

MAS NOTICE 649

24 June 2022

NOTICE TO BANKS
BANKING ACT 1970

MINIMUM LIQUID ASSETS (“MLA”) AND LIQUIDITY COVERAGE RATIO (“LCR”)

Introduction

1 This Notice is issued pursuant to sections 38(1) and 65(2) of the Banking Act 1970 (“the Act”) and applies to all Reporting Banks. Except where specifically mentioned in the paragraph, the requirements set out in this Notice are issued under section 38(1) of the Act.

Definitions

2 In this Notice –

“Accounting Standards” has the same meaning as in section 4(1) of the Companies Act 1967;

“bank” means –

- (a) any company which holds a valid licence under section 7 or 79 of the Act; or
- (b) any entity established or incorporated in a foreign country or jurisdiction that is approved, licensed, registered or otherwise regulated by a bank regulatory agency of the foreign country or jurisdiction to carry on banking business under the laws of the foreign country or jurisdiction;

“bank regulatory agency”, in relation to a foreign country or jurisdiction, means an authority in the foreign country or jurisdiction exercising any function that corresponds to a regulatory function of the Authority under the Act;

“banking group”, in relation to a Reporting Bank, means the Reporting Bank and its banking group entities;

“banking group entity”, in relation to a Reporting Bank, means its subsidiary or any other entity that is treated as part of the Reporting Bank’s group of entities according to Accounting Standards;

“country-level group”, in relation to a Reporting Bank, means a group comprising any combination of the Reporting Bank and any other bank in Singapore or any merchant bank in Singapore that is a related corporation of the Reporting Bank approved by the Authority to be part of the group;

“Current Account” has the same meaning as in MAS Notice 758;

“Custody Cash Account” has the same meaning as in MAS Notice 758;

“holding company” has the same meaning as in section 5 of the Companies Act 1967;

“internationally active bank” means a Reporting Bank that –

- (a) is incorporated in Singapore; and
- (b) has been notified by the Authority that the Authority considers it to be internationally active, taking into consideration whether the Reporting Bank has one or more banking group entity established or incorporated in a foreign country or jurisdiction that is approved, licensed, registered or otherwise regulated by a bank regulatory agency in a foreign country or jurisdiction to carry on banking business under the laws of the foreign country or jurisdiction, and whether the banking group entity’s operations are significant in that foreign country or jurisdiction;

“public sector entity” or “PSE” means –

- (a) a regional government or local authority that is able to exercise one or more functions of the central government at the regional or local level;
- (b) an administrative body or non-commercial undertaking responsible to, or owned by, a central government, regional government or local authority, which performs regulatory or non-commercial functions;
- (c) a statutory board in Singapore (other than the Authority); or
- (d) a town council in Singapore established pursuant to the Town Councils Act 1988;

“Reporting Bank” means a bank in Singapore;

“significant currency”, in relation to a Reporting Bank, means a currency where the aggregate liabilities of the Reporting Bank denominated in that currency as at the end of the month amounts to 5% or more of the Reporting Bank’s total liabilities;

“sovereign” means a central government of a country or jurisdiction;

“unencumbered”, in relation to an asset of a Reporting Bank, means that the asset can be liquidated, sold, transferred, or assigned by the Reporting Bank without any legal, regulatory, contractual or other restrictions.

3 The expressions used in this Notice, except where expressly defined in this Notice or where the context otherwise requires, have the same meanings as in the Act.

4 A Reporting Bank only needs to comply with Part II – LCR if it is an internationally active bank or it has been notified by the Authority that it is a domestic systemically important bank¹ (“D-SIB”).

5 A Reporting Bank that does not fall within paragraph 4 may, upon giving prior written notice of at least one month to the Authority, choose to comply with either Part I – MLA or Part II – LCR, and the requirements in the relevant part would apply accordingly. While a Reporting Bank that has chosen to comply with Part I – MLA may choose to comply with Part II – LCR subsequently upon giving the requisite notice to the Authority, a Reporting Bank that has chosen to comply with Part II – LCR must obtain the Authority’s prior written approval to comply with Part I – MLA subsequently.²

6 A Reporting Bank complying with Part II – LCR may, with the Authority’s approval, comply with Part II – LCR on a country-level group basis. The Authority will subject the Reporting Bank and the entities which are in the country-level group to an assessment before granting any approval for the Reporting Bank to comply with Part II – LCR on a country-level group basis.

¹ More information on the D-SIB framework can be found at <https://www.mas.gov.sg/-/media/MAS/News-and-Publications/Monographs-and-Information-Papers/Monograph--MAS-Framework-for-Impact-and-Risk-Assessment.pdf>.

² The Authority will not ordinarily grant such an approval except in exceptional circumstances.

PART I – MLA

Definitions

7 In Part I – MLA –

“associate” has the same meaning as in the Fifth Schedule to the Act, with each reference in that Fifth Schedule to a “substantial shareholder” replaced with a reference to a “corporation”;

“bills of exchange” has the same meaning as in section 3 of the Bills of Exchange Act 1949;

“computation day” means the business day on which a Reporting Bank computes the minimum amount of Liquid Assets that the Reporting Bank has to maintain on the relevant maintenance day;

“counterparty related to a Reporting Bank” means –

- (a) a related corporation of the Reporting Bank;
- (b) an associate of the Reporting Bank;
- (c) a banking group entity of the Reporting Bank; and
- (d) a subsidiary or associate of any holding company of the Reporting Bank;

“limited purpose e-money” has the same meaning as given by Part 3 of the First Schedule to the Payment Services Act 2019;

“Liquid Assets” means any Tier-1 Liquid Assets or Tier-2 Liquid Assets;

“maintenance day”, in relation to any computation day, means the day occurring 2 business days from that computation day;

“MAS Bills” means any debt securities issued by the Monetary Authority of Singapore under the Monetary Authority of Singapore Act 1970;

“Qualifying Liabilities”, in relation to a Reporting Bank, means the Qualifying Liabilities as computed by the Reporting Bank in accordance with paragraph 12;

“Relevant Entity”, in relation to a Reporting Bank, means any of the following:

- (a) where the Reporting Bank is incorporated in Singapore, any bank other than the Reporting Bank;
- (b) where the Reporting Bank is a branch or office of a bank incorporated outside Singapore, that is located within Singapore, any bank other than the Reporting Bank, including the head office of the Reporting Bank or any other branch or office of the bank incorporated outside Singapore, that is located outside Singapore;
- (c) any merchant bank in Singapore;

“Singapore Dollar Qualifying Liabilities” means Qualifying Liabilities denominated in Singapore dollars;

“Singapore Government Securities” or “SGS” means any debt securities issued by the Singapore Government under any written law;

“Tier-1 Liquid Assets” means the following liquid assets:

- (a) for the purposes of the Singapore Dollar MLA requirement, any liquid asset listed in paragraph 8(a), (b), (c), (d) or (e), other than cash balances maintained by a Reporting Bank for the purposes of section 39 of the Act and assets maintained and held by a Reporting Bank for the purposes of section 40 of the Act;
- (b) for the purposes of the all currency MLA requirement, any liquid asset listed in paragraph 8(a), (b), (c), (d), (e) or (f), other than cash balances maintained by a Reporting Bank for the purposes of section 39 of the Act and assets maintained and held by a Reporting Bank for the purposes of section 40 of the Act;

“Tier-2 Liquid Assets” means any liquid asset listed in paragraph 8(g) or (h), other than assets maintained and held by a Reporting Bank for the purposes of section 40 of the Act;

“undrawn commitment”, in relation to a Reporting Bank, means any arrangement of the Reporting Bank with any counterparty³, that will pose liquidity risk to the

³ To avoid doubt, in the case where a Reporting Bank is a branch or office of a bank incorporated outside Singapore, that is located within Singapore, any counterparty includes the head office of the Reporting Bank and other branches and offices of the bank incorporated outside Singapore, that are located outside Singapore.

Reporting Bank in the event the counterparty, or a third party in whose favour the arrangement is made, as the case may be, utilises or calls upon the commitment⁴, but does not include any arrangement where the drawdown or utilisation is subject to the approval of the Reporting Bank at the point of drawdown, and the Reporting Bank has the unconditional right to refuse drawdown.

Liquid Assets

- 8 For the purposes of section 38(9) of the Act, the following assets are “liquid assets”:
- (a) currency notes and coins of Singapore which are legal tender in Singapore, or foreign currency;
 - (b) cash balances in a Reporting Bank’s Current Account and Custody Cash Account maintained with the Authority⁵;
 - (c) any SGS and any SGS held under a reverse repurchase agreement;
 - (d) any sukuk issued by Singapore Sukuk Pte Ltd;
 - (e) any MAS Bills and any MAS Bills held under a reverse repurchase agreement;
 - (f) any debt securities or sukuk⁶ denominated in the relevant currency or currencies, as the case may be, other than a sukuk which is a liquid asset by virtue of sub-paragraph (d), that are issued by a sovereign or a central bank and assigned a credit rating of at least AA- by Fitch Ratings or Standard and Poor’s Ratings Services or a credit rating of at least Aa3 by Moody’s Investor Services, and include any such debt securities or sukuk held under a reverse repurchase agreement;
 - (g) any debt securities or sukuk denominated in the relevant currency or currencies, as the case may be, other than a sukuk which is a liquid asset by virtue of sub-paragraph (d) or a debt security or sukuk defined in sub-paragraph (f), that –
 - (i) are issued by a statutory board in Singapore, and have a minimum issue size of S\$200 million;

⁴ For example, any unutilised portion of a guarantee, any standby letter of credit, any warranty, any standby credit facility, any forward asset purchase, any underwriting arrangements, any credit protection sold by the Reporting Bank and any liquidity facilities granted by the Reporting Bank.

⁵ To avoid doubt, this does not include overnight deposits or term deposits placed with the Authority.

⁶ To avoid doubt, only sukuk that demonstrate characteristics similar to a debt security are eligible as Liquid Assets.

- (ii) are assigned a credit rating that satisfies the long-term issue or short-term issue credit ratings set out in Appendix 3, and have a minimum issue size of S\$200 million;
- (iii) are issued by a sovereign, the Bank for International Settlements, the International Monetary Fund, the European Union, the European Stability Mechanism, the European Financial Stability Facility, a multilateral development bank, or a sovereign-guaranteed company (where the sovereign or government is not the Singapore Government), and are assigned a credit rating of AAA by Fitch Ratings or Standard and Poor's Ratings Services or a credit rating of Aaa by Moody's Investor Services; or
- (iv) are issued by a PSE that is assigned a credit rating of AAA by Fitch Ratings or Standard and Poor's Ratings Services or a credit rating of Aaa by Moody's Investor Services, and assigned a risk weight of 0% under paragraph 7.3.17 of MAS Notice 637,

and include any such debt securities or sukuk held under a reverse repurchase agreement⁷;

- (h) any bill of exchange which satisfies the requirements set out in Appendix 2;

provided always that –

- (i) the asset is unencumbered;
- (j) where the asset is a debt security or sukuk, it is not a convertible debt security or sukuk; and
- (k) the asset does not arise or result from any contractual or other arrangements with, or investments in, a counterparty related to the Reporting Bank.

9 For the purposes of paragraph 8(f), (g)(ii) and (g)(iii), where the debt security or sukuk is issued by a sovereign or central bank, and the debt security or sukuk does not have any credit rating assigned to it by Fitch Ratings, Standard & Poor's Ratings Services or Moody's Investor Services, the Reporting Bank may –

⁷ To avoid doubt, where an issue of such debt securities or sukuk is partially redeemed such that the outstanding issue size falls below S\$200 million, those debt securities or sukuk would no longer be eligible as Liquid Assets under paragraph 8(g)(i) and (ii).

- (a) treat the credit rating of the issuing sovereign or central bank assigned by Fitch Ratings, Standard & Poor's Ratings Services or Moody's Investor Services as that assigned to the debt security or sukuk; and
- (b) where the issuing central bank does not have any credit rating assigned to it by Fitch Ratings, Standard & Poor's Ratings Services or Moody's Investor Services, treat the credit rating of the sovereign of the country or jurisdiction of the central bank assigned by Fitch Ratings, Standard & Poor's Ratings Services or Moody's Investor Services as that assigned to the debt security or sukuk.

Valuation of Liquid Assets

10 When computing the amount of Liquid Assets held by a Reporting Bank on any maintenance day, the Reporting Bank must use –

- (a) in the case of its bills of exchange, the book value of those bills of exchange; and
- (b) in the case of its Liquid Assets other than bills of exchange, the marked-to-market value of those Liquid Assets as of the computation day to which that maintenance day relates, multiplied by the following relevant percentage:
 - (i) where the Liquid Asset is a debt security or sukuk set out in paragraph 8(g)(i) to (iv), and the Reporting Bank holds more than 20% of the total market of the particular issue of the debt security or sukuk (including issues from different tranches), 50%;
 - (ii) where the Liquid Asset is a debt security or sukuk set out in paragraph 8(g)(i), and the Reporting Bank does not hold more than 20% of the total market of the particular issue of the debt security or sukuk (including issues from different tranches), 90%;
 - (iii) where the Liquid Asset is a debt security or sukuk set out in paragraph 8(g)(ii), and the Reporting Bank does not hold more than 20% of the total market of the particular issue of the debt security or sukuk (including issues from different tranches), the percentage determined in accordance with Appendix 3;
 - (iv) for all other Liquid Assets not set out in sub-paragraphs (b)(i) to (b)(iii), 100%.

11 Despite paragraph 10(b), a Reporting Bank may, upon giving prior written notice of at least one month to the Authority, use the marked-to-market value of its Liquid Assets other than bills of exchange as of a maintenance day when computing the amount of Liquid Assets held by the Reporting Bank on the maintenance day. A Reporting Bank that has adopted the treatment in this paragraph must obtain the Authority's prior written approval to adopt the treatment in paragraph 10(b) subsequently.⁸

Computation of Qualifying Liabilities

12 A Reporting Bank must compute its Qualifying Liabilities as the sum of⁹ –

- (a) all liabilities of the Reporting Bank denominated in the relevant currency or currencies, as the case may be, due to non-bank customers other than the Authority and merchant banks in Singapore, computed on a gross basis;
- (b) all liabilities of the Reporting Bank denominated in the relevant currency or currencies, as the case may be, due to the Authority, that –
 - (i) are due within one month from the computation day; and
 - (ii) are computed on a net basis after the deduction of all claims denominated in the relevant currency or currencies, as the case may be, by the Reporting Bank on the Authority, that –
 - (A) are maturing within one month from the computation day;
 - (B) are not Liquid Assets¹⁰; and
 - (C) are not cash receivables from the Authority arising from reverse repurchase agreements of Liquid Assets transacted with the Authority,

and where this is a net asset, the Reporting Bank may deduct the net asset amount from Qualifying Liabilities;

- (c) all liabilities of the Reporting Bank denominated in the relevant currency or currencies, as the case may be, due to Relevant Entities, that –

⁸ The Authority will not ordinarily grant such an approval except in exceptional circumstances.

⁹ To avoid doubt, this excludes any contingent liability of the Reporting Bank.

¹⁰ To avoid doubt, as MAS Bills held by the Reporting Bank, including those held under a reverse repurchase agreement, are Liquid Assets, cash receivables from MAS Bills cannot be deducted when computing the liabilities of the Reporting Bank due to the Authority on a net basis under paragraph 12(b)(ii).

- (i) are due within one month from the computation day; and
- (ii) are computed on a net basis after the deduction of all claims denominated in the relevant currency or currencies, as the case may be, by the Reporting Bank on Relevant Entities, that –
 - (A) are maturing within one month from the computation day;
 - (B) are not Liquid Assets¹¹;
 - (C) are not cash receivables from convertible debt securities or sukuk, issued by Relevant Entities; and
 - (D) are not cash receivables from Relevant Entities arising from reverse repurchase agreements of Liquid Assets transacted with Relevant Entities,

and where this is a net asset, the Reporting Bank must not deduct the net asset amount from Qualifying Liabilities and must treat the net asset amount as zero;

- (d) 15% of all undrawn commitments of the Reporting Bank denominated in the relevant currency or currencies, as the case may be. For the purposes of the Singapore Dollar MLA requirement, where the undrawn commitment is a multi-currency facility involving the Singapore dollars as a component currency, the Reporting Bank must include the entire facility amount as its undrawn commitment for its computation of its Singapore Dollar Qualifying Liabilities. However, if there is a sub-limit for the Singapore dollars in the facility, the Reporting Bank may use the sub-limit amount for its computation of its Singapore Dollar Qualifying Liabilities;
- (e) all liabilities of the Reporting Bank denominated in the relevant currency or currencies, as the case may be, arising from the issue of bills of exchange, other

¹¹ Claims on Relevant Entities that are not Liquid Assets include –

- (a) deposits placed with any Relevant Entity;
- (b) certificates of deposit issued by any Relevant Entity;
- (c) loans extended to any Relevant Entity;
- (d) cash receivables from debt securities or sukuk which are not Liquid Assets and are issued by any Relevant Entity (“Relevant Debt Securities or Sukuk”). To avoid doubt, claims on Relevant Entities that are not Liquid Assets include cash receivables from Relevant Debt Securities or Sukuk that are posted as collateral by the Reporting Bank in a repurchase agreement but does not include cash receivables from Relevant Debt Securities or Sukuk that are held by the Reporting Bank under a reverse repurchase agreement; and
- (e) cash receivables from any Relevant Entity, other than arising from (a) to (d) above.

than a bill of exchange which satisfies the requirements set out in Appendix 1;
and

- (f) all liabilities of the Reporting Bank denominated in the relevant currency or currencies, as the case may be, arising from –
 - (i) the provision of any e-money issuance service as defined in section 2(1) of the Payment Services Act 2019; and
 - (ii) the issuance of any limited purpose e-money;

but does not include any liability of the Reporting Bank arising from –

- (g) any funds received through repurchase agreements of Liquid Assets;
- (h) any funds received through currency, interest rate and foreign exchange swaps;
- (i) any issue of subordinated debt, the terms of which comply with the criteria for the treatment of the liabilities as capital in its computation of its capital adequacy ratio under section 10(2) of the Act, whether or not the entire amount of such liabilities is in fact treated in such computation as capital; and
- (j) any funds raised through the discounting of any bill of exchange which satisfies the requirements set out in Appendix 1, with other banks, merchant banks in Singapore or finance companies (as defined in section 2 of the Finance Companies Act 1967).

MLA Framework

13 A Reporting Bank must hold, at all times¹² –

- (a) Liquid Assets denominated in any currency amounting to no less than 16% of the value of its Qualifying Liabilities denominated in any currency (“all currency MLA requirement”); and
- (b) Liquid Assets denominated in Singapore dollars amounting to no less than 16% of the value of its Singapore Dollar Qualifying Liabilities (“Singapore Dollar MLA requirement”).

¹² A Reporting Bank should ensure its liquidity risk management is sound and commensurate with the size, nature and complexity of its activities, and observe the guidelines in Appendix 8.

14 A Reporting Bank must treat every business day as a computation day. On a maintenance day, a Reporting Bank must hold the Singapore Dollar MLA requirement and the all currency MLA requirement, respectively, that was computed on the relevant computation day. Where a day is not a business day, a Reporting Bank must hold for that day, the Singapore Dollar MLA requirement and the all currency MLA requirement of the immediately preceding maintenance day which is a business day. Appendix 4 sets out the computation and maintenance schedules for a Reporting Bank determining its Singapore Dollar MLA requirement and all currency MLA requirement.

Minimum Amount of Tier-1 Liquid Assets

15 A Reporting Bank must hold, at all times –

- (a) Tier-1 Liquid Assets denominated in any currency amounting to no less than 8% of the value of its Qualifying Liabilities denominated in any currency; and
- (b) Tier-1 Liquid Assets denominated in Singapore dollars amounting to no less than 8% of the value of its Singapore Dollar Qualifying Liabilities.

Utilisation of Liquid Assets

16 A Reporting Bank must –

- (a) give prior written notification to the Authority of its intent to utilise its Liquid Assets in a liquidity stress situation, where such utilisation will cause the Reporting Bank's MLA to fall below the prevailing minimum requirements as described in paragraphs 13 and 15; and
- (b) ensure that the notification is signed by its chief executive, chief financial officer or any equivalent senior management.

17 A Reporting Bank must –

- (a) provide its justification for the utilisation of Liquid Assets;
- (b) set out the cause of the liquidity stress situation and provide supporting documents, where available; and
- (c) detail the steps which it has taken and is going to take to resolve the liquidity stress situation,

to the Authority within one business day after the utilisation of its Liquid Assets.

18 A Reporting Bank must keep the Authority informed of material developments during the liquidity stress situation.

Submission of liquidity returns

19 A Reporting Bank must prepare the appropriate liquidity returns set out at Appendix 5 as at the last day of each month.

20 A Reporting Bank must submit all returns prepared in accordance with paragraph 19 to the Authority electronically through MASNET not later than 14 days after the last day of each month.

21 Despite paragraph 20, if the day on which a Reporting Bank has to submit any return is not a business day, the Reporting Bank may submit the return on the next business day.

PART II – LCR

Definitions

22 In Part II – LCR –

“30-day LCR horizon” means the 30-day period following the day on which the LCR is computed;

“Alternative Liquidity Approaches” means the alternative liquidity approaches available in a country or jurisdiction with an insufficient supply of Level 1 HQLA in its domestic currency, as described in the “Liquidity Coverage Ratio LCR31 Alternative liquidity approaches” issued by the Basel Committee on Banking Supervision on 15 December 2019;

“cash management service”, in relation to a Reporting Bank, means one or more of the following:

- (a) the remittance of payments;
- (b) collection and aggregation of funds;
- (c) payroll administration;
- (d) control over the disbursement of funds,

in the context of a relationship where the Reporting Bank provides products and services to a customer to manage his or its cash flows, assets and liabilities, and conducts financial transactions necessary to the customer’s affairs or operations;

“clearing service”, in relation to a Reporting Bank, means one or more of the following:

- (a) the transmission, reconciliation and confirmation of payment orders;
- (b) daylight overdraft, overnight financing and maintenance of post-settlement balances;
- (c) determination of intra-day and final settlement positions,

in the context of a relationship where the Reporting Bank provides a service that enables customers to transfer funds or securities through direct participants in domestic settlement systems to the final recipient;

“committed facility” has the same meaning as in paragraph 102;

“correspondent banking” has the same meaning as in paragraph 69;

“custody service”, in relation to a Reporting Bank, means one or more of the following:

- (a) the settlement of securities transactions;
- (b) the transfer of contractual payments;
- (c) the processing of collateral;
- (d) the provision of custody related cash management services;
- (e) the receipt of dividends and other income;
- (f) customer subscriptions and redemptions;
- (g) asset and corporate trust servicing;
- (h) treasury, escrow, funds transfer, stock transfer and agency services, including payment and settlement services (excluding correspondent banking), and depository receipts,

in the context of a relationship where the Reporting Bank provides the above services to a customer in connection with the customer’s transactions in and holdings of financial assets;

“financial institution” has the same meaning as in Annex 2A of MAS Notice 637;

“high quality liquid assets” or “HQLA” means any liquid asset that –

- (a) is listed in paragraph 28;
- (b) satisfies the requirements set out in paragraph 31; and
- (c) is available on a Reporting Bank’s balance sheet as at the end of the day immediately preceding the 30-day LCR horizon;

“institutional network of cooperative banks” has the same meaning as in paragraph 71;

“insurance subsidiary” means –

- (a) a subsidiary that carries on insurance business as an insurer;
- (b) a subsidiary that is –
 - (i) a holding company of the subsidiary referred to in sub-paragraph (a); and
 - (ii) subject to capital adequacy requirements set out in any direction issued by the Authority under section 36(1) of the Financial Holding Companies Act 2013 (“FHC Act”); or
- (c) a subsidiary of the holding company referred to in sub-paragraph (b) that is included by the holding company in its computation of capital adequacy requirements set out in any direction issued by the Authority under section 36(1) of the FHC Act;

“intragroup banking entity” means –

- (a) in the case where a Reporting Bank is incorporated in Singapore, any of the following:
 - (i) the Reporting Bank’s parent bank¹³;
 - (ii) any other subsidiary¹⁴ of the Reporting Bank’s holding company, where such subsidiary is a bank, or a merchant bank in Singapore;
 - (iii) any subsidiary¹⁵ of the Reporting Bank, that is a bank, or a merchant bank in Singapore;
 - (iv) in relation to a Reporting Bank computing the LCR at the Singapore Operations level, any branch or office of the Reporting Bank that is located outside Singapore; or
- (b) in the case where a Reporting Bank is a branch or office of a bank incorporated outside Singapore, that is located within Singapore, any of the following:

¹³ To avoid doubt, this includes branches of the parent bank.

¹⁴ To avoid doubt, this includes branches of the subsidiaries.

¹⁵ To avoid doubt, this includes branches of the subsidiaries.

- (i) any other branch or office of the bank (including the Reporting Bank's head office);
- (ii) the bank's parent bank¹⁶;
- (iii) any subsidiary¹⁷ of the bank, that is a bank, or a merchant bank in Singapore;
- (iv) any other subsidiary¹⁸ of the bank's holding company, that is a bank or a merchant bank in Singapore;

"less stable deposit" has the same meaning as in paragraph 52;

"Level 1 HQLA" means any HQLA listed in paragraph 28(a), (b), (c), (d), (g), (h) or (n);

"Level 2 HQLA" means any Level 2A HQLA or Level 2B HQLA;

"Level 2A HQLA" means any HQLA listed in paragraph 28(e), (i) or (o);

"Level 2B HQLA" means any Level 2B(I) HQLA or Level 2B(II) HQLA;

"Level 2B(I) HQLA" means any HQLA listed in paragraph 28(j) or (o);

"Level 2B(II) HQLA" means any HQLA listed in paragraph 28(f), (k), (l), (m) or (o);

"Liquidity Coverage Ratio" or "LCR" means a ratio which is computed at the end of each day as follows:

$$\text{LCR} = \frac{\text{HQLA}}{\text{Total net cash outflows}} \times 100\%;$$

"parent bank" has the same meaning as in paragraph 1 of the Fifth Schedule of the Act;

"prime brokerage service" has the same meaning as in paragraph 70;

"recognised ECAI" has the same meaning as in Annex 2A of MAS Notice 637;

¹⁶ To avoid doubt, this includes branches of the parent bank.

¹⁷ To avoid doubt, this includes branches of the subsidiaries.

¹⁸ To avoid doubt, this includes branches of the subsidiaries.

“relevant intragroup banking entity” means –

- (a) in relation to a Reporting Bank computing the LCR at the Group level, any intragroup banking entity which is not a banking group entity of the Reporting Bank;
- (b) in relation to a Reporting Bank computing the LCR at the country-level group, any intragroup banking entity which is not an entity in the Reporting Bank’s country-level group; and
- (c) in relation to a Reporting Bank computing the LCR at the Singapore Operations level or the entity level, any intragroup banking entity;

“retail deposit” has the same meaning as in paragraph 44;

“secured funding” has the same meaning as in paragraph 83;

“small business” means any corporation, partnership, limited liability partnership, sole proprietorship, trust, or fund (including a collective investment scheme or closed-end fund), with reported annual revenue of less than or equal to S\$100 million;

“small business customer”, in relation to a Reporting Bank, means any customer or group of customers –

- (a) that is a small business;
- (b) that the Reporting Bank does not have any exposure to, or that the Reporting Bank has exposures of not more than S\$2 million;
- (c) where the funding provided by the customer or group of customers is not more than S\$2 million; and
- (d) where the exposures to the customer or group of customers are managed by the Reporting Bank as retail exposures, or where the Reporting Bank does not have any exposure to the customer or group of customers, the funding provided by the customer or group of customers is managed by the Reporting Bank as retail deposits;

“stable deposit” has the same meaning as in paragraph 46;

“unsecured precious metals assets” has the same meaning as in paragraph 138;

“unsecured precious metals liabilities” has the same meaning as in paragraph 80;

“unsecured wholesale funding” has the same meaning as in paragraph 58.

- 23 For the purposes of the definition of “small business customer” in paragraph 22 –
- (a) in determining the total exposures to, or total funding provided by, a group of customers, the Reporting Bank must ensure that the basis of aggregation of a group of customers follows the basis of aggregation set out in footnote 124 of MAS Notice 637;
 - (b) an exposure is managed by the Reporting Bank as a retail exposure if the exposure is originated in the same manner as other retail exposures, and is managed by the Reporting Bank as part of a pool of similar exposures in its internal risk management systems consistently over time and in the same manner as other retail exposures; and
 - (c) a funding is managed by the Reporting Bank as retail deposits if the funding is originated in the same manner as other retail deposits, and is managed by the Reporting Bank as part of a pool of similar deposits in its internal risk management systems consistently over time and in the same manner as other retail deposits.

LCR Framework

- 24 A Reporting Bank must maintain at all times¹⁹ –
- (a) in the case where it is an internationally active bank, or is incorporated in Singapore and whose head office or parent bank is incorporated in Singapore, a Singapore Dollar LCR of at least 100% and an all currency LCR of at least 100%; and
 - (b) in all other cases, a Singapore Dollar LCR of at least 100% and an all currency LCR of at least 50%.
- 25 Pursuant to section 65(2) of the Act, a Reporting Bank referred to in paragraph 24(a) must comply with the requirements on Singapore Dollar LCR and all currency LCR on a consolidated (“Group”) level, which consolidates the assets and liabilities of all its banking group entities, other than those of the following banking group entities, if any:
- (a) an insurance subsidiary;

¹⁹ A Reporting Bank should ensure its liquidity risk management is sound and commensurate with the size, nature and complexity of its activities, and observe the guidelines in Appendix 8.

- (b) any other entity, where such non-consolidation of assets and liabilities of the entity is expressly permitted under the Accounting Standards. To avoid doubt, the exemption for an entity that is a parent from presenting consolidated financial statements in paragraph 4(a) of Singapore Financial Reporting Standards 110 (“SFRS 110”) Consolidated Financial Statements does not apply to the Reporting Bank for the purposes of complying with this paragraph.

26 Pursuant to paragraph 25, and for the purposes of the requirements on Singapore Dollar LCR and all currency LCR at the Group level in Part II – LCR (other than paragraph 25), a Reporting Bank must deem –

- (a) all assets, liabilities, equity, transactions, exposures, operations or customers of a banking group entity of the Reporting Bank to be that of the Reporting Bank (per the scope of consolidation in paragraph 25); and
- (b) all collateral held by a banking group entity of the Reporting Bank to be collateral held by the Reporting Bank (per the scope of consolidation in paragraph 25).

27 A Reporting Bank must only use HQLA denominated in Singapore dollars to fulfil the requirements on Singapore Dollar LCR. To avoid doubt, the total net cash outflows for the Singapore Dollar LCR only include total net cash outflows denominated in Singapore dollars.

HQLA

28 For the purposes of section 38(9) of the Act, the following assets are “liquid assets”:

- (a) currency notes and coins of Singapore which are legal tender in Singapore, or foreign currency;
- (b) reserves held with the Authority and other central banks, which include –
 - (i) cash balances in a Reporting Bank’s Current Account and Custody Cash Account maintained with the Authority;
 - (ii) a Reporting Bank’s overnight deposits with a central bank; and
 - (iii) a Reporting Bank’s term deposits with a central bank where²⁰ –

²⁰ To avoid doubt, other term deposits with central banks are not eligible as HQLA. However, if the term deposit matures within the 30-day LCR horizon, the Reporting Bank must treat the term deposit in accordance with paragraph 133.

- (A) the Reporting Bank has a contractual agreement with the central bank to repay such deposits on notice from the Reporting Bank; or
- (B) the deposits constitute a loan against which the Reporting Bank may borrow on a term basis or on an overnight but automatically renewable basis,

to the extent that the Authority's and the central banks' policies allow them to be drawn down in times of stress;

- (c) any sukuk issued by Singapore Sukuk Pte Ltd;
- (d) any marketable security or sukuk representing a claim on, or that is guaranteed by, a sovereign, a central bank, a PSE, the Bank for International Settlements, the International Monetary Fund, the European Central Bank, the European Union, the European Stability Mechanism, the European Financial Stability Facility or a multilateral development bank, which satisfies the following conditions:
 - (i) it is assigned a 0% risk-weight under Table 7-1 or paragraphs 7.3.17 to 7.3.20 of MAS Notice 637;
 - (ii) it is traded in large, deep and active repurchase agreement ("repo") or cash markets characterised by a low level of concentration;
 - (iii) it has a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions;
 - (iv) it is not an obligation of a financial institution or any of its related corporations;
- (e) any marketable security or sukuk representing a claim on, or that is guaranteed by, a sovereign, a central bank, a PSE or a multilateral development bank, which satisfies the following conditions:
 - (i) it is assigned a 20% risk weight under paragraphs 7.3.13 to 7.3.20 of MAS Notice 637;
 - (ii) it is traded in large, deep and active repo or cash markets characterised by a low level of concentration;

- (iii) it has a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, with a maximum price decline or increase in haircut not exceeding 10 percentage points over a 30-day period of significant liquidity stress;
 - (iv) it is not an obligation of a financial institution or any of its related corporations;
- (f) any marketable security or sukuk representing a claim on, or that is guaranteed by, a sovereign, a central bank or a PSE, which satisfies the following conditions:
 - (i) it –
 - (A) has a long-term credit rating from a recognised ECAI of at least BBB- or, in the absence of a long-term rating, a short-term rating equivalent in quality to the long-term rating; or
 - (B) does not have a credit assessment by a recognised ECAI and is internally rated as having a probability of default (“PD”) corresponding to a credit rating of at least BBB-;
 - (ii) it is traded in large, deep and active repo or cash markets characterised by a low level of concentration;
 - (iii) it has a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, with a maximum price decline or increase in haircut not exceeding 20 percentage points over a 30-day period of significant liquidity stress;
 - (iv) it is not an obligation of a financial institution or any of its related corporations;
- (g) where a sovereign has a non-0% risk weight as determined in accordance with Table 7-1 of MAS Notice 637, any sovereign or central bank debt security or sukuk issued in domestic currencies by the sovereign or its central bank –
 - (i) if the sovereign is the Singapore Government or the central bank is the Authority; or
 - (ii) if the sovereign or central bank is from a foreign country or jurisdiction where a Reporting Bank has a branch or subsidiary²¹ that is approved,

²¹ To avoid doubt, this includes a branch of the subsidiary.

licensed, registered or otherwise regulated by a bank regulatory agency in the foreign country or jurisdiction to carry on banking business under the laws of the foreign country or jurisdiction and the Reporting Bank or its branch or subsidiary takes liquidity risk in that country or jurisdiction;

(h) where the sovereign has a non-0% risk weight as determined in accordance with Table 7-1 of MAS Notice 637, any sovereign or central bank debt security or sukuk issued in foreign currencies by the sovereign or its central bank –

(i) if the sovereign is the Singapore Government or the central bank is the Authority; or

(ii) if the sovereign or central bank is from a foreign country or jurisdiction where a Reporting Bank has a branch or subsidiary²² that is approved, licensed, registered or otherwise regulated by a bank regulatory agency in the foreign country or jurisdiction to carry on banking business under the laws of the foreign country or jurisdiction and the Reporting Bank or its branch or subsidiary takes liquidity risk in that country or jurisdiction,

up to the amount of a Reporting Bank's total net cash outflows in that specific foreign currency arising from the operations of the Reporting Bank or its branch or subsidiary, in Singapore or that country or jurisdiction, as the case may be;

(i) any corporate debt security, covered bond or sukuk, which satisfies the following conditions:

(i) in the case of a corporate debt security or sukuk, it is not a complex structured product or a subordinated debt security or sukuk and it is not issued by a financial institution or any of its related corporations;

(ii) in the case of a covered bond, it is not issued by the Reporting Bank or any of its related corporations;

(iii) it –

(A) has a long-term credit rating from a recognised 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

²² To avoid doubt, this includes a branch of the subsidiary.

- (B) does not have a credit assessment by a recognised ECAI but is internally rated as having a PD corresponding to a credit rating of at least AA-;
 - (iv) it is traded in large, deep and active repo or cash markets characterised by a low level of concentration;
 - (v) it has a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, with a maximum price decline or increase in haircut not exceeding 10 percentage points over a 30-day period of significant liquidity stress;
- (j) any corporate debt security or sukuk, which satisfies the following conditions:
- (i) it is not a complex structured product or a subordinated debt security or sukuk;
 - (ii) it is not issued by a financial institution or any of its related corporations;
 - (iii) it –
 - (A) has a long-term credit rating from a recognised ECAI of at least A- or, in the absence of a long-term rating, a short-term rating equivalent in quality to the long-term rating; or
 - (B) does not have a credit assessment by a recognised ECAI and is internally rated as having a PD corresponding to a credit rating of at least A-;
 - (iv) it is traded in large, deep and active repo or cash markets characterised by a low level of concentration;
 - (v) it has a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, with a maximum price decline or increase in haircut not exceeding 20 percentage points over a 30-day period of significant liquidity stress;
- (k) any corporate debt security or sukuk, which satisfies the following conditions:
- (i) it is not a complex structured product or a subordinated debt security or sukuk;

- (ii) it is not issued by a financial institution or any of its related corporations;
 - (iii) it –
 - (A) has a long-term credit rating from a recognised ECAI between BBB+ and BBB- or, in the absence of a long-term rating, a short-term rating equivalent in quality to the long-term rating; or
 - (B) does not have a credit assessment by a recognised ECAI and is internally rated as having a PD corresponding to a credit rating of between BBB+ and BBB-;
 - (iv) it is traded in large, deep and active repo or cash markets characterised by a low level of concentration;
 - (v) it has a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, with a maximum price decline or increase in haircut not exceeding 20 percentage points over a 30-day period of significant liquidity stress;
- (l) any residential mortgage-backed security or sukuk (“RMBS”), which satisfies the following requirements:
- (i) it is not issued by, and the underlying assets have not been originated by, the Reporting Bank or any of its related corporations;
 - (ii) it has 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) it is traded in large, deep and active repo or cash markets characterised by a low level of concentration;
 - (iv) it has a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, with a maximum price decline or increase in haircut not exceeding 20 percentage points over a 30-day period of significant liquidity stress;
 - (v) the underlying asset pool is restricted to residential mortgages and does not contain structured products;

- (vi) the underlying residential 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 weighted average²³ loan-to-value ratio (“LTV”) of 80% at the time of issuance of the RMBS;
- (vii) the securitisations are subject to risk retention laws and regulations which require issuers to retain an interest in the assets they securitise;
- (m) any ordinary shares, excluding preference shares and treasury shares, which satisfy the following requirements:
 - (i) the shares are not issued by a financial institution or any of its related corporations;
 - (ii) the shares are exchange traded and centrally cleared;
 - (iii) the shares are a constituent of –
 - (A) the FTSE Straits Times Index (“STI”) or the MSCI Singapore Free Index;
 - (B) where a Reporting Bank has a branch or subsidiary²⁴ that is approved, licensed, registered or otherwise regulated by a bank regulatory agency in a foreign country or jurisdiction to carry on banking business under the laws of the foreign country or jurisdiction and the Reporting Bank or its branch or subsidiary takes liquidity risk in that country or jurisdiction, an index in the foreign country or jurisdiction that the bank regulatory agency of that country or jurisdiction recognises for purposes of including the equities as Level 2B HQLA under the applicable regulatory policy; or
 - (C) any other index in Singapore for which a Reporting Bank can demonstrate to the satisfaction of the Authority that the stock is as liquid and readily marketable as equities traded on the indices in sub-paragraph (m)(iii)(A);

²³ Weighted average LTV is computed as follows:

$$\text{weighted average LTV} = \frac{\text{mortgage amount}_1 \times \text{LTV}_1 + \text{mortgage amount}_2 \times \text{LTV}_2 + \dots + \text{mortgage amount}_n \times \text{LTV}_n}{\text{mortgage amount}_1 + \text{mortgage amount}_2 + \dots + \text{mortgage amount}_n},$$

where n is the number of residential mortgages in the RMBS.

²⁴ To avoid doubt, this includes a branch of the subsidiary.

- (iv) denominated in Singapore dollars or in the domestic currency of the foreign country or jurisdiction referred to in sub-paragraph (m)(iii)(B);
 - (v) traded in large, deep and active repo or cash markets characterised by a low level of concentration;
 - (vi) have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions, with a maximum price decline or increase in haircut not exceeding 40 percentage points over a 30-day period of significant liquidity stress;
- (n) where a Reporting Bank has a branch or subsidiary²⁵ that is approved, licensed, registered or otherwise regulated by a bank regulatory agency in a foreign country or jurisdiction to carry on banking business under the laws of the foreign country or jurisdiction and the foreign country or jurisdiction adopts the Alternative Liquidity Approaches, any liquid assets recognised as alternative liquid assets in the foreign country or jurisdiction and which the bank regulatory agency of that country or jurisdiction recognises for purposes of including the liquid assets as Level 1 HQLA, subject to the requirements specified in paragraph 149;
- (o) where a Reporting Bank has a branch or subsidiary²⁶ that is approved, licensed, registered or otherwise regulated by a bank regulatory agency in a foreign country or jurisdiction to carry on banking business under the laws of the foreign country or jurisdiction and the foreign country or jurisdiction adopts the Alternative Liquidity Approaches, any liquid assets recognised as alternative liquid assets in the foreign country or jurisdiction and which the bank regulatory agency of that country or jurisdiction recognises for purposes of including the liquid assets as Level 2 HQLA, subject to the requirements specified in paragraph 149.

29 For the purposes of determining the eligibility of a security or sukuk as a liquid asset under paragraph 28(f)(i)(A), (i)(iii)(A), (j)(iii)(A), (k)(iii)(A) and (l)(ii), –

- (a) where there are 2 credit ratings for a particular issue of the security or sukuk, the Reporting Bank must use the poorer credit rating for that particular issue of the security or sukuk; and

²⁵ To avoid doubt, this includes a branch of the subsidiary.

²⁶ To avoid doubt, this includes a branch of the subsidiary.

- (b) where there are more than 2 credit ratings for a particular issue of the security or sukuk, the Reporting Bank must use the higher of the 2 poorest credit ratings for that particular issue of the security or sukuk.

30 Despite paragraph 28(f)(i)(A), (i)(iii)(A), (j)(iii)(A), (k)(iii)(A) and (l)(ii), a Reporting Bank may recognise local rating scales (rather than international ratings) of a recognised ECAI if the corporate debt securities or covered bonds are held by the Reporting Bank for local currency liquidity needs arising from its operations in that local country or jurisdiction.

Operational requirements

31 A Reporting Bank must treat a liquid asset as HQLA only if the liquid asset complies with the following operational requirements²⁷:

- (a) the liquid asset is unencumbered²⁸ and is not pledged whether explicitly or implicitly, to secure, collateralise or credit-enhance any transaction, nor be designated to cover operational costs²⁹;
- (b) the liquid asset is under the control of the function³⁰ charged with managing the liquidity of the Reporting Bank. In this regard, an asset would only be considered to be under the control of the function if the asset is maintained in a separate pool managed by the function with the sole intent for use as a source of contingent funds or if the Reporting Bank is able to demonstrate that the function has the authority and legal and operational capability to monetise the asset at any point in the 30-day LCR horizon and that the proceeds of doing so are available to the function throughout the 30-day LCR horizon without directly conflicting with a stated business or risk management strategy³¹;
- (c) in the case of a liquid asset received in reverse repo and securities financing transactions, the liquid asset has not been rehypothecated and is legally and contractually available for the Reporting Bank to sell or deal with such assets;

²⁷ A Reporting Bank should periodically monetise a representative proportion of the assets in the stock through repo or outright sale, in order to test its access to the market, the effectiveness of its processes for monetisation, the availability of the assets, and to minimise the risk of negative signalling during a period of actual stress.

²⁸ To avoid doubt, all assets maintained and held by the Reporting Bank for the purposes of section 40 of the Act are encumbered. For the purposes of Part II – LCR, cash balances maintained by the Reporting Bank for the purposes of section 39 of the Act are considered unencumbered.

²⁹ For example, rents and salary.

³⁰ For example, the treasurer.

³¹ For example, a Reporting Bank must exclude an asset which it is impeded from selling, such as an asset, which, if sold at large fire-sale discounts would cause the Reporting Bank to breach minimum solvency requirements, or an asset which the Reporting Bank is required to hold, including, but not limited to, an asset to meet statutory minimum inventory requirements for market making, from the stock of HQLA.

- (d) in the case of a liquid asset deposited with, or pledged to, a central bank or a PSE, the liquid asset has not been used to generate liquidity;
- (e) in the case of a liquid asset held by a banking group entity of the Reporting Bank to meet statutory liquidity requirements imposed on the banking group entity by the laws and regulations of any country or jurisdiction to which the banking group entity is subject to, the Reporting Bank includes the cash outflows and cash inflows of the banking group entity in its computation of its LCR, and the liquid asset in surplus of the statutory liquidity requirements, if any, is freely available to the banking group in times of stress;
- (f) in the case of a liquid asset received as collateral for derivatives transactions, the liquid asset is not segregated, has not been rehypothecated and is legally and contractually available for the Reporting Bank to sell or deal with such assets, and the Reporting Bank records an appropriate cash outflow for the associated risks in accordance with paragraph 88;
- (g) in the case of a liquid asset received as part of a basket of collateral as security for a transaction, the liquid asset can be monetised separately;
- (h) in the case of a liquid asset pledged as collateral, the liquid asset is unused as at the end of the day and is not intended to collateralise derivatives transactions. If the Reporting Bank is unable to determine which assets are unused, it must assume that the assets are encumbered in the following order:
 - (i) firstly, assets that are not HQLA;
 - (ii) secondly, Level 2B(II) HQLA;
 - (iii) thirdly, Level 2B(I) HQLA;
 - (iv) fourthly, Level 2A HQLA;
 - (v) fifthly, Level 1 HQLA;
- (i) in the case of a liquid asset received as part of a securities borrowing transaction that is not a reverse repo or collateral swap, the liquid asset cannot be returned or recalled within the 30-day LCR horizon.

Composition of HQLA

32 A Reporting Bank must measure its Level 1 HQLA at an amount not greater than the current market value.

33 A Reporting Bank must ensure that –

- (a) its Level 2A HQLA are subject to a 15% haircut on the current market value of each Level 2A HQLA; and
- (b) its Level 2B HQLA are subject to –
 - (i) a 25% haircut on the current market value of RMBS; and
 - (ii) a 50% haircut on the current market value of corporate debt securities (including commercial papers), sovereign debt securities, PSE debt securities and ordinary shares.

34 Where a liquid asset can be categorised into different categories of HQLA, a Reporting Bank must categorise the liquid asset into the HQLA category with the highest haircut, except where expressly provided otherwise or where the Reporting Bank has obtained the approval of the Authority to do otherwise.³²

35 A Reporting Bank must apply a cap on its Level 2 HQLA, Level 2B HQLA and Level 2B(II) HQLA, to ensure that they do not exceed 40%, 15% and 5% of total HQLA respectively. The Reporting Bank must compute the cap on its Level 2 HQLA, Level 2B HQLA and Level 2B(II) HQLA after the application of the required haircuts, and after taking into account the unwinding of short-term securities financing transactions and collateral swap transaction maturing within the 30-day LCR horizon that involve the exchange of HQLA.

36 If a liquid asset no longer qualifies as HQLA³³, a Reporting Bank is permitted to keep such liquid assets as HQLA for an additional 30 days. This would allow the Reporting Bank additional time to adjust its HQLA as needed or replace the liquid asset.

37 A Reporting Bank must compute HQLA in accordance with the formula in Appendix 6.

³² A Reporting Bank may apply to the Authority for such approval with evidence supporting the less conservative treatment.

³³ For example, due to a rating downgrade.

Total net cash outflows

38 Total net cash outflows is defined as total expected cash outflows minus the lower of –

- (a) total expected cash inflows; and
- (b) 75% of total expected cash outflows.

39 Except where otherwise stated, a Reporting Bank must compute –

- (a) total expected cash outflows as the sum of cash outflows of outflow items; and
- (b) total expected cash inflows as the sum of cash inflows of inflow items.

40 For the purposes of computing the total net cash outflows in paragraph 38, a Reporting Bank that is complying with Part II – LCR on a country-level group basis must exclude cash outflows and cash inflows arising from transactions between entities in a country-level group.

41 Except where otherwise stated, a Reporting Bank must compute cash outflows and cash inflows of outflow and inflow items by multiplying the cash outflow and cash inflow rates respectively to the outstanding balances of the outflow and inflow items due within the 30-day LCR horizon. For the purposes of such computation, the Reporting Bank must apply the cash outflow and cash inflow rates in paragraphs 44 to 147 and Appendix 7 to each category of cash outflows and cash inflows.

42 A Reporting Bank must not double count assets and liabilities in its computation of its LCR. If a liquid asset is included as part of HQLA, the Reporting Bank cannot count the cash inflows associated with that liquid asset as part of the total expected cash inflows.

43 Where transactions can be categorised into multiple categories with different cash inflow or cash outflow rates, a Reporting Bank must apply the higher cash outflow rate or lower cash inflow rate, as the case may be, except where expressly provided otherwise or where the Reporting Bank has obtained the approval of the Authority to do otherwise.

Cash outflows

(A) Retail deposit cash outflows

44 Retail deposits are deposits placed by a natural person. Deposits from legal entities, sole proprietorships or partnerships are captured in the wholesale funding categories. A Reporting Bank must include cash outflows from all retail deposits, including demand deposits

and term deposits, in its computation of its LCR, unless otherwise excluded under the criteria set out in paragraphs 54 and 56.

45 Retail deposits are divided into “stable” and “less stable” as described in paragraphs 46 and 52.

(I) Stable deposits

46 Stable deposits are those which are fully insured by the Singapore Deposit Insurance Corporation Limited (“SDIC”), or an effective government deposit insurance scheme in a foreign country or jurisdiction, where –

- (a) the depositors have established relationships with the Reporting Bank such that the deposits are highly unlikely to be withdrawn (“established relationships”); or
- (b) the deposits are in transactional accounts³⁴.

47 Fully insured deposits means the amount of deposits that will be fully paid out by an effective deposit insurance scheme. To avoid doubt, in the case of deposits that are in excess of the deposit insurance limit of the effective deposit insurance scheme, a Reporting Bank must treat only the amount of deposits up to the deposit insurance limit as fully insured and must not treat the amount of deposits in excess of the deposit insurance limit as fully insured.

48 Effective deposit insurance scheme means a scheme –

- (a) that has the ability to make prompt payouts;
- (b) that has a clearly defined coverage;
- (c) that has high public awareness; and
- (d) where the deposit insurer of the insurance scheme has formal legal powers to fulfil its mandate and is operationally independent, transparent and accountable.

49 A Reporting Bank may consider an explicit and legally binding sovereign deposit guarantee that effectively functions as deposit insurance as an effective deposit insurance scheme.

³⁴ For example, an account where salaries are automatically credited.

50 A Reporting Bank must apply a cash outflow rate of 5% to stable deposits that are fully insured by SDIC.

51 Where a Reporting Bank has stable deposits that are fully insured by an effective government deposit insurance scheme in a foreign country or jurisdiction, the Reporting Bank must follow the relevant treatment adopted by the bank regulatory agency in the foreign country or jurisdiction.

(II) Less stable deposits

52 Less stable deposits are deposits that are not stable deposits.

53 A Reporting Bank must apply a cash outflow rate of 10% to less stable deposits.

(III) Retail term deposits

54 Subject to paragraphs 55 and 56, a Reporting Bank must exclude the cash outflow from a retail term deposit with a residual maturity or withdrawal notice period of greater than 30 days from the total expected cash outflows, if the depositor has no legal right to withdraw the deposit within the 30-day LCR horizon, or if early withdrawal results in a significant penalty that is materially greater than the loss of interest.

55 If a Reporting Bank allows a depositor to withdraw a retail term deposit referred to in paragraph 54 within the 30-day LCR horizon without applying any penalty that is materially greater than the loss of interest, or despite a clause that says the depositor has no legal right to withdraw, the Reporting Bank must include the cash outflow from all retail term deposits referred to in paragraph 54 in the total expected cash outflows as computed in accordance with paragraphs 46 to 53.

56 Despite paragraph 55, if a Reporting Bank allows a depositor that is undergoing exceptional circumstances that would qualify as hardship³⁵ to withdraw a retail term deposit referred to in paragraph 54 within the 30-day LCR horizon without applying any penalty that is materially greater than the loss of interest, or despite a clause that says the depositor has no legal right to withdraw, the Reporting Bank may continue to exclude the cash outflow from all retail term deposits referred to in paragraph 54 from the total expected cash outflows.

57 Where a Reporting Bank has a branch or subsidiary³⁶ that is approved, licensed, registered or otherwise regulated by a bank regulatory agency in a foreign country or jurisdiction to carry on banking business under the laws of the foreign country or jurisdiction, the Reporting Bank must apply the cash outflow and cash inflow rates outlined in Part II – LCR

³⁵ For example, loss of employment, entering into a serious accident or illness.

³⁶ To avoid doubt, this includes a branch of the subsidiary.

in its computation of its LCR, except for deposits from retail and small business customers where the Reporting Bank must follow the relevant treatment adopted in that country or jurisdiction, subject to the requirements in paragraph 148.

(B) Unsecured wholesale funding cash outflows

58 Unsecured wholesale funding are liabilities and general obligations (excluding liabilities and obligations related to derivative contracts) of persons who are not natural persons and such liabilities and general obligations are not secured by legal rights to specifically designated assets owned by the person in the event of the bankruptcy, insolvency, liquidation or resolution of the person.

59 A Reporting Bank must include the cash outflow from an unsecured wholesale funding in the total expected cash outflows, if the funding is callable within the 30-day LCR horizon, has its earliest possible contractual maturity date situated within the 30-day LCR horizon³⁷, has an undetermined maturity, or has options that are exercisable at the discretion of the counterparty to the unsecured wholesale funding transaction within the 30-day LCR horizon. For options exercisable at the Reporting Bank's discretion, the Reporting Bank must consider reputational factors that may limit its ability not to exercise the option and its impact on unsecured wholesale funding cash outflows.

60 A Reporting Bank must not include unsecured wholesale funding that is callable by the counterparty to the unsecured wholesale funding transaction subject to a contractually defined and binding notice period surpassing the 30-day LCR horizon in the total expected cash outflows.

(I) Unsecured wholesale funding provided by small business customers

61 A Reporting Bank must treat unsecured wholesale funding provided by small business customers in the same way as retail deposits.

(II) Operational deposits generated by clearing, custody and cash management services

62 Subject to paragraphs 63, 64, 65 and 68, a Reporting Bank may, with the Authority's approval –

- (a) apply a cash outflow rate that is the same as the cash outflow rate applied to stable deposits, to the portion of operational deposits from customers receiving qualifying clearing, custody and cash management services from the

³⁷ For example, maturing term deposits and debt securities.

Reporting Bank (“qualifying operational deposits”) that is fully covered by a deposit insurance scheme; and

- (b) apply a cash outflow rate of 25% to other qualifying operational deposits.

63 For the purposes of paragraph 62, a Reporting Bank must ensure that qualifying clearing, custody or cash management services meet the following criteria:

- (a) the customer is reliant on the Reporting Bank to perform these services as an independent third party intermediary in order to fulfil its normal banking activities over the 30-day LCR horizon³⁸;
- (b) the Reporting Bank is providing these services under a legally binding agreement to customers;
- (c) the customer may only terminate the agreement referred to in sub-paragraph (b) by giving prior notice of at least 30 days or paying significant switching costs³⁹ if the operational deposits are withdrawn within the 30-day LCR horizon.

64 For the purposes of paragraph 62, a Reporting Bank must ensure that qualifying operational deposits generated from the qualifying clearing, custody and cash management services meet the following criteria:

- (a) the deposits are by-products of the underlying services provided by the Reporting Bank and not sought out in the wholesale market in the sole interest of offering interest income;
- (b) the deposits are held in specifically designated accounts and priced without giving an economic incentive to the customer⁴⁰ to leave any excess balances on these accounts. In the case that interest rates in a country or jurisdiction are close to zero, such accounts are likely to be non-interest bearing.⁴¹

65 For the purposes of paragraph 62, a Reporting Bank must not treat any excess balances that may be withdrawn while still leaving sufficient funds to fulfil the qualifying clearing, custody and cash management services as qualifying operational deposits.

³⁸ For example, this condition would not be met if the Reporting Bank is aware that the customer has adequate back-up arrangements.

³⁹ For example, those related to transaction, information technology, early termination or legal costs.

⁴⁰ To avoid doubt, paying market interest rates for the deposits is not sufficient for the Reporting Bank to determine that the deposits are priced without giving an economic incentive to the customer.

⁴¹ The Reporting Bank should be particularly aware that during prolonged periods of low interest rates, excess balances could be significant.

66 For the purposes of paragraph 65, a Reporting Bank must –

- (a) determine the methodology for identifying excess balances that are excluded from this category; and
- (b) conduct an assessment based on the methodology at a sufficiently granular level to adequately assess the risk of withdrawal in an idiosyncratic stress.

67 For the purposes of the methodology referred to in paragraph 66(a), a Reporting Bank must ensure that the methodology takes into account relevant factors⁴², and consider appropriate indicators⁴³ to identify those customers that are not actively managing account balances efficiently.

68 For the purposes of paragraph 62, a Reporting Bank must not treat any deposit arising out of correspondent banking or from the provision of prime brokerage services as qualifying operational deposits.

69 Correspondent banking means any arrangement under which a bank or merchant bank (correspondent) holds deposits owned by another bank or merchant bank (respondent) and provides payment or other services to the respondent in order to settle foreign currency transactions.⁴⁴

70 Prime brokerage services is a package of services⁴⁵ offered to large active investors⁴⁶.

(III) Deposits in institutional networks of cooperative banks

71 An institutional network of cooperative (or otherwise named) banks is a group of legally autonomous banks with a statutory framework of cooperation with common strategic focus and brand where specific functions are performed by central institutions or specialised service providers. Subject to paragraph 72, a Reporting Bank that is a central institution or a specialised service provider of an institutional network of cooperative banks, may, with the Authority's approval, apply a cash outflow rate of 25% to the amount of deposits that members of the institutional network have placed with the Reporting Bank arising from statutory minimum deposit requirements or in the context of common task sharing and legal,

⁴² For example, the likelihood that wholesale customers have above average balances in advance of specific payment needs.

⁴³ For example, ratios of account balances to payment or settlement volumes or to assets under custody.

⁴⁴ For example, nostro and vostro accounts used to settle transactions in a currency other than the domestic currency of the respondent bank or merchant bank for the provision of clearing and settlement of payments.

⁴⁵ For example, clearing, settlement and custody, consolidated reporting, financing (margin, repo or synthetic), securities lending, capital introduction, and risk analytics.

⁴⁶ For example, institutional hedge funds.

statutory or contractual arrangements, so long as both the Reporting Bank that has received the deposits and the member of the institutional network that has placed the deposits participate in the same institutional network's mutual protection scheme against illiquidity and insolvency of its members.

72 Despite paragraph 71, a Reporting Bank that is a central institution or a specialised service provider of an institutional network of cooperative banks, must apply a cash outflow rate of 100% to the amount of deposits that members of the institutional network have placed with the Reporting Bank for –

- (a) correspondent banking services; and
- (b) clearing, custody or cash management services.

(IV) Deposits contractually pledged to a Reporting Bank as collateral to secure other transactions

73 Despite paragraphs 44 to 72, if a deposit is contractually pledged to a Reporting Bank as collateral to secure a credit facility or loan granted by the Reporting Bank ("pledged deposit") that will not mature or settle within the 30-day LCR horizon, the Reporting Bank may exclude the pledged deposit from its computation of its LCR only if the following conditions are met:

- (a) the loan or credit facility is not maturing within the 30-day LCR horizon;
- (b) there is a legally enforceable contract disallowing withdrawal of the pledged deposit before the loan is fully settled or repaid;
- (c) the amount of deposit that is excluded from its computation of its LCR does not exceed the outstanding balance of the loan or drawn portion of the credit facility.

74 Paragraph 73 does not apply to a deposit that is pledged against an undrawn facility, in which case the Reporting Bank must apply the higher of the cash outflow rate applicable to the undrawn facility and the pledged deposit.

(V) Unsecured wholesale funding provided by non-financial corporates and sovereigns, central banks, multilateral development banks and PSEs

75 A Reporting Bank must apply a cash outflow rate of 20% to unsecured wholesale funding provided by corporate customers which are not financial institutions, sovereigns, central banks, multilateral development banks, and PSEs, that also do not qualify as operational deposits, if the entire amount of the deposit is fully covered by an effective

deposit insurance scheme or by a public guarantee that provides equivalent protection. Otherwise, the Reporting Bank must apply a cash outflow rate of 40% to such unsecured wholesale funding.

(VI) Unsecured wholesale funding provided by other customers that are not natural persons

76 A Reporting Bank must apply a cash outflow rate of 100% to all unsecured wholesale funding that are not included in paragraphs 58 to 75⁴⁷. Subject to paragraph 77, a Reporting Bank may compute cash outflows from unsecured wholesale funding provided by relevant intragroup banking entities on a net basis with cash inflows from unsecured wholesale funding provided to such entities.

77 Despite paragraph 76, a Reporting Bank that is an internationally active bank must not, in its computation of its LCR at the Group level, compute cash outflows from unsecured wholesale funding provided by relevant intragroup banking entities on a net basis with cash inflows from unsecured wholesale funding provided to such entities.

78 A Reporting Bank must include all notes, bonds and other debt securities issued by the Reporting Bank in this category regardless of the holder, unless the bond is sold exclusively in the retail market and held in retail accounts (including small business customer accounts), in which case the Reporting Bank may include the notes, bonds or debt securities in the appropriate retail or small business customer deposit category provided that limitations are placed on the instrument by the Reporting Bank such that those instruments cannot be bought and held by parties other than retail or small business customers.

79 A Reporting Bank must separate customer cash balances arising from the provision of prime brokerage services, including but not limited to the cash arising from prime brokerage services, from any required segregated balances related to customer protection regimes imposed on the Reporting Bank or its banking group entities by the laws and regulations of any country or jurisdiction to which the Reporting Bank or its banking group entities is subject and the Reporting Bank must not net such cash balances against other customer exposures included in its computation of its LCR. A Reporting Bank must treat segregated balances related to customer protection regimes imposed by the laws and regulations of any country or jurisdiction to which the Reporting Bank or its banking group entities is subject as cash inflows in accordance with paragraph 133 and must exclude these segregated balances from HQLA.

⁴⁷ For example, deposits and other funding, that are not qualifying operational deposits, from banks, securities firms, insurance companies, fiduciaries, beneficiaries, conduits and special purpose vehicles, affiliated entities of the Reporting Bank and other entities.

(C) Unsecured precious metals liabilities cash outflows

80 Unsecured precious metals liabilities are liabilities and general obligations (excluding liabilities and obligations related to derivative contracts) in precious metals and are not secured funding.⁴⁸

81 A Reporting Bank must treat unsecured precious metals liabilities in the same way as retail deposits and unsecured wholesale funding, and apply the appropriate cash outflow rates in accordance with paragraphs 44 to 79.

82 Despite paragraph 81, a Reporting Bank may apply a cash outflow rate of 0% to an unsecured precious metals liability if –

- (a) contractual arrangements require the unsecured precious metals liability to be settled by physical delivery and the Reporting Bank is able to supply the precious metals from its own inventories; or
- (b) contractual arrangements allow the Reporting Bank to choose cash settlement or physical delivery and there are no market practices or reputational factors that may limit the Reporting Bank's ability to choose physical delivery if the Reporting Bank is able to supply the precious metals from its own inventories.

(D) Secured funding cash outflows

83 Secured funding are 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 of the borrowing institution.

84 A Reporting Bank must include forward repurchase transactions and collateral swaps that start prior to, but mature within, the 30-day LCR horizon in this category.

85 A Reporting Bank must treat collateral swaps and any other transaction which involves an exchange of non-cash assets as a combination of a repurchase and reverse repurchase agreement. The Reporting Bank must compute the cash outflow for collateral swaps based on the net cash outflow that will result from an equivalent repurchase and reverse repurchase transaction, floored at zero. The Reporting Bank must treat any collateral lent to its customers to effect short positions as a form of secured funding.

⁴⁸ For example, deposits in precious metals received by a Reporting Bank.

86 If a pool of assets is used as collateral for a secured funding transaction, and a Reporting Bank is unable to determine specifically which assets are used to collateralise the transaction, it must assume that the assets are encumbered in the following order:

- (a) firstly, assets which are not HQLA;
- (b) secondly, Level 2B(II) HQLA;
- (c) thirdly, Level 2B(I) HQLA;
- (d) fourthly, Level 2A HQLA;
- (e) fifthly, Level 1 HQLA.

87 A Reporting Bank must apply the relevant cash outflow rates in “Cash Outflows – C. Secured funding” section of Appendix 7 to the amount of funds raised through an outstanding secured funding transaction that matures within the 30-day LCR horizon or that arises from collateral lent to customers to effect short positions without a specified contractual maturity.

(E) Additional requirements

(I) Cash outflows from derivative contracts

88 A Reporting Bank must –

- (a) apply a cash outflow rate of 100% to the sum of all cash outflows from derivative contracts; and
- (b) compute the amounts of cash outflows from derivative contracts by doing the following:
 - (i) compute such amounts in accordance with its existing valuation methodologies;
 - (ii) exclude from such computations those liquidity requirements that would result from increased collateral needs due to market value movements or fall in value of collateral posted by the Reporting Bank;
 - (iii) assume that options are exercised at the point when they are ‘in the money’ to the option buyer.

89 A Reporting Bank may –

- (a) where the Reporting Bank has entered into a valid master netting agreement with its counterparty, compute the cash outflows from derivative contracts with that counterparty on a net basis with cash inflows from derivative contracts with the same counterparty; and
- (b) for the purposes of its computation of its all currency LCR, compute the cash outflows from a foreign exchange derivative contract not covered by a master netting agreement, where the foreign exchange derivative contract involves a full exchange of principal amounts within the same day, on a net basis with cash inflows from the foreign exchange derivative contract.

90 Where derivative contracts are collateralised by HQLA, a Reporting Bank must compute the cash outflows from derivative contracts 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 Reporting Bank, if the Reporting Bank is legally entitled to, and is operationally capable of, re-using the collateral in new cash raising transactions once the collateral is received.

91 A Reporting Bank must treat options which must be settled by physical delivery as secured borrowing transactions, where the assets to be delivered are treated as collateral in secured transactions or collateral swaps, and apply the appropriate cash outflow rates in accordance with paragraphs 83 to 87. The Reporting Bank may assume cash settlement, if contractual arrangements allow for both physical delivery and cash settlement. Where contractual arrangements require physical delivery as the mode of settlement, the Reporting Bank may assume that the security of lowest value will be delivered, unless the derivative contract provides otherwise.

(II) Increased liquidity needs related to downgrade triggers embedded in financing transactions, derivatives and other contracts

92 For each contract in which downgrade triggers exist, a Reporting Bank must include, in its computation of its total expected cash outflows, 100% of the additional collateral or cash outflow as stated in the governing contract to be posted for any downgrade during the 30-day LCR horizon up to and including a 3-notch downgrade of the Reporting Bank's long-term credit rating. For the purposes of this paragraph, where a downgrade trigger is linked to the Reporting Bank's short-term rating, the Reporting Bank must map such short-term rating to the corresponding long-term rating in accordance with published ratings criteria. The Reporting Bank must consider impacts on all types of margin collateral and contractual triggers which change rehypothecation rights for non-segregated collateral for the impact of the downgrade.

93 For the purposes of paragraph 92, downgrade triggers are clauses that require the posting of additional collateral, drawdown of contingent facilities, or early repayment of existing liabilities, upon a downgrade of the Reporting Bank's credit rating by a recognised ECAI.

(III) Increased liquidity needs related to the potential for valuation changes on posted collateral securing derivative and other transactions⁴⁹

94 Where a Reporting Bank posts Level 1 HQLA as collateral in respect of a derivative transaction, the Reporting Bank is not required to maintain additional HQLA for potential valuation changes. If however, the Reporting Bank posts other forms of collateral to cover the potential loss of market value on those securities, the Reporting Bank must include, in its computation of its total expected cash outflows, a cash outflow equivalent to 20% of the value of all such posted collateral, net of collateral received on a counterparty basis (provided that the collateral received is not subject to restrictions on reuse or rehypothecation). The Reporting Bank must compute the 20% based on the notional amount required to be posted as collateral after any other haircuts have been applied that may be applicable to the collateral category. The Reporting Bank must only use collateral that is in a segregated margin account to offset collateral outflows that are associated with payments that are eligible to be offset from that same account. The Reporting Bank must compute the notional amount to be collateralised based on the contractual terms of the transaction. The Reporting Bank must not net collateral inflows and collateral outflows across counterparties. The Reporting Bank must compute the amount of collateral to be posted in accordance with the relevant contract governing the respective transactions.

(IV) Increased liquidity needs related to excess non-segregated collateral held by the Reporting Bank that could contractually be called at any time by the counterparty

95 A Reporting Bank must include, in its computation of its total expected cash outflows, a cash outflow equivalent to 100% of the amount of non-segregated collateral that could contractually be recalled by the counterparty because the collateral is in excess of the counterparty's current collateral requirements, and compute the amount that can be recalled in accordance with the relevant contract governing the transactions.

⁴⁹ Counterparties in derivatives and other transactions are typically required to post collateral to secure the marked-to-market valuations of their positions. These counterparties are then required to post additional collateral should the value of the posted collateral fall.

(V) Increased liquidity needs related to contractually required collateral on transactions for which the counterparty has not yet demanded the collateral be posted

96 A Reporting Bank must include, in its computation of its total expected cash outflows, a cash outflow equivalent to 100% of the amount of collateral that is contractually due but where the counterparty has not yet demanded the posting of such collateral, and compute the amount of collateral in accordance with the relevant contract governing the transactions.

(VI) Increased liquidity needs related to contracts that allow collateral substitution to assets that are not HQLA or lower-quality HQLA

97 Where a Reporting Bank has received HQLA collateral that is –

- (a) not segregated; and
- (b) can be substituted with lower-quality HQLA or assets that are not HQLA without the Reporting Bank's consent in accordance with the relevant contract governing the transactions, including for secured lending transactions maturing beyond the 30-day LCR horizon that allows such collateral substitution,

the Reporting Bank must include, in its computation of its total expected cash outflows, a cash outflow equivalent to the market value of the received HQLA collateral multiplied by the difference in haircuts (as defined in paragraph 33) of the received HQLA collateral and the potential substitute collateral.

(VII) Increased liquidity needs related to market valuation changes on derivative or other transactions⁵⁰

98 A Reporting Bank must include, in its computation of its total expected cash outflows, a cash outflow equivalent to the largest absolute net 30-day collateral flow realised during the preceding 24 months.

99 For the purposes of paragraph 98, the Reporting Bank must compute the absolute net 30-day collateral flow for a 30-day period by doing the following:

- (a) compute the absolute net 30-day collateral flow based on both realised collateral outflows and collateral inflows during the 30-day period, including

⁵⁰ As market practice requires collateralisation of marked-to-market exposures on derivative and other transactions, a Reporting Bank faces potentially substantial liquidity risk exposures to these valuation changes.

payments and receipts which are deemed to settle outstanding exposures from exchange-traded and over-the-counter derivatives structured as “settled-to-market”;

- (b) assess the absolute net 30-day collateral flow on a portfolio level.

(VIII) Loss of funding on asset-backed securities, covered bonds and other structured financing instruments

100 A Reporting Bank must apply a cash outflow rate of 100% to all asset-backed securities, covered bonds and other structured financing instruments issued by the Reporting Bank that are maturing within the 30-day LCR horizon. For the purposes of this computation, the Reporting Bank may offset inflows from Level 1 or Level 2 HQLA used as collateral for these issuances against the redemption payment of these issuances. The Reporting Bank must consider any net inflow as other contractual cash inflows in paragraph 118.

(IX) Loss of funding on asset-backed commercial papers, conduits, securities investment vehicles and other such financing facilities

101 A Reporting Bank that has structured financing facilities that include the issuance of short-term debt instruments⁵¹, must fully consider the potential liquidity risk⁵² arising from these structures. Where the structured financing activities of the Reporting Bank are conducted through a special purpose entity⁵³, the Reporting Bank must look through to the maturity of the debt instruments issued by the entity and any embedded options in financing arrangements that may potentially trigger the “return” of assets or the need for liquidity, irrespective of whether or not the SPV is consolidated.

Table 1: Cash outflow rates from potential risk elements

Potential Risk Element	Cash outflow rate required
Debt maturing within the 30-day LCR horizon	A cash outflow rate of 100% to maturing amount
Embedded options in financing arrangements that allow for the return of assets or potential liquidity support	A cash outflow rate of 100% to the amount of assets that could potentially be returned, or the liquidity required

⁵¹ For example, asset backed commercial papers.

⁵² These risks include the inability of the Reporting Bank to refinance maturing debt, and the existence of derivatives or derivative-like components contractually written into the documentation associated with the structure that would allow the “return” of assets in a financing arrangement, or that require the original asset transferor to provide liquidity, effectively ending the financing arrangement (“liquidity puts”) within the 30-day LCR horizon.

⁵³ For example, a special purpose vehicle (“SPV”), conduit or structured investment vehicle (“SIV”).

(X) Drawdowns on committed credit and liquidity facilities

102 Committed facilities are defined as explicit contractual agreements or obligations to extend funds at a future date to retail or wholesale counterparties, which are contractually irrevocable or conditionally revocable agreements.

103 A Reporting Bank must compute the undrawn portion of the committed facilities net of any HQLA that have already been posted as collateral by the counterparty to secure the facilities or that are contractually obliged to be posted when the counterparty draws down the facility⁵⁴. This is provided that the Reporting Bank is legally entitled to and operationally capable of, re-using the collateral in new cash raising transactions once the facility is drawn, and there is no undue correlation between the probability of drawing the facility and the market value of the collateral. The Reporting Bank may net the collateral against the outstanding amount of the facility to the extent that this collateral is not already counted in the stock of HQLA.

104 A committed liquidity facility is defined as any committed, undrawn back-up facility that would be utilised to refinance the debt obligations of a customer in situations where such a customer is unable to rollover that debt in financial markets⁵⁵. A Reporting Bank must treat the amount of commitment that backs currently outstanding debt issued by the customer (or proportionate share, if a syndicated facility) maturing within the 30-day LCR horizon as a committed liquidity facility.

105 Subject to paragraph 106, a Reporting Bank must treat the following as committed credit facilities:

- (a) any additional capacity of a committed facility that is not meant to be utilised to refinance the debt obligations of a customer in situations where such a customer is unable to rollover that debt in financial markets; and
- (b) general working capital facilities for corporate entities⁵⁶.

106 Despite paragraphs 104 and 105, a Reporting Bank must treat any committed facility provided to hedge funds, money market funds and special purpose funding vehicles or conduits, or other vehicles used to finance the Reporting Bank's own assets as a committed liquidity facility to other legal entities.

107 For the portion of financing programs issued by a Reporting Bank that are captured under paragraphs 100 and 101 (i.e. are maturing or have liquidity puts that may be exercised

⁵⁴ For example, a liquidity facility structured as a repo facility.

⁵⁵ For example, pursuant to commercial paper programmes, secured financing transactions or obligations to redeem units.

⁵⁶ For example, revolving credit facilities in place for general corporate or working capital purposes.

within the 30-day LCR horizon), the Reporting Bank that is the provider of the associated liquidity facilities does not need to double count the maturing financing instrument and the liquidity facility for consolidated programs.

108 A Reporting Bank must apply the following cash outflow rates to any contractual and estimated loan drawdowns from a committed facility within the 30-day LCR horizon, regardless of the maturity of the facility⁵⁷:

- (a) committed credit and liquidity facilities to retail and small business customers: 5% of the undrawn portion of these facilities;
- (b) committed credit facilities to non-financial corporates, sovereigns and central banks, PSEs and multilateral development banks: 10% of the undrawn portion of these credit facilities;
- (c) committed liquidity facilities to non-financial corporates, sovereigns and central banks, PSEs, and multilateral development banks: 30% of the undrawn portion of these liquidity facilities;
- (d) committed credit and liquidity facilities extended to banks, and merchant banks in Singapore, subject to prudential supervision: 40% of the undrawn portion of these facilities;
- (e) committed credit facilities to other financial institutions including securities firms, insurance companies, fiduciaries, and beneficiaries: 40% of the undrawn portion of these credit facilities;
- (f) committed liquidity facilities to other financial institutions including securities firms, insurance companies, fiduciaries, and beneficiaries: 100% of the undrawn portion of these liquidity facilities;
- (g) committed credit and liquidity facilities to other legal entities (including SPEs, conduits and special purpose vehicles, and other entities not included in the prior categories): 100% of the undrawn portion of these facilities.

⁵⁷ Committed facilities can have long-term or short-term maturities, with short-term facilities frequently renewing or automatically rolling-over. In a stressed environment, it will likely be difficult for customers drawing on committed facilities of any maturity, even short-term maturities, to be able to quickly pay back the borrowings. Therefore, any contractual and estimated loan drawdowns from a committed facility within the 30-day LCR horizon are assumed to remain outstanding throughout the 30-day LCR horizon without any repayment, regardless of the maturity of the facility.

(XI) Contractual obligations to extend funds within the 30-day LCR horizon

109 A Reporting Bank must apply a cash outflow rate of 100% to any contractual lending obligation to financial institutions not captured elsewhere in Part II – LCR.

110 If the total of all contractual obligations to extend funds to customers that are not financial institutions within the 30-day LCR horizon not captured elsewhere in Part II – LCR exceeds 50% of the total contractual cash inflows due in the 30-day LCR horizon from these customers, a Reporting Bank must report the difference at a cash outflow rate of 100%.

(XII) Other contingent funding obligations⁵⁸

111 A Reporting Bank must apply a cash outflow rate of 100% to the full amount of the contingent funding obligations that is expected to materialise within the 30-day LCR horizon under stressed conditions.

112 A Reporting Bank must treat facilities that are unconditionally revocable by the Reporting Bank (in particular, those without a precondition of a material change in the credit condition of the borrower) as contingent funding obligations.

113 Where a Reporting Bank has identified any contingent funding obligations that are explicitly contingent upon an event that is not related to a liquidity event, the Reporting Bank must inform the Authority not later than the last day of the year in which such contingent funding obligation is identified.

114 A Reporting Bank must treat non-contractual contingent funding obligations related to potential liquidity draws from joint ventures or investments in entities, which are not consolidated, as contingent funding obligations where there is the expectation that the Reporting Bank will be the main liquidity provider when the entity is in need of liquidity. The Reporting Bank must seek the Authority's approval for the methodology for quantifying such potential liquidity draws, in particular, those arising from the need to support investments in times of stress out of reputational concerns.

⁵⁸ Contingent funding obligations may be either contractual or non-contractual and are not lending commitments. Non-contractual contingent funding obligations include associations with, or sponsorship of, products sold or services provided that may require the support or extension of funds in the future under stressed conditions. Non-contractual obligations may be embedded in financial products and instruments sold, sponsored, or originated by the institution that can give rise to unplanned balance sheet growth arising from support given for reputational risk considerations. These include products and instruments for which the customer or holder has specific expectations regarding the liquidity and marketability of the product or instrument and for which failure to satisfy customer expectations in a commercially reasonable manner would likely cause material reputational damage to the institution or otherwise impair ongoing viability.

115 For contingent funding obligations stemming from trade finance instruments⁵⁹ that are not lending commitments, a Reporting Bank must apply a cash outflow rate of 3%.

116 For contingent funding obligations stemming from trade finance instruments that are lending commitments⁶⁰, a Reporting Bank must apply the cash outflow rates specified in paragraph 108 for such commitments.

117 A Reporting Bank must apply a cash outflow rate of 50% to contingent obligations where the Reporting Bank has covered customers' short positions using other customers' collateral which does not qualify as Level 1 or Level 2 HQLA, and the Reporting Bank may be obligated to find additional sources of funding for these positions in the event of customers' withdrawals.

(F) Other contractual cash outflows

118 A Reporting Bank must apply a cash outflow rate of 100% to all other contractual cash outflows within the 30-day LCR horizon, where such cash outflows are not captured elsewhere in Part II – LCR⁶¹, except for cash outflows related to operating costs. The Reporting Bank must, if called upon at any time by the Authority, explain to the Authority, what these cash outflows are.

Cash inflows

119 When considering its available cash inflows, a Reporting Bank must only include contractual cash inflows (including interest payments) from outstanding exposures that are fully performing and for which the Reporting Bank has no reason to expect a default within the 30-day LCR horizon. The Reporting Bank must not include contingent inflows in total net cash inflows.

(A) Cap on total expected cash inflows

120 A Reporting Bank must, in its computation of its total net cash outflows, cap the amount of total expected cash inflows that can offset the amount of total expected cash outflows at 75% of the amount of total expected cash outflows, in accordance with paragraph 38.

⁵⁹ Trade finance instruments consist of trade-related obligations, directly underpinned by the movement of goods or the provision of services, such as –

(a) documentary trade letters of credit, documentary and clean collection, import bills and export bills; and
(b) guarantees directly related to trade finance obligations, such as shipping guarantees.

⁶⁰ For example, direct import or export financing for non-financial corporates.

⁶¹ For example, cash outflows to cover unsecured collateral borrowings, uncovered short positions, dividends or contractual interest payments.

(B) Secured lending, including reverse repos, securities borrowing and margin loans

121 Subject to paragraph 123, for reverse repurchase or securities borrowing agreements that are maturing within the 30-day LCR horizon, a Reporting Bank must apply the following cash inflow rates:

- (a) if the agreement is secured by Level 1 HQLA, 0%;
- (b) if the agreement is secured by Level 2 HQLA, the relevant haircut for the specific HQLA as set out in paragraph 33; or
- (c) if the agreement is secured by assets that are not HQLA, 100%.

122 Subject to paragraph 123, a Reporting Bank must treat collateralised loans extended to customers for the purposes of taking leveraged trading positions (“margin loans”) as secured lending, and must apply the cash inflow rates in paragraph 121 to margin loans maturing within the 30-day LCR horizon, except in the case of margin loans secured by assets that are not HQLA, to which the Reporting Bank must apply a cash inflow rate of 50%.

123 Despite paragraphs 121 and 122, if the collateral obtained through reverse repurchase, securities borrowing, margin loans or collateral swaps is used to cover short positions that could be extended beyond the 30-day LCR horizon, a Reporting Bank must assume that such reverse repurchase or securities borrowing arrangements will be rolled-over and apply a cash inflow rate of 0%, reflecting the need to continue to cover the short position or to re-purchase the relevant securities.

**Table 2: Cash inflow rates for maturing secured lending
in accordance with paragraphs 121 to 123**

	Cash inflow rate (if collateral is not used to cover short positions that could be extended beyond the 30-day LCR horizon)	Cash inflow rate (if collateral is used to cover short positions that could be extended beyond the 30-day LCR horizon)
Maturing secured lending backed by Level 1 HQLA	0%	0%
Maturing secured lending backed by Level 2A HQLA	15%	0%
Maturing secured lending backed by Level 2B HQLA		
• Eligible RMBS	25%	0%
• Other Level 2B HQLA	50%	0%

Maturing margin loans backed by assets that are not HQLA	50%	0%
Maturing reverse repurchase or securities borrowing arrangements backed by assets that are not HQLA	100%	0%

124 Where a Reporting Bank's short position is being covered by an unsecured security borrowing, the Reporting Bank must assume the unsecured security borrowing of collateral from financial market participants would run-off in full, leading to a 100% outflow of either cash or HQLA to secure the borrowing, or cash to close out the short position by buying back the security, and apply a cash outflow rate of 100% in accordance with paragraph 118 to the short position. Where the Reporting Bank's short position is being covered by a collateralised securities financing transaction, the Reporting Bank must assume the short position will be maintained throughout the 30-day LCR horizon and apply a cash inflow rate of 0% to the short position.

125 If a pool of assets is used as collateral for a secured lending transaction, and a Reporting Bank is unable to determine specifically which assets are used to collateralise the transaction, the Reporting Bank must assume that the assets are encumbered in the following order:

- (a) firstly, assets that are not HQLA;
- (b) secondly, Level 2B(II) HQLA;
- (c) thirdly, Level 2B(I) HQLA;
- (d) fourthly, Level 2A HQLA;
- (e) fifthly, Level 1 HQLA.

126 Despite paragraphs 121 to 123, a Reporting Bank must manage its collateral such that it is able to fulfil obligations to return collateral whenever the counterparty decides not to roll-over any reverse repo or securities lending transaction.

127 A Reporting Bank must include forward reverse repurchase transactions and collateral swaps that start prior to, but mature within, the 30-day LCR horizon in this category.

128 Paragraphs 121 to 127 do not apply to any transaction where there is a possibility of the cash inflow occurring after the 30-day LCR horizon.

(C) Committed facilities

129 A Reporting Bank must apply a cash inflow rate of 0% to credit facilities, liquidity facilities or other contingent funding facilities that the Reporting Bank holds at other institutions for its own purposes.

(D) Other cash inflows by counterparty

130 A Reporting Bank must, in relation to loan payments, include, in its computation of its total expected cash inflows, only cash inflows from fully performing loans. A Reporting Bank must include, in its computation of its total expected cash inflows, only cash inflows at the latest possible date based on the contractual rights available to counterparties. A Reporting Bank must, in relation to revolving credit facilities, assume that the existing loan will be rolled over and any remaining balances are treated as a committed facility in accordance with paragraph 108.

131 A Reporting Bank must not include, in its computation of its total expected cash inflows, cash inflows from loans that have no specific maturity, except for minimum payments of principal, fee or interest associated with open maturity loans that are contractually due within the 30-day LCR horizon. The Reporting Bank must capture these minimum payment amounts as cash inflows at the cash inflow rates in paragraphs 132 and 133.

(I) Retail and small business customer cash inflows

132 A Reporting Bank must –

- (a) assume that all payments (including interest payments and instalments) from retail and small business customers that are fully performing and contractually due within the 30-day LCR horizon will be received in full;
- (b) assume that it will continue extending loans to retail and small business customers at a rate of 50% of contractual cash inflows; and
- (c) apply a cash inflow rate of 50% to the contractual cash inflows from retail and small business customers as a result of sub-paragraphs (a) and (b).

(II) Other wholesale cash inflows

133 A Reporting Bank must –

- (a) assume that all payments (including interest payments and instalments) received from wholesale customers that are fully performing and contractually due within the 30-day LCR horizon will be received in full;

- (b) assume that it will continue extending loans to wholesale customers at a rate of 0% of contractual cash inflows from financial institutions and central banks, and at a rate of 50% of contractual cash inflows from other wholesale customers⁶²; and
- (c) apply a cash inflow rate of 100% to the contractual cash inflows from financial institutions and central bank counterparties, and 50% to the contractual cash inflows from other wholesale customers, as a result of sub-paragraphs (a) and (b).

134 A Reporting Bank must apply a cash inflow rate of 100% to cash inflows from securities maturing within the 30-day LCR horizon that are not HQLA.

135 A Reporting Bank must apply a cash inflow rate of 0% to operational deposits of the Reporting Bank placed with other financial institutions for operational purposes. A Reporting Bank that is a member of an institutional network of cooperative banks must apply a cash inflow rate of 0% to deposits placed with a central institution or a specialised service provider in the institutional network arising from statutory minimum deposit requirements or in the context of common task sharing and legal, statutory or contractual arrangements, so long as both the Reporting Bank that has placed the deposits and the central institution or the specialised service provider of the institutional network that has received the deposits participate in the same institutional network's mutual protection scheme against illiquidity and insolvency of its members. Where a Reporting Bank has placed a deposit with a bank or financial institution (the "receiving financial institution"), the Reporting Bank must apply the methodology in paragraphs 62 to 70 to determine if these deposits are operational deposits.⁶³

136 Subject to paragraph 137, where a Reporting Bank has elected to compute the cash outflows from unsecured wholesale funding provided by relevant intragroup banking entities on a net basis with cash inflows from unsecured wholesale funding provided to such entities in accordance with paragraph 76, the Reporting Bank must compute cash inflows from unsecured wholesale funding provided to the same relevant intragroup banking entities on a net basis with cash outflows from unsecured wholesale funding provided by such entities.

137 Despite paragraph 136, a Reporting Bank that is an internationally active bank must not, in its computation of its LCR at the Group level, compute cash inflows from unsecured wholesale funding provided to relevant intragroup banking entities on a net basis with cash outflows from unsecured wholesale funding provided by such entities.

⁶² This includes non-financial corporates, sovereigns, multilateral development banks, and PSEs.

⁶³ As a general principle, if the deposit has been classified by the receiving financial institution as an operational deposit, the Reporting Bank should also consider the deposit as an operational deposit.

(E) Unsecured precious metals assets cash inflows

138 Unsecured precious metals assets are assets (excluding assets related to derivative contracts) in precious metals and are not secured lending.⁶⁴

139 A Reporting Bank must treat cash inflows from unsecured precious metals assets that must be settled by cash settlement in the same way as loans to retail customers and wholesale customers, and apply the appropriate cash inflow rates in accordance with paragraphs 132 and 133.

140 A Reporting Bank must apply a cash inflow rate of 0% to unsecured precious metals assets that must be settled by physical delivery or where contractual arrangements allow the Reporting Bank to choose cash settlement or physical delivery.

141 Despite paragraph 140, a Reporting Bank may treat cash inflows from an unsecured precious metals asset referred to in paragraph 140 in the same way as loans to retail customers and wholesale customers, and apply the appropriate cash inflow rates in accordance with paragraphs 132 and 133, if –

- (a) contractual arrangements allow the Reporting Bank to choose between cash settlement and physical delivery and –
 - (i) physical delivery results in a significant penalty; or
 - (ii) both parties expect cash settlement; and
- (b) there are no market practices or reputational factors that may limit the Reporting Bank's ability to choose cash settlement.

(F) Other cash inflows

(I) Cash inflows from derivative contracts

142 A Reporting Bank must –

- (a) apply a cash inflow rate of 100% to the sum of all cash inflows from derivative contracts; and
- (b) compute the amounts of cash inflows from derivative contracts by doing the following:

⁶⁴ For example, unsecured loans in precious metals extended by a Reporting Bank or deposits in precious metals placed by a Reporting Bank.

- (i) compute such amounts in accordance with its existing valuation methodologies;
- (ii) assume that options are exercised at the point when they are 'in the money' to the option buyer.

143 Where –

- (a) a Reporting Bank has entered into a valid master netting agreement with its counterparty and elected to compute the cash outflows from derivative contracts with that counterparty on a net basis with cash inflows from derivative contracts with the same counterparty in accordance with paragraph 89(a), the Reporting Bank must compute the cash inflows from such derivative contracts on a net basis with cash outflows from such derivative contracts; and
- (b) a Reporting Bank has, for the purposes of its computation of its all currency LCR, elected to compute the cash outflows from a foreign exchange derivative contract not covered by a master netting agreement, where the foreign exchange derivative contract involves a full exchange of principal amounts within the same day, on a net basis with cash inflows from the foreign exchange derivative contract, in accordance with paragraph 89(b), the Reporting Bank must compute the cash inflows from the foreign exchange derivative contract on a net basis with cash outflows from the foreign exchange derivative contract.

144 Where derivative contracts are collateralised by HQLA, a Reporting Bank must compute the cash inflows from the derivative contracts net of any corresponding cash or contractual collateral outflows.

145 A Reporting Bank must treat options which must be settled by physical delivery as a secured lending transaction, and apply the appropriate cash inflow rates in accordance with paragraphs 121 to 128. The Reporting Bank may assume cash settlement, if the contractual arrangements allow for both physical delivery and cash settlement. Where contractual arrangements require physical delivery as the mode of settlement, the Reporting Bank may assume that the security of lowest value will be delivered, unless the derivative contract provides otherwise.

(II) Other contractual cash inflows

146 A Reporting Bank must apply a cash inflow rate of 0% to all other contractual cash inflows within the 30-day LCR horizon, where such cash inflows are not captured in

paragraphs 121 to 145, or excluded in paragraph 147. The Reporting Bank must, if called upon at any time by the Authority, explain to the Authority, what these cash inflows are.

- 147 A Reporting Bank must not include the following items as contractual cash inflows:
- (a) any cash inflow related to non-financial revenues;
 - (b) any forward repurchase agreement, forward reverse repurchase agreement or forward collateral swap that starts and matures within the 30-day LCR horizon;
 - (c) any forward repurchase agreement, forward reverse repurchase agreement or forward collateral swap that starts prior to and matures after the 30-day LCR horizon;
 - (d) any forward sale of HQLA.

Scope of Application

148 Where a Reporting Bank has a branch or subsidiary⁶⁵ that is approved, licensed, registered or otherwise regulated by a bank regulatory agency in a foreign country or jurisdiction to carry on banking business under the laws of the foreign country or jurisdiction and the foreign country or jurisdiction does not apply the Basel Committee on Banking Supervision’s global framework for liquidity risk, the Reporting Bank must apply the parameters outlined in Part II – LCR for its computation of its LCR for deposits from retail and small business customers of that branch or subsidiary. Where a Reporting Bank has a branch or subsidiary⁶⁶ that is approved, licensed, registered or otherwise regulated by a bank regulatory agency in a foreign country or jurisdiction to carry on banking business under the laws of the foreign country or jurisdiction and the foreign country or jurisdiction applies the Basel Committee on Banking Supervision’s global framework for liquidity risk, the Reporting Bank must interpret paragraphs 44 to 57 and the definition of “small business customers” in paragraph 22 (read with paragraph 23) in accordance with the foreign country’s or jurisdiction’s equivalent LCR rules for its computation of its LCR for deposits from retail and small business customers of that branch or subsidiary.

149 Where a Reporting Bank has a branch or subsidiary⁶⁷ that is approved, licensed, registered or otherwise regulated by a bank regulatory agency in a foreign country or jurisdiction to carry on banking business under the laws of the foreign country or jurisdiction and the foreign country or jurisdiction adopts the Alternative Liquidity Approaches, the Reporting Bank may include the HQLA recognised in the foreign country or jurisdiction for its

⁶⁵ To avoid doubt, this includes a branch of the subsidiary.

⁶⁶ To avoid doubt, this includes a branch of the subsidiary.

⁶⁷ To avoid doubt, this includes a branch of the subsidiary.

computation of its LCR, up to the amount of the Reporting Bank's total net cash outflows stemming from the operations of the Reporting Bank or its branch or subsidiary in the foreign country or jurisdiction, and in the domestic currency of the foreign country or jurisdiction.

150 The Authority may, by notice in writing to a Reporting Bank, impose stricter parameters than that set out in Part II – LCR, on the Reporting Bank, under section 38(1) read with section 38(2A) of the Act.

Utilisation of HQLA

151 A Reporting Bank must –

- (a) give prior written notification to the Authority of its intent to utilise its HQLA in a liquidity stress situation, where such utilisation will cause the Reporting Bank's LCR to fall below the prevailing minimum requirements as described in paragraph 24; and
- (b) ensure that the notification is signed by its chief executive, chief financial officer or any equivalent senior management.

152 A Reporting Bank must –

- (a) provide its justification for the utilisation of HQLA;
- (b) set out the cause of the liquidity stress situation and provide supporting documents, where available; and
- (c) detail the steps which it has taken and is going to take to resolve the liquidity stress situation,

to the Authority within one business day after the utilisation of its HQLA.

153 A Reporting Bank must also keep the Authority informed of material developments during the liquidity stress situation.

Submission of liquidity returns

154 A Reporting Bank must prepare the appropriate liquidity returns set out in Appendix 5 as at the last day of each month.

155 A Reporting Bank must submit to the Authority electronically through MASNET the liquidity returns prepared in accordance with paragraph 154 and at the following time, as the case may be:

- (a) in the case of a Reporting Bank that is –
 - (i) referred to in paragraph 24(a) –
 - (A) not later than 14 days after the last day of each month, the Reporting Bank’s Group level returns; and
 - (B) not later than 20 days after the last day of each month, the Reporting Bank’s Singapore Operations level returns, which excludes the Reporting Bank’s subsidiaries and overseas branches; or
 - (ii) approved under paragraph 6 to comply with Part II – LCR on a country-level group basis –
 - (A) not later than 14 days after the last day of each month, the Reporting Bank’s country-level group level returns; and
 - (B) not later than 20 days after the last day of each month, the Reporting Bank’s entity level returns;
- (b) in the case of a Reporting Bank which does not fall under sub-paragraph (a), the Reporting Bank’s entity level returns not later than 14 days after the last day of each month.

156 Despite paragraph 155, if the day on which a Reporting Bank has to submit any return is not a business day, the Reporting Bank may submit the return on the next business day.

Effective date and savings and transitional provisions

157 This Notice takes effect on 1 July 2022 (“effective date”). MAS Notice 649 dated 28 November 2014 and last revised on 27 September 2021 is cancelled with effect from the effective date (the “Repealed Notice”).

158 Any approval –

- (a) granted under paragraphs 4 and 46 of the Repealed Notice (the “Old Approval”); and
- (b) in force immediately before the effective date,

is treated as an approval granted under paragraphs 6 and 62 respectively, and is subject to all conditions which the Old Approval was subject to immediately before the effective date, except that –

- (c) a reference to “paragraph 4” and “paragraph 46” of the Repealed Notice in the Old Approval shall be read as a reference to “paragraph 6” and “paragraph 62” of this Notice respectively; and
- (d) a reference to “paragraphs 46 to 52” of the Repealed Notice in a condition which the Old Approval was subject to immediately before the effective date shall be read as a reference to “paragraphs 62 to 68” of this Notice.

159 Despite the Repealed Notice –

- (a) in respect of the appropriate liquidity returns prepared as of the last calendar day of the month immediately preceding the effective date in accordance with paragraph 15 of the Repealed Notice, paragraph 20 of this Notice does not apply and a Reporting Bank must submit the appropriate liquidity returns in accordance with paragraph 16 of the Repealed Notice; and
- (b) in respect of the appropriate liquidity returns prepared as of the last calendar day of the month immediately preceding the effective date in accordance with paragraph 116 of the Repealed Notice, paragraph 155 of this Notice does not apply and a Reporting Bank must submit the appropriate liquidity returns in accordance with paragraph 117 of the Repealed Notice.

Exclusion as Qualifying Liabilities

1 Subject to paragraph 2 of this Appendix, a Reporting Bank may exclude a bill of exchange as its Qualifying Liabilities if –

- (a) the bill of exchange is denominated in Singapore dollars. Where the underlying transaction referred to the bill of exchange is denominated in a foreign currency, the bill must be substituted for the first time into a Singapore dollar usance bill;
- (b) the bill of exchange relates to a trade transaction and reference to such a transaction appears on the face of the bill. The trade transaction must be in respect of imports into or exports from, Singapore and includes trade transactions between foreign exporters and foreign importers arranged by companies in Singapore. The Reporting Bank must verify that the first discounting bank or first discounting merchant bank in Singapore has ascertained that the bill of exchange is in fact related to trade transactions by examining the appropriate documents and obtaining written declarations from their customers that they have not sought or obtained other means of financing; and
- (c) the outstanding period to maturity of the bill of exchange is 3 months or less.

2 Despite paragraph 1 of this Appendix, a Reporting Bank must not exclude the following bills of exchange from its Qualifying Liabilities:

- (a) any bill which originates from a “switch transaction” where the transaction is solely between a foreign exporter and a foreign importer and the foreign currency trade bill is “switched” into a Singapore dollar bill and financed here;
- (b) any bill which is a bill drawn for a trade transaction in Singapore where all parties are in Singapore;
- (c) any bill which is a bill relating to services;
- (d) any bill which relates to a trade transaction where the supporting invoice has been paid by the customer prior to presentation of the bill to the first discounting bank or first discounting merchant bank in Singapore for discounting;

- (e) any bill which is overdue or been extended beyond the maturity date and a new bill has been drawn to substitute or roll-over the matured bill, regardless of whether the original bill had 3 months or less to maturity at the time it was discounted by the first discounting bank or first discounting merchant bank in Singapore;
- (f) any bill which is drawn for imports where the importer is also receiving credit from the seller for the same period, as the imports would effectively be financed by the seller and not from proceeds of the bill.

Bill of Exchange eligible as Liquid Assets

1 A Reporting Bank that purchases a bill of exchange denominated in Singapore dollars from a bank in Singapore or a merchant bank in Singapore may include such a bill as Liquid Assets if –

- (a) the bill has been endorsed by one or more banks in Singapore or merchant banks in Singapore;
- (b) the Reporting Bank has obtained a written confirmation from the first discounting bank or first discounting merchant bank in Singapore that –
 - (i) the first discounting bank or first discounting merchant bank in Singapore has taken necessary and sufficient steps to ascertain that the bills are in fact related to trade transactions as evidenced on the bills;
 - (ii) the bill does not originate from a “switch transaction” where the transaction is solely between a foreign exporter and a foreign importer and the foreign currency trade bill is “switched” into a Singapore dollar bill and financed in Singapore;
 - (iii) the bill is not drawn for a trade transaction in Singapore where all parties are in Singapore;
 - (iv) the bill does not relate to services;
 - (v) the bill does not relate to a trade transaction where the supporting invoice has been paid by the customer prior to presentation of the bill to the first discounting bank or first discounting merchant bank in Singapore for discounting;
 - (vi) the bill has not become overdue or been extended beyond the maturity date and no new bill has been drawn to substitute or roll-over the matured bill, regardless of whether the original bill had 3 months or less to maturity at the time it was discounted by the first discounting bank or first discounting merchant bank in Singapore; and
 - (vii) the bill is not drawn for imports where the importer is also receiving credit from the seller for the same period (as the imports would effectively be financed by the seller and not from proceeds of the bills); and

- (c) the outstanding period to maturity of the bill is 3 months or less. A bill originally drawn for more than 3 months is only eligible as Liquid Asset when there is 3 months or less to maturity.

Credit Ratings and Relevant Values

Description	Moody's Investors Services	Standard & Poor's Ratings Services	Fitch Ratings	Percentage
Long-Term Issue Ratings	Aaa	AAA	AAA	90%
	Aa1	AA+	AA+	
	Aa2	AA	AA	
	Aa3	AA-	AA-	80%
	A1	A+	A+	
	A2	A	A	
Baa1	Baa2	BBB+	BBB+	70%
		BBB	BBB	

Description	Moody's Investors Services	Standard & Poor's Ratings Services	Fitch Ratings	Percentage
Short-Term Issue Ratings	P-1	A-1	F-1	90%
	P-2	A-2	F-2	80%
	P-3	A-3	F-3	70%

1 For the purposes of determining the eligibility of a debt security or sukuk as a Liquid Asset under paragraph 8(g)(ii) of the Notice and determining the percentage to be applied when computing the amount of Liquid Assets held by a Reporting Bank on a maintenance day under paragraph 10(b)(iii) of the Notice, –

- (a) where there are 2 credit ratings for a particular issue of the debt security or sukuk, the Reporting Bank must use the poorer credit rating for that particular issue of the debt security or sukuk;
- (b) where there are more than 2 credit ratings for a particular issue of the debt security or sukuk, the Reporting Bank must use either the poorest credit rating or the higher of the 2 poorest credit ratings for that particular issue of the debt security or sukuk; and
- (c) where there are both long-term issue ratings and short-term issue ratings for a particular issue of the debt security or sukuk, the Reporting Bank must use

the issue rating which map into the lower percentage for that particular issue of the debt security or sukuk.

Schedules for Computation and Maintenance of MLA Requirements

For a 5-day business week –

Computation Day	Maintenance Day
Monday	Wednesday
Tuesday	Thursday
Wednesday	Friday, Saturday and Sunday
Thursday	next Monday
Friday	next Tuesday
next Monday	next Wednesday
next Tuesday	next Thursday
...

Example 1: If Thursday is a public holiday

Computation Day	Maintenance Day
Monday	Wednesday and Thursday
Tuesday	Friday, Saturday and Sunday
Wednesday	next Monday
Friday	next Tuesday
next Monday	next Wednesday
next Tuesday	next Thursday
...

Example 2: If Friday is a public holiday

Computation Day	Maintenance Day
Monday	Wednesday
Tuesday	Thursday, Friday, Saturday and Sunday
Wednesday	next Monday
Thursday	next Tuesday
next Monday	next Wednesday
next Tuesday	next Thursday
...

Example 3: If next Monday is a public holiday

Computation Day	Maintenance Day
Monday	Wednesday
Tuesday	Thursday
Wednesday	Friday, Saturday, Sunday and next Monday
Thursday	next Tuesday
Friday	next Wednesday
next Tuesday	next Thursday
next Wednesday	next Friday
...

Example 4: If next Tuesday is a public holiday

Computation Day	Maintenance Day
Monday	Wednesday
Tuesday	Thursday
Wednesday	Friday, Saturday and Sunday
Thursday	next Monday and Tuesday
Friday	next Wednesday
next Monday	next Thursday
next Wednesday	next Friday
...

Example 5: If next Wednesday is a public holiday

Computation Day	Maintenance Day
Monday	Wednesday
Tuesday	Thursday
Wednesday	Friday, Saturday and Sunday
Thursday	next Monday
Friday	next Tuesday and Wednesday
next Monday	next Thursday
next Tuesday	next Friday, Saturday and Sunday
next Thursday	Monday, a fortnight later
...

Submission Requirements**Summary of forms**

	Title
Form 1 Section 1	Assets and Liabilities by Currency
Form 1 Section 2	Top 20 individual depositors
Form 1 Section 3	Top 20 corporate depositors
Form 1 Section 4	Top 20 interbank lenders
Form 2 Section 1A	Liquidity Coverage Ratio
Form 2 Section 1B	Minimum Liquid Assets
Form 2 Section 2	Contractual cash flow for on and off-balance sheet items
Form 2 Section 3	Contractual residual maturity of on and off-balance sheet items
Form 2 Section 4	Behavioural cash flow of on and off-balance sheet items
Form 2 Section 5	Available unencumbered liquid assets

1 A Reporting Bank must submit a copy of Form 1, and as many copies of Form 2 as there are significant currencies on a Group level, country-level group level, entity level or Singapore Operations level, as the case may be. The Reporting Bank may, with the Authority's approval, determine an alternate methodology to determine its significant currencies if the default methodology, which is based on whether the aggregate liabilities of the Reporting Bank denominated in the currency as at the end of the month amounts to 5% or more of the Reporting Bank's total liabilities, does not properly reflect the funding structure of the Reporting Bank. The forms to submit are given in the table below.

Country-level compliance

2 In accordance with paragraph 6 of the Notice, a Reporting Bank on the LCR framework may elect to comply with Part II – LCR on a country-level group basis, by consolidating the balance sheets of related corporations of the Reporting Bank that are Reporting Banks or merchant banks in Singapore. Each Reporting Bank within the country-level group must submit the same set of forms as if they were complying with Part II – LCR on an entity level.

3 Each Reporting Bank within a country-level group must select an entity to perform the country-level submission, and this choice has to be made known to the Authority. The Reporting Bank must follow the same steps as the entity level submission for the country-level submission, except that the Reporting Bank must indicate the details of the entities in the country-level group in Section 1 of both Form 1 and Form 2.

FI type	Forms to submit
<p>D-SIB Reporting Bank</p> <p>Group level / Country-level group level submission (where applicable, as the case may be) and Entity level / Singapore Operations level submission (as the case may be)</p>	<ul style="list-style-type: none"> • Form 1 <ul style="list-style-type: none"> ○ All sections • Form 2 (All Currency) <ul style="list-style-type: none"> ○ Section 1A ○ Section 2 ○ Section 3 ○ Section 4 ○ Section 5 • Form 2 (Singapore Dollar) <ul style="list-style-type: none"> ○ Section 1A ○ Section 2 ○ Section 3 ○ Section 4 ○ Section 5
<p>D-SIB Reporting Bank (Currency X is a significant currency)</p> <p>Group level / Country-level group level submission (where applicable, as the case may be) and Entity level / Singapore Operations level submission (as the case may be)</p>	<ul style="list-style-type: none"> • Form 1 <ul style="list-style-type: none"> ○ All sections • Form 2 (All Currency) <ul style="list-style-type: none"> ○ Section 1A ○ Section 2 ○ Section 3 ○ Section 4 ○ Section 5 • Form 2 (Singapore Dollar) <ul style="list-style-type: none"> ○ Section 1A ○ Section 2 ○ Section 3 ○ Section 4 ○ Section 5 • Form 2 (Currency X) <ul style="list-style-type: none"> ○ Section 1A ○ Section 2 ○ Section 3 ○ Section 4 ○ Section 5

FI type	Forms to submit
<p>Non-D-SIB Reporting Bank that must comply with or has chosen to comply with Part II – LCR</p> <p>Group level / Country-level group level submission (where applicable, as the case may be) and Entity level / Singapore Operations level submission (as the case may be)</p>	<ul style="list-style-type: none"> • Form 1 <ul style="list-style-type: none"> ○ All sections • Form 2 (All Currency) <ul style="list-style-type: none"> ○ Section 1A ○ Section 2 ○ Section 3 ○ Section 5 • Form 2 (Singapore Dollar) <ul style="list-style-type: none"> ○ Section 1A ○ Section 2 ○ Section 3 ○ Section 5
<p>Non-D-SIB Reporting Bank that must comply with or has chosen to comply with Part II – LCR (Currency X is a significant currency)</p> <p>Group level / Country-level group level submission (where applicable, as the case may be) and Entity level / Singapore Operations level submission (as the case may be)</p>	<ul style="list-style-type: none"> • Form 1 <ul style="list-style-type: none"> ○ All sections • Form 2 (All Currency) <ul style="list-style-type: none"> ○ Section 1A ○ Section 2 ○ Section 3 ○ Section 5 • Form 2 (Singapore Dollar) <ul style="list-style-type: none"> ○ Section 1A ○ Section 2 ○ Section 3 ○ Section 5 • Form 2 (Currency X) <ul style="list-style-type: none"> ○ Section 1A ○ Section 2 ○ Section 3 ○ Section 5

FI type	Forms to submit
<p>Non-D-SIB Reporting Bank that has chosen to comply with Part I – MLA</p> <p>Entity level submission</p>	<ul style="list-style-type: none"> • Form 1 <ul style="list-style-type: none"> ○ All sections • Form 2 (All Currency) <ul style="list-style-type: none"> ○ Section 1B (All Currency section for Part 3) ○ Section 2 ○ Section 3 ○ Section 5 • Form 2 (Singapore Dollar) <ul style="list-style-type: none"> ○ Section 1B (Singapore Dollar section for Part 3) ○ Section 2 ○ Section 3 ○ Section 5
<p>Non-D-SIB Reporting Bank that has chosen to comply with Part I – MLA (Currency X is a significant currency)</p> <p>Entity level submission</p>	<ul style="list-style-type: none"> • Form 1 <ul style="list-style-type: none"> ○ All sections • Form 2 (All Currency) <ul style="list-style-type: none"> ○ Section 1B (All Currency section for Part 3) ○ Section 2 ○ Section 3 ○ Section 5 • Form 2 (Singapore Dollar) <ul style="list-style-type: none"> ○ Section 1B (Singapore Dollar section for Part 3) ○ Section 2 ○ Section 3 ○ Section 5 • Form 2 (Currency X) <ul style="list-style-type: none"> ○ Section 2 ○ Section 3 ○ Section 5

Computation of the cap on Level 2 HQLA with regard to short-term securities financing transactions

1 A Reporting Bank must apply the method described in this Appendix for its computation of the cap on Level 2A, Level 2B and Level 2B(II) HQLA with regard to short-term securities financing transactions.

2 As stated in paragraph 35 of the Notice, a Reporting Bank must, in its computation of the 40% cap on Level 2 HQLA, take into account the impact on the stock of HQLA of the amounts of Level 1 and Level 2 HQLA involved in secured funding, secured lending and collateral swap transactions maturing within the 30-day LCR horizon. The Reporting Bank must ensure that the maximum amount of adjusted Level 2 HQLA in the stock of HQLA is equal to two-thirds of the adjusted amount of Level 1 HQLA after haircuts have been applied. The Reporting Bank must ensure that its computation of the 40% cap on Level 2 HQLA takes into account any reduction in eligible Level 2B HQLA on account of the 15% cap on Level 2B HQLA.

3 A Reporting Bank must, in its computation of the 15% cap on Level 2B HQLA, take into account the impact on the stock of HQLA of the amounts of HQLA involved in secured funding, secured lending and collateral swap transactions maturing within the 30-day LCR horizon. The Reporting Bank must ensure that the maximum amount of adjusted Level 2B HQLA in the stock of HQLA is equal to $15/85$ of the sum of the adjusted amounts of Level 1 and Level 2A HQLA, or, in cases where the 40% cap is binding, up to a maximum of $1/4$ of the adjusted amount of Level 1 HQLA, both after haircuts have been applied.

4 A Reporting Bank must, in its computation of the 5% cap on Level 2B(II) HQLA, take into account the impact on the stock of HQLA of the amounts of HQLA involved in secured funding, secured lending and collateral swap transactions maturing within the 30-day LCR horizon. The Reporting Bank must ensure that the maximum amount of adjusted Level 2B(II) HQLA in the stock of HQLA is equal to $5/95$ of the sum of the adjusted amounts of Level 1, Level 2A and Level 2B(I) HQLA, or in cases where the 15% cap is binding, up to a maximum of $5/85$ of the adjusted amount of Level 1 and Level 2A HQLA, or in cases where the 40% cap is binding, up to a maximum of $5/60$ of the adjusted amount of Level 1 and, after haircuts have been applied.

5 The adjusted amount of Level 1, Level 2A, Level 2B(I) and Level 2B(II) HQLA is defined as the amount of Level 1, Level 2A, Level 2B(I) and Level 2B(II) HQLA that would result after unwinding secured funding, secured lending and collateral swap transactions maturing within the 30-day LCR horizon involving the exchange of any HQLA for any Level 1, Level 2A, Level 2B(I) and Level 2B(II) HQLA (including cash) that meet, or would meet if held unencumbered, the operational requirements for HQLA set out in paragraph 31 of the Notice. Relevant

haircuts would be applied prior to the computation of the caps on Level 2 HQLA, Level 2B HQLA and Level 2B(II) HQLA set out in paragraphs 2 to 4 of this Appendix respectively.

6 A reference to “unadjusted” in this Appendix refers to the value of the relevant category of HQLA, after accounting for the haircuts as specified in paragraph 33 of the Notice and before accounting for the exchange of assets in secured funding, secured lending and collateral swap transactions maturing within the 30-day LCR horizon.

7 A reference to “adjusted” in this Appendix refers to the value of the relevant category of HQLA, after accounting for the haircuts as specified in paragraph 33 of the Notice and the exchange of assets in secured funding, secured lending and collateral swap transactions maturing within the 30-day LCR horizon.

8 The formula for the computation of HQLA is as follows:

$$\text{HQLA} = \text{Unadjusted Level 1 HQLA} + \text{Unadjusted Level 2A HQLA} + \text{Unadjusted Level 2B(I) HQLA} + \text{Unadjusted Level 2B(II) HQLA} - \text{Adjustment for 5\% Level 2B(II) HQLA cap} - \text{Adjustment for 15\% Level 2B HQLA cap} - \text{Adjustment for 40\% Level 2 HQLA cap},$$

where –

- (a) Adjustment for 5% Level 2B(II) HQLA cap = $\text{MAX} (\text{Adjusted Level 2B(II) HQLA} - (5/95) * (\text{Adjusted Level 1 HQLA} + \text{Adjusted Level 2A HQLA} + \text{Adjusted Level 2B(I) HQLA}), \text{Adjusted Level 2B(II) HQLA} - (5/85) * (\text{Adjusted Level 1 HQLA} + \text{Adjusted Level 2A HQLA}), \text{Adjusted Level 2B(II) HQLA} - (5/60) * \text{Adjusted Level 1 HQLA}, 0)$;
- (b) Adjustment for 15% Level 2B HQLA cap = $\text{MAX} ((\text{Adjusted Level 2B(I) HQLA} + \text{Adjusted Level 2B(II) HQLA} - \text{Adjustment for 5\% Level 2B(II) HQLA cap}) - (15/85) * (\text{Adjusted Level 1 HQLA} + \text{Adjusted Level 2A HQLA}), \text{Adjusted Level 2B(I) HQLA} + \text{Adjusted Level 2B(II) HQLA} - \text{Adjustment for 5\% Level 2B(II) HQLA cap} - (15/60) * \text{Adjusted Level 1 HQLA}, 0)$; and
- (c) Adjustment for 40% Level 2 HQLA cap = $\text{MAX} ((\text{Adjusted Level 2A HQLA} + \text{Adjusted Level 2B(I) HQLA} + \text{Adjusted Level 2B(II) HQLA} - \text{Adjustment for 5\% Level 2B(II) HQLA cap} - \text{Adjustment for 15\% Level 2B(I) HQLA cap}) - (2/3) * \text{Adjusted Level 1 HQLA}, 0)$.

HQLA haircuts, cash outflow and cash inflow rates

Item	Rate
HQLA	
A. Level 1 HQLA:	
<ul style="list-style-type: none"> - Notes and coins - Qualifying marketable securities from sovereigns, central banks, PSEs, and multilateral development banks - Qualifying central bank reserves - Domestic sovereign or central bank debt for non-0% risk-weighted sovereigns 	100%
B. Level 2 HQLA (maximum of 40% of HQLA):	
Level 2A HQLA	
<ul style="list-style-type: none"> - Sovereign, central bank, multilateral development banks, and PSE assets qualifying for a 20% risk weight - Qualifying corporate debt securities rated AA- or higher - Qualifying covered bonds rated AA- or higher 	85%
Level 2B HQLA (maximum of 15% of HQLA)	
Level 2B(I) HQLA	
<ul style="list-style-type: none"> - Qualifying corporate debt securities rated at least A- 	50%
Level 2B(II) HQLA (maximum of 5% of HQLA)	
<ul style="list-style-type: none"> - Qualifying corporate debt securities rated between BBB+ and BBB- 	50%
<ul style="list-style-type: none"> - Qualifying sovereign, central bank and PSE debt securities rated at least BBB- 	50%
<ul style="list-style-type: none"> - Qualifying Ordinary shares, excluding preference shares and treasury shares 	50%
<ul style="list-style-type: none"> - Qualifying RMBS 	75%
Total value of HQLA	

Item	Rate
Cash Outflows	
A. Retail deposits:	
Demand deposits and term deposits (less than 30 days maturity)	
- Stable deposits (fully insured by SDIC)	5%
- Stable deposits (fully insured by effective government deposit insurance schemes in foreign countries or jurisdictions)	To follow foreign country's or jurisdiction's rate
- Less stable 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	3%/5%
- Less stable deposits	10%
Operational deposits generated by clearing, custody and cash management services:	25%
- Portion covered by deposit insurance	3%/5%
Qualifying deposits provided by members of an institutional network of cooperative banks	25%
Non-financial corporates, sovereigns, central banks, multilateral development banks, and PSEs	40%
- If the entire amount fully covered by deposit insurance scheme	20%
Other legal entity customers not included above	100%
Retail and small business customer deposits in foreign countries or jurisdictions	To follow foreign country's or jurisdiction's rate
C. Secured funding:	
- Secured funding transactions with central bank counterparty or backed by Level 1 HQLA with any counterparty	0%
- Secured funding transactions backed by Level 2A HQLA, with any counterparty	15%
- Secured funding transactions backed by assets other than Level 1 or Level 2A HQLA, with domestic sovereigns, multilateral development banks, or domestic PSEs with a risk weight of 20% or lower under paragraphs 7.3.16 and 7.3.17 of MAS Notice 637	25%
- Backed by RMBS eligible for inclusion in Level 2B HQLA	25%
- Backed by other Level 2B HQLA	50%
- All other secured funding transactions	100%

Item	Rate
D. Additional requirements:	
Liquidity needs (e.g. collateral calls) related to financing transactions, derivatives and other contracts	3 notch downgrade
Market valuation changes on derivatives transactions (largest absolute net 30-day collateral flows realised during the preceding 24 months)	Look back approach
Valuation changes on posted collateral that are not Level 1 HQLA securing derivatives	20%
Excess collateral held by a Reporting Bank related to derivative transactions that could contractually be called at any time by its counterparty	100%
Liquidity needs related to collateral contractually due from the Reporting Bank on derivatives transactions	100%
Increased liquidity needs related to derivative transactions that allow collateral substitution to assets that are not HQLA	100%
ABCP, SIVs, conduits, SPVs, etc.:	
- Liabilities from maturing ABCP, SIVs, SPVs, etc. (applied to maturing amounts and returnable assets)	100%
- Asset Backed Securities (including covered bonds) applied to maturing amounts	100%
Undrawn committed credit and liquidity facilities provided to:	
- Retail and small business customers	5%
- Non-financial corporates, sovereigns and central banks, multilateral development banks, and PSEs	10% for credit, 30% for liquidity
- Banks, and merchant banks in Singapore, 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	3%
- Customers' short positions covered by other customers' collateral	50%
- Others	100% of expected amount unless otherwise stated
Any additional contractual outflows	100%
Net derivatives cash outflows	100%
Any other contractual cash outflows	100%
Total expected cash outflows	

Item	Rate
Cash Inflows	
Maturing secured lending transactions backed by the following collateral:	
- Level 1 HQLA	0%
- Level 2A HQLA	15%
- Level 2B HQLA (eligible RMBS)	25%
- Level 2B HQLA (Others)	50%
Margin loans backed by assets that are not HQLA	50%
Maturing reverse repurchase or securities borrowing arrangements backed by assets that are not HQLA	100%
Credit or liquidity facilities provided to the Reporting Bank	0%
Operational deposits held at other financial institutions (include deposits held at a central institution or a specialised service provider of an institutional network of cooperative banks)	0%
Other cash inflows by counterparty:	
- Amount to be received from retail customers	50%
- Amount to be received from wholesale customers other than financial institutions and central banks, from transactions other than those listed in above inflow categories	50%
- Amount to be received from financial institutions and central banks, from transactions others than those listed in above inflow categories	100%
Net derivatives cash inflows	100%
Other contractual cash inflows not included above	0%
Total expected cash inflows	
Total net cash outflows = Total expected cash outflows minus min [total expected cash inflows, 75% of total expected cash outflows]	
LCR = HQLA / Total net cash outflows	

Principles for Sound Liquidity Risk Management

- 1 The guidelines referred to in footnotes 12 and 19 of the Notice are as follows:
- (a) a Reporting 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 banking group as a whole, taking into account legal, regulatory and operational limitations to the transferability of liquidity;
 - (b) where a Reporting Bank has a branch or subsidiary⁶⁸ in a foreign country or jurisdiction, the Reporting Bank should have processes in place to capture all existing liquidity transfer restrictions to the extent practicable, and to monitor the rules and regulations in the foreign countries or jurisdictions and assess their liquidity implications for the banking group as a whole;
 - (c) a Reporting Bank should conduct their own stress tests to assess the level of liquidity they should hold, and construct their own scenarios that could cause difficulties for their specific business activities. Such internal stress tests should incorporate time horizons longer than 30 days. A Reporting Bank that is an internationally active bank or that has been notified by the Authority that it is a D-SIB should share the results of these additional stress tests with the Authority;
 - (d) a Reporting Bank should monitor the legal entity and physical location where collateral is held and how it may be mobilised in a timely manner. Specifically, it should have a policy in place that identifies legal entities, geographical locations, currencies and specific custodial or bank accounts where liquid assets are held;
 - (e) a Reporting 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;
 - (f) a Reporting Bank should meet their liquidity needs in each currency and maintain liquid assets consistent with the distribution of their liquidity needs by currency. The Reporting Bank should be able to use the liquid assets to generate liquidity in the currency and in the country or jurisdiction in which the net cash outflows arise. In managing foreign exchange liquidity risk, the

⁶⁸ To avoid doubt, this includes a branch of the subsidiary.

Reporting Bank should take into account the risk that its ability to swap currencies and access the relevant foreign exchange markets may erode rapidly under stressed conditions. The Reporting Bank 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;

- (g) a Reporting Bank should ensure that liquid assets held are well diversified within the asset classes themselves (except for sovereign debt from Singapore or from a foreign country or jurisdiction where the Reporting Bank has a branch or subsidiary⁶⁹ that is approved, licensed, registered or otherwise regulated by a bank regulatory agency in the foreign country or jurisdiction to carry on banking business under the laws of the foreign country or jurisdiction, central bank reserves, central bank debt securities, and cash). The Reporting Bank should have policies and limits in place in order to avoid concentration with respect to asset types, issue and issuer types, and currency (consistent with the distribution of net cash outflows by currency) within asset classes;
- (h) a Reporting Bank should monitor the concentration of cash inflows across wholesale customers in the context of the Reporting Bank's liquidity management in order to limit overreliance on the arrival of cash inflows from one or a limited number of wholesale customers.

2 In this Appendix, "liquid assets" means –

- (a) in relation to a Reporting Bank that has chosen to comply with Part I – MLA of the Notice, any Liquid Asset as defined in paragraph 7 of the Notice; and
- (b) in relation to a Reporting Bank that must comply with or has chosen to comply with Part II – LCR of the Notice, any high quality liquid asset or HQLA as defined in paragraph 22 of the Notice.

⁶⁹ To avoid doubt, this includes a branch of the subsidiary.