (i.e. rehypothecated) and is tied up for 30 days or longer to cover short positions, a bank must assume that such reverse repo or securities borrowing arrangements will be rolled over and will not give rise to any cash inflows (zero per cent), reflecting its need to continue to cover the short position or to re-purchase the relevant securities.

II Committed facilities

63. Credit facilities, liquidity facilities and other contingent funding facilities that a bank holds at other institutions for its own purposes receive a zero per cent inflow rate. Subject to approval of the Bank of Mauritius, a committed line of credit provided by a parent entity which is already subject to consolidated LCR requirements in its home jurisdiction may receive a 40 per cent inflow rate.

III Other inflows by counterparty

64. All inflows in respect of loan payments must be taken only at the latest possible date, based on the contractual rights available to counterparties. Inflows from loans that have no specific maturity are not included, with the exception of minimum payments of principal, fee or interest associated with an open maturity loan provided that such payments are contractually due within 30 days.

Retail and small business customer inflows

65. A bank is assumed to receive all fully performing contractual inflows from retail and small business customers. At the same time, however, a bank is assumed to continue to extend loans to retail and small business customers, at a rate of 50 per cent of contractual inflows. This results in a net inflow rate of 50 per cent of the contractual amount.

Other wholesale inflows

66. A bank is assumed to receive all fully performing contractual wholesale cash inflows. In addition, a bank is assumed to continue to extend loans to wholesale clients, at a rate of zero per cent of inflows for financial institutions and central banks, and 50 per cent for all others, including non-financial corporates, sovereigns, PSEs and MDBs. This will result in an inflow rate of:

(a) 100 per cent from financial institution and central bank counterparties; and

(b) 50 per cent for other entities.

Inflows from maturing securities not included in the stock of HQLA receive an inflow rate of 100 per cent.

Operational deposits

67. A zero per cent inflow rate applies to deposits held at other financial institutions for operational purposes.

IV Other cash inflows

Derivatives cash inflows

68. The sum of all net cash inflows should receive a 100 per cent factor. The amounts of derivatives cash inflows and outflows should be calculated in accordance with the methodology described in paragraph 55 and 57.

69. Other contractual cash inflows must be captured here, with explanation given as to what comprises this bucket. Cash inflows related to non-financial revenues are not taken into account in the calculation of the net cash outflows for the purposes of the LCR. These items receive an inflow rate of 100 per cent.

APPENDIX 2 – MATURITY MISMATCH

1. A maturity mismatch profile, shall be constructed both based on contractual terms and based on behavioural terms. Additionally, maturity ladders shall be constructed:

   (a) on a consolidated basis (in MUR or USD);
   (b) for assets and liabilities denominated in MUR; and
   (c) for assets and liabilities denominated in each significant currency, whereby a currency is significant if liabilities in that currency amount to 10 per cent or more of a bank's total liabilities.

Time buckets / bands

2. Cash flow mismatch should be constructed for the following buckets:

   (a) 1 day;
   (b) 2 days - 7 days;
   (c) 8 days - 14 days;
   (d) 15 days - 1 month;
   (e) 1 month - 3 months;
   (f) 3 months - 6 months;
   (g) 6 months - 1 year;
   (h) 1 year - 3 years;
   (i) 3 years - 5 years
   (j) over 5 years; and
   (k) non-maturity.

Behavioural Assumptions

3. In preparing the maturity profile a bank shall detail the assumptions underlying the behaviour of its assets, liabilities and off-balance sheet items for determining potential cash flows. Assumptions regarding future cash flows from assets include (but are not limited to) the marketability of existing assets, the extent to which maturing assets will be renewed, the extent to which new assets will be acquired hence reducing contractual cash inflows.

4. A bank experiencing asset quality problems shall not assume that assets will materialise when due. A more realistic set of assumptions on asset roll-over shall be embodied in the maturity mismatch analysis.

5. With regard to assets with embedded options such as timing and amount of withdrawal being uncertain, a bank shall conduct an analysis of historical observations to determine its cash flow patterns and derive behavioural assumptions applicable to its cash flows.

6. A bank shall also examine the probability for significant cash flows from off-balance sheet activities. The contingent nature of most off-balance sheet instruments increases the complexity of managing the associated cash flows. Off-balance sheet activities such as letters

of credit, financial guarantees, undrawn committed loans, derivatives and margin calls could lead to a significant drain on liquidity. Therefore, to manage all these, the bank must evaluate its impact on funding and ascertain a normal level of net cash flows arising from such activities on an on-going basis.

7. The behavioural assumptions of all the assets shall be documented and approved by senior management and the Risk Management Committee. These assumptions shall be reviewed on an ongoing basis to ensure their continued validity.

Granularity

8. A bank shall construct a maturity ladder with appropriate granularity to reflect its nature of business. An appropriate breakdown of the maturity mismatch analysis by account type (e.g. breakdown of the retail deposits by type) allows for a more effective analysis to be carried out.

Limits on the net Cumulative Funding Mismatch

9. While the cash flow mismatch position for medium to long term time buckets/bands is important in providing an early warning of potential future liquidity problems the main emphasis of mismatch analysis shall be on the short term cash flows positions. The net cumulative funding requirement for short term cash flows shall be limited to an amount that the bank can confidently fund in the market.

Reporting

10. All banks shall report to the Bank of Mauritius, in the format of Annex 3, on a monthly basis the Maturity Mismatch Profile of Assets and Liabilities as per slotting rules outlined in Annex 4.

ANNEX 1 – ILLUSTRATIVE SUMMARY OF THE LCR

To be reported separately in MUR, in each significant currency and on a consolidated basis (*either in MUR or USD, depending on the reporting currency of the bank*).

(Percentages are factors to be multiplied by the total amount of each item)

	Item	Factor
	Stock of HQLA	
A	***HQLA1:***	
•	Coins and bank notes	100%
•	Qualifying Marketable securities from sovereigns, central banks, PSEs and MDBs	
•	Qualifying central bank reserves (reserves in excess of the daily Cash Reserve Ratio)	
•	Domestic sovereign or central bank debt for non-zero risk-weighted sovereigns	
•	HQLA1 denominated in other currencies	Subject to approval of the Bank
•	HQLA1 held at parent banks	Subject to approval of the Bank
B	***HQLA2 (maximum of 40% of HQLA):***	
	HQLA2A	
•	Sovereign, central bank, MDBs and PSE assets qualifying for 20% risk weighting	85%
•	Qualifying corporate debt securities rated AA- or higher	
•	Qualifying covered bonds rated AA- or higher	
	HQLA2B (maximum of 15% of HQLA)	
•	Qualifying RMBS	75% (Subject to approval of the Bank)
•	Qualifying corporate debt securities rated between A+ and BBB-	50% (Subject to approval of the Bank)
•	Qualifying common equity shares	50% (Subject to approval of the Bank)
•	**Total value of stock of HQLA**	
	Cash outflows	
A	***Retail deposits:***	

	Demand deposits and term deposits (less than 30 days maturity):	
•	Stable deposits (deposit insurance scheme meets additional criteria)	3%
•	Stable deposits	5%
•	Less stable retail deposits	10%
	Term deposits with residual maturity greater than 30 days	0%
B	***Unsecured wholesale funding:***	
	Demand and term deposits (less than 30 days maturity) provided by small business customers:	
•	Stable deposits	5%
•	Less stable deposits	10%
	Operational deposits generated by clearing, custody and cash management activities	25%
•	Portion covered by deposit insurance	5%
	Non-financial corporates, sovereigns, central banks, MDBS and PSEs	40%
•	If the entire amount is fully covered by deposit insurance scheme	20%
	Other legal entity customers	100%
C	***Secured funding:***	
•	Secured funding transactions with a central bank counterparty or backed by HQLA1 with any counterparty	0%
•	Secured funding transactions backed by HQLA2 assets, with any counterparty	15%
•	Backed by RMBS eligible for inclusion in HQLA2B	25% (Subject to approval of the Bank)
•	Backed by other HQLA2B assets	50% (Subject to approval of the Bank)
•	All other secured funding transactions	100%
D	***Additional requirements:***	
	Currently undrawn committed credit and liquidity facilities provided to:	
•	Retail and small business customers	5%
•	Non-financial corporates, sovereigns and central banks, MDBs and PSEs	10% for credit 30% for liquidity
•	Banks subject to prudential supervision	40%

• Other financial institutions (include securities firms, insurance companies)	40% for credit 100% for liquidity
• Other legal entity customers, credit and liquidity facilities	100%
Other contingent funding liabilities (such as guarantees, letters of credit, revocable credit and liquidity facilities, etc.)	
• Trade finance	0-5%
• Customer short positions covered by other customers' collateral	50%
Any additional contractual outflows	100%
Net derivative cash outflows	100%
Any other contractual cash outflows	100%
Total cash outflows	
Cash inflows	
Maturing secured lending transactions backed by the following collateral:	
HQLA1	0%
HQLA2A	15%
HQLA2B:	
• Eligible RMBS	25% (Subject to approval of the Bank)
• Other assets	50% (Subject to approval of the Bank)
Margin lending backed by all other collateral	50%
All other assets	100%
Credit or liquidity facilities provided to the reporting bank:	
• From parent entity	40% (Subject to approval of the Bank)
• From other entities	0%
Operational deposits held at other financial institutions	0%
Other inflows by counterparty:	
• Amounts to be received from retail counterparties	50%
• Amounts to be received from non-financial wholesale counterparties, from transactions other than those listed in the above inflow categories	50%
• Amounts to be received from financial institutions and central banks, from transactions other than those listed in the above inflow categories	100%
Net derivative cash inflows	100%
Other contractual cash inflows	0%

Total cash inflow	
Total net cash outflows = Total cash outflows minus min [total cash inflows, 75% of gross outflows]	
LCR = Stock of HQLA / Total net cash outflows	

ANNEX 2 – LIQUIDITY COVERAGE RATIO DISCLOSURE STANDARDS

1. Banks are required to comply with the disclosure requirements set out below from the date of the first reporting period after the LCR comes into effect. Banks must publish this disclosure at the same frequency as, and concurrently with, the publication of their financial statements, irrespective of whether the financial statements are audited (i.e. typically quarterly or semi-annually). Disclosures must either be included in banks' published financial reports or, at a minimum, provide a direct and prominent link to the completed disclosure on the banks' websites or in publicly available regulatory reports. Banks must also make available on their websites, or through publicly available regulatory reports, an archive (for a retention period of one year) of all templates relating to prior reporting periods. Irrespective of the location of the disclosure, the minimum disclosure requirements must be in the format set out in this Annex.

2. The disclosure of quantitative information about the LCR should follow the common template set out below. The LCR information must be calculated on a consolidated basis and presented in a single currency.

3. Data must be presented as simple averages of bimonthly observations over the quarter[7] (i.e. the average is calculated over a period of typically 3 months). Moreover, banks must publish the number of data points used in calculating the average figures in the template. Further, banks must publish the simple average of their daily HQLA over the quarter.

4. For most data items, both unweighted and weighted values of the LCR components must be disclosed. The unweighted value of inflows and outflows is to be calculated as the outstanding balances of various categories or types of liabilities, off-balance sheet items or contractual receivables. The "weighted" value of HQLA is to be calculated as the value after haircuts are applied. The "weighted" value for inflows and outflows is to be calculated as the value after the inflow and outflow rates are applied. Total HQLA and total net cash outflows must be disclosed as the adjusted value, where the "adjusted" value of HQLA is the value of total HQLA after the application of both haircuts and any applicable caps on HQLA 2 assets. The adjusted value of net cash outflows is to be calculated after the cap on inflows is applied, if applicable.

5. In addition to the common template, banks should provide sufficient qualitative discussion around the LCR to facilitate understanding of the results and data provided. For example, where significant to the LCR, banks could discuss: (a) the main drivers of their LCR results and the evolution of the contribution of inputs to the LCR's calculation over time; (b) intra-period changes as well as changes over time; (c) the composition of HQLA; (d) concentration of funding sources; (e) derivative exposures and potential collateral calls; (f) currency mismatch in the LCR; (g) a description of the degree of centralisation of liquidity management and interaction between the group's units; and (h) other inflows and outflows in the LCR calculation that are not captured in the LCR common template but which the institution considers to be relevant for its liquidity profile.

[7] Amended on 3 April 2019

LCR common disclosure template

	(Consolidated either in MUR or USD)	TOTAL UNWEIGHTED VALUE (quarterly average of bimonthly observations)	TOTAL WEIGHTED VALUE (quarterly average of bimonthly observations)[8]
HIGH-QUALITY LIQUID ASSETS			
1	Total high-quality liquid assets (HQLA)		
CASH OUTFLOWS			
2	Retail deposits and deposits from small business customers, of which:		
3	*Stable deposits*		
4	*Less stable deposits*		
5	Unsecured wholesale funding, of which:		
6	*Operational deposits (all counterparties)*		
7	*Non-operational deposits (all counterparties)*		
8	*Unsecured debt*		
9	Secured wholesale funding		
10	Additional requirements, of which:		
11	*Outflows related to derivative exposures and other collateral requirements*		
12	*Outflows related to loss of funding on debt products*		
13	*Credit and liquidity facilities*		
14	Other contractual funding obligations		
15	Other contingent funding obligations		
16	**TOTAL CASH OUTFLOWS**		
CASH INFLOWS			
17	Secured funding (e.g. reverse repos)		
18	Inflows from fully performing exposures		
19	Other cash inflows		
20	**TOTAL CASH INFLOWS**		
			TOTAL ADJUSTED VALUE
21	**TOTAL HQLA**		
22	**TOTAL NET CASH OUTFLOWS**		
23	**LIQUIDITY COVERAGE RATIO (%)**		
24	**QUARTERLY AVERAGE OF DAILY HQLA**		

[8] Amended on 3 April 2019

ANNEX 3 – MATURITY MISMATCH PROFILE OF ASSETS AND LIABILITIES

To be provided separately in MUR, in each significant currency and on a consolidated basis (*either in MUR or USD, depending on the reporting currency of the bank*). The maturity mismatch profile should be provided separately for behavioural and contractual maturities.

Liquidity Gap Analysis	1 day	2-7 days	8-14 days	15 days to 1 month	1-3 months	3-6 months	6-12 months	1-3 years	3-5 years	Over 5 years	Non-Maturity Items	Total
ASSETS												
Cash and balances with central banks												
Balances with banks and inter bank loans												
Balances with banks abroad												
Securities												
Available for sale securities												
Derivative financial instruments												
Other investments												
Investments in associates												
Loans												
Goodwill and other intangible assets												
Property plant and equipment												
Deferred tax assets												
Other assets												
Gross assets												
Less Allowances for credit impairment												
Total Assets												
Committed Lines for assets												
LIABILITIES												
Deposits												
Borrowings from Bank of Mauritius												
Borrowings from other Bank in Mauritius and Abroad												
Subordinated Debt												
Other Liabilities												
Outstanding Lease obligations												
Current Tax Liabilities												
Total Liabilities												
Committed lines for liabilities												
Net Liquidity Gap												
Cumulative Net Liquidity Gap												

GBC Liquidity Gap Analysis	1 day	2-7 days	8-14 days	15 days to 1 month	1-3 months	3-6 months	6-12 months	1-3 years	3-5 years	Over 5 years	Non-Maturity Items	Total
GBC LIABILITIES												
GBC1 deposits												
(i) Demand												
(ii) Savings												
(iii) Time												
(iv) Margin deposits												
GBC2 deposits												
(i) Demand												
(ii) Savings												
(iii) Time												
(iv) Margin deposits												
Total GBC Deposits												
DEPLOYMENT OF GBC DEPOSITS												
Deployment of GBC1 deposits												
(i) Cash and balances with central banks												
(ii) Balances with banks and inter bank loans												
(iii) Balances with banks abroad												
(iv) Securities												
(v) Available for sale securities												
(vi) Derivative financial instruments												
(vii) Other investments												
(viii) Investments in associates												
(ix) Loans												
Deployment of GBC2 deposits												
(i) Cash and balances with central banks												
(ii) Balances with banks and inter bank loans												
(iii) Balances with banks abroad												
(iv) Securities												
(v) Available for sale securities												
(vi) Derivative financial instruments												
(vii) Other investments												
(viii) Investments in associates												
(ix) Loans												
Total deployment of GBC deposits												
GBC LIQUIDITY GAP												
GBC1 Liquidity Gap												
GBC2 Liquidity Gap												
Total GBC Liquidity Gap												

Breakdown of committed and uncommitted lines of credit

To be provided together with each maturity mismatch profile in MUR and in each significant currency respectively.

		Name of counterparty	Date issued	Tenor	Credit Limit	Total Drawdown amount	Available balance
Details of committed lines for assets							
	1						
	2						
	3						
Details of uncommitted lines for assets							
	1						
	2						
	3						
Details of committed lines for liabilities							
	1						
	2						
	3						
Details of uncommitted lines for liabilities							
	1						
	2						
	3						

ANNEX 4 – SLOTTING RULES

Contractual maturity mismatch

Assets

1. Cash and Balances with central bank

   (a) Cash balance and the excess balance over the daily Cash Reserve Requirement (CRR) shall be shown in the first day bucket;

   (b) The amount representing the cash reserve shall be distributed among the various time bands corresponding to the period during which these will be available upon maturity of the underlying deposits.

   The banks should indicate the manner in which the CRR has been distributed across maturity buckets.

2. Balances with banks, placements, etc. in Mauritius or abroad and interbank loans

   (a) Current Account: the amount representing minimum balance, if any, stipulated in the account opening agreement may be shown in the 1-3 year, 3-5 year or above 5-year bands. The remaining balance must be shown in the 1-day time band.

   (b) Money at call and short notice, term deposits, long term deposits and other placements should be collapsed within the various time bands in accordance with the date of maturity.

   (c) Interbank loans shall be shown in the time buckets corresponding to the date of maturity.

   (d) Committed lines available from banks in the group / parent or outside the group. The unavailed balance under committed lines shall be shown in the time buckets taking into consideration the notice period if any prescribed under the agreement.

3. Securities issued by Government of Mauritius and Bank of Mauritius

   All securities must be shown as per the residual maturity with the exception of the following:

   (a) Securities which are marked to market shall be shown on the 2-7 days' time bands irrespective of the date of maturity,

   (b) Securities held in the banking book up to an amount equivalent the borrowing quota of each individual bank under the Overnight Facility of the Bank of Mauritius shall be shown in the 1-day bucket. The remaining balance should be in accordance with their maturity.

4. Securities issued by the Government or central bank in OECD Countries and central bank and Governments of other countries shall be shown as per the date of maturity.

5. Derivative financial instrument: the amount shall be shown as per the date of maturity. Cash flows may be calculated on a net basis (i.e. inflows can offset outflows) by counterparty, only where a valid master netting agreement exists. Options should be assumed to be exercised when they are 'in the money' to the option buyer.

6. Investments in associates, Goodwill and other assets, property plant and equipment, deferred tax and other assets shall be classified as non-maturity items.

7. Loans & Advances shall be shown as per the scheduled repayment dates.

8. Bills purchased and discounted shall be shown as per the residual date of maturity.

9. Non Performing Advances shall be shown in the non-maturity bucket.

10. Allowance for credit impairment shall be shown in the non-maturity time bucket.

Liabilities

1. Deposits shall be shown as per the contractual maturity.

2. Borrowings from banks, interbank loans, borrowing from banks abroad, subordinated debt, lease obligations shall be shown as per the due date.

3. Committed lines: The unavailed balance under committed lines shall be shown in the time buckets taking into consideration the notice period if any prescribed under the agreement. In the absence of any notice period the unavailed balance must be shown in the 1-day time band.

4. Allowance for credit impairment shall be shown in the non-maturity column.

Behavioural maturity mismatch

Liabilities

1. Deposits (Current and savings deposits)

    (a) A bank may conduct an assessment of the savings and current deposits and estimate the behaviour pattern on renewals, premature closures, etc. on the basis of past data and empirical studies and show them in the appropriate time bands, i.e. behavioural time bands than residual time bands.

    (b) The savings and current deposits shall be shown into volatile and core portion. The volatile portion shall be placed in the first time band.

2. Committed lines

(a) The volatile portion of the committed line shall be shown in the 1-day bucket. The remaining may be slotted in the time buckets appropriate to the expected time of being drawn.

Bank of Mauritius
17 October 2017