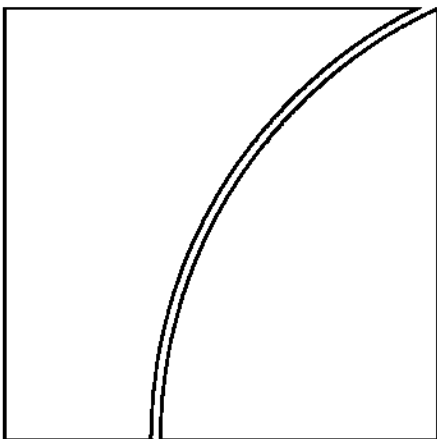


# Basel Committee on Banking Supervision



## **Basel III: International framework for liquidity risk measurement, standards and monitoring**

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## List of Abbreviations

ABCP	Asset-backed commercial paper
ASF	Available Stable Funding
CD	Certificate of deposit
CDS	Credit default swap
CP	Commercial paper
CUSIP	Committee on Uniform Security Identification Procedures
ECAI	External credit assessment institution
IRB	Internal ratings-based
ISIN	International Securities Identification Number
LCR	Liquidity Coverage Ratio
NSFR	Net Stable Funding Ratio
OBS	Off-balance sheet
PSE	Public sector entity
RSF	Required Stable Funding
SIV	Structured investment vehicle
VRDN	Variable Rate Demand Note

# Basel III: International framework for liquidity risk measurement, standards and monitoring

## I. Introduction

1. This document presents the liquidity portion of the Basel Committee's<sup>1</sup> reforms to strengthen global capital and liquidity regulations with the goal of promoting a more resilient banking sector. The objective of the reforms is to improve the banking sector's ability to absorb shocks arising from financial and economic stress, whatever the source, thus reducing the risk of spillover from the financial sector to the real economy. This document sets out the rules text and timelines to implement the liquidity portion of the Basel III framework.

2. During the early "liquidity phase" of the financial crisis that began in 2007, many banks – despite adequate capital levels – still experienced difficulties because they did not manage their liquidity in a prudent manner. The crisis again drove home the importance of liquidity to the proper functioning of financial markets and the banking sector. Prior to the crisis, asset markets were buoyant and funding was readily available at low cost. The rapid reversal in market conditions illustrated how quickly liquidity can evaporate and that illiquidity can last for an extended period of time. The banking system came under severe stress, which necessitated central bank action to support both the functioning of money markets and, in some cases, individual institutions.

3. The difficulties experienced by some banks were due to lapses in basic principles of liquidity risk management. In response, as the foundation of its liquidity framework, the Committee in 2008 published *Principles for Sound Liquidity Risk Management and Supervision* ("Sound Principles").<sup>2</sup> The *Sound Principles* provide detailed guidance on the risk management and supervision of funding liquidity risk and should help promote better risk management in this critical area, but only if there is full implementation by banks and supervisors. As such, the Committee will coordinate rigorous follow up by supervisors to ensure that banks adhere to these fundamental principles.

4. To complement these principles, the Committee has further strengthened its liquidity framework by developing two *minimum* standards for funding liquidity. These standards have been developed to achieve two separate but complementary objectives. The first objective is to promote short-term resilience of a bank's liquidity risk profile by ensuring that it has sufficient high-quality liquid assets to survive a significant stress scenario lasting for one month. The Committee developed the Liquidity Coverage Ratio (LCR) to achieve this objective. The second objective is to promote resilience over a longer time horizon by creating additional incentives for banks to fund their activities with more stable sources of funding on an ongoing basis. The Net Stable Funding Ratio (NSFR) has a time horizon of one year and has been developed to provide a sustainable maturity structure of assets and liabilities.

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<sup>1</sup> The Basel Committee on Banking Supervision consists of senior representatives of bank supervisory authorities and central banks from Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. It usually meets at the Bank for International Settlements (BIS) in Basel, Switzerland, where its permanent Secretariat is located.

<sup>2</sup> Available at [www.bis.org/publ/bcbs144.htm](http://www.bis.org/publ/bcbs144.htm).

5. These two standards are comprised mainly of specific parameters which are internationally “harmonised” with prescribed values. Certain parameters, however, contain elements of national discretion to reflect jurisdiction-specific conditions. In these cases, the parameters should be transparent and clearly outlined in the regulations of each jurisdiction to provide clarity both within the jurisdiction and internationally.

6. It should be stressed that the standards establish *minimum* levels of liquidity for internationally active banks. Banks are expected to meet these standards as well as adhere to the *Sound Principles*. Consistent with the Committee’s capital adequacy standards, national authorities are free to require higher minimum levels of liquidity.

7. To further strengthen and promote global consistency in liquidity risk supervision, the Committee has also developed a set of monitoring tools to be used in the ongoing monitoring of the liquidity risk exposures of banks, and in communicating these exposures among home and host supervisors.

### **Transitional arrangements**

8. The Committee is introducing transitional arrangements to implement the new liquidity standards that help ensure that the banking sector can meet the standards through reasonable measures, while still supporting lending to the economy. The transitional arrangements are described in this document in Section IV.4.

9. The Committee will put in place rigorous reporting processes to monitor the standards during the observation period and will continue to review the implications of these standards for financial markets, credit extension and economic growth, addressing unintended consequences as necessary. Both the LCR and the NSFR will be subject to an observation period and will include a review clause to address any unintended consequences, as outlined in section IV.4 below. After an observation period beginning in 2011, the LCR, including any revisions, will be introduced on 1 January 2015. The NSFR, including any revisions, will move to a minimum standard by 1 January 2018.

### **Scope of application**

10. The application of the requirements in this document follow the existing scope of application set out in Part I (Scope of Application) of the Basel II Framework.<sup>3</sup> Additional information relevant to the scope of application is outlined in Section IV.

11. This document is organised as follows:

- Section II discusses the two liquidity standards for internationally active banks.
- Section III presents a set of monitoring tools to be used by banks and supervisors in their monitoring of liquidity risks.
- Section IV discusses application issues for the standards, including the transition period and topics related to scope of application.

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<sup>3</sup> See BCBS, *International Convergence of Capital Measurement and Capital Standards: A Revised Framework - Comprehensive Version*, June 2006 (hereinafter referred to as “Basel II” or “Basel II Framework”).



## II. Regulatory standards

12. The Committee has developed two standards that have separate but complementary objectives for supervisors to use in liquidity risk supervision. The first objective is to promote the short-term resilience of the liquidity risk profile of banks by ensuring that they have sufficient high-quality liquid assets to survive a significant stress scenario lasting 30 calendar days. The Committee developed the Liquidity Coverage Ratio to achieve this objective. The second objective is to promote resilience over a longer time horizon by creating additional incentives for banks to fund their activities with more stable sources of funding on an ongoing basis. The Net Stable Funding Ratio has a time horizon of one year and has been developed to capture structural issues to provide a sustainable maturity structure of assets and liabilities.

13. To raise the resilience of banks to potential liquidity shocks, the standards should be implemented consistently by supervisors around the world. To this end, most of the parameters used in the standards are internationally harmonised, with prescribed values. A few of the parameters, however, contain elements of national discretion to reflect jurisdiction-specific conditions. In these cases, the parameters should be transparent and clearly outlined in the regulations of each jurisdiction, to provide clarity both within the jurisdiction and internationally.

14. The standards should be a key component of the supervisory approach to liquidity risk, but must be supplemented by detailed supervisory assessments of other aspects of the bank's liquidity risk management framework in line with the *Sound Principles*. In addition, supervisors may require an individual bank to adopt more stringent standards or parameters to reflect its liquidity risk profile and the supervisor's assessment of its compliance with the *Sound Principles*.

### II.1 Liquidity Coverage Ratio

#### 1. Objective

15. This standard aims to ensure that a bank maintains an adequate level of unencumbered, high-quality liquid assets that can be converted into cash to meet its liquidity needs for a 30 calendar day time horizon under a significantly severe liquidity stress scenario specified by supervisors. At a minimum, the stock of liquid assets should enable the bank to survive until Day 30 of the stress scenario, by which time it is assumed that appropriate corrective actions can be taken by management and/or supervisors, and/or the bank can be resolved in an orderly way.

#### 2. Definition of the standard

$$\frac{\text{Stock of high-quality liquid assets}}{\text{Total net cash outflows over the next 30 calendar days}} \geq 100\%$$

16. The LCR builds on traditional liquidity "coverage ratio" methodologies used internally by banks to assess exposure to contingent liquidity events. The total net cash outflows for the scenario are to be calculated for 30 calendar days into the future. The standard requires that the value of the ratio be no lower than 100% (ie the stock of high-quality liquid assets should at least equal total net cash outflows). Banks are expected to meet this requirement continuously and hold a stock of unencumbered, high-quality liquid assets as a defence against the potential onset of severe liquidity stress. Given the uncertain timing of outflows

and inflows, banks and supervisors are also expected to be aware of any potential mismatches within the 30-day period and ensure that sufficient liquid assets are available to meet any cashflow gaps throughout the period.

17. The scenario for this standard entails a combined idiosyncratic and market-wide shock that would result in:

- (a) the run-off of a proportion of retail deposits;
- (b) a partial loss of unsecured wholesale funding capacity;
- (c) a partial loss of secured, short-term financing with certain collateral and counterparties;
- (d) additional contractual outflows that would arise from a downgrade in the bank's public credit rating by up to and including three notches, including collateral posting requirements;
- (e) increases in market volatilities that impact the quality of collateral or potential future exposure of derivative positions and thus require larger collateral haircuts or additional collateral, or lead to other liquidity needs;
- (f) unscheduled draws on committed but unused credit and liquidity facilities that the bank has provided to its clients; and
- (g) the potential need for the bank to buy back debt or honour non-contractual obligations in the interest of mitigating reputational risk.

18. In summary, the stress scenario specified incorporates many of the shocks experienced during the crisis that started in 2007 into one significant stress scenario for which a bank would need sufficient liquidity on hand to survive for up to 30 calendar days.

19. This stress test should be viewed as a minimum supervisory requirement for banks. Banks are expected to conduct their own stress tests to assess the level of liquidity they should hold beyond this minimum, and construct their own scenarios that could cause difficulties for their specific business activities. Such internal stress tests should incorporate longer time horizons than the one mandated by this standard. Banks are expected to share the results of these additional stress tests with supervisors.

20. The LCR has two components:

- (a) Value of the stock of high-quality liquid assets in stressed conditions; and
- (b) Total net cash outflows, calculated according to the scenario parameters outlined below.

A. *Stock of high-quality liquid assets*

21. The numerator of the LCR is the "stock of high-quality liquid assets". Under the standard, banks must hold a stock of *unencumbered*<sup>4</sup> high-quality liquid assets to cover the total net cash outflows (as defined below) over a 30-day period under the prescribed stress scenario. In order to qualify as a "high-quality liquid asset", assets should be liquid in markets

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<sup>4</sup> Refer to the sections on "*Definition of high-quality liquid assets*" and "*Operational requirements*" for the characteristics that an asset must meet to be part of the stock of high-quality liquid assets and the definition of "unencumbered" respectively.

during a time of stress and, ideally, be central bank eligible. The following sets out the characteristics that such assets should generally possess and the operational requirements that they should satisfy.

(1) *Characteristics of high-quality liquid assets*

22. Assets are considered to be high-quality liquid assets if they can be easily and immediately converted into cash at little or no loss of value. The liquidity of an asset depends on the underlying stress scenario, the volume to be monetised and the timeframe considered. Nevertheless, there are certain assets that are more likely to generate funds without incurring large discounts due to fire-sales even in times of stress. This section outlines the factors that influence whether or not the market for an asset can be relied upon to raise liquidity when considered in the context of possible stresses.

(a) *Fundamental characteristics*

- **Low credit and market risk:** assets that are less risky tend to have higher liquidity. High credit standing of the issuer and a low degree of subordination increases an asset's liquidity. Low duration,<sup>5</sup> low volatility, low inflation risk and denomination in a convertible currency with low foreign exchange risk all enhance an asset's liquidity.
- **Ease and certainty of valuation:** an asset's liquidity increases if market participants are more likely to agree on its valuation. The pricing formula of a high-quality liquid asset must be easy to calculate and not depend on strong assumptions. The inputs into the pricing formula must also be publicly available. In practice, this should rule out the inclusion of most structured or exotic products.
- **Low correlation with risky assets:** the stock of high-quality liquid assets should not be subject to wrong-way (highly correlated) risk. For example, assets issued by financial institutions are more likely to be illiquid in times of liquidity stress in the banking sector.
- **Listed on a developed and recognised exchange market:** being listed increases an asset's transparency.

(b) *Market-related characteristics*

- **Active and sizable market:** the asset should have active outright sale or repurchase agreement (repo) markets at all times (which means having a large number of market participants and a high trading volume). There should be historical evidence of market breadth (price impact per unit of liquidity) and market depth (units of the asset that can be traded for a given price impact).
- **Presence of committed market makers:** quotes will most likely be available for buying and/or selling a high-quality liquid asset.
- **Low market concentration:** a diverse group of buyers and sellers in an asset's market increases the reliability of its liquidity.
- **Flight to quality:** historically, the market has shown tendencies to move into these types of assets in a systemic crisis.

23. As outlined by these characteristics, the test of whether liquid assets are of "high-quality" is that, by way of sale or secured borrowing, their liquidity-generating capacity is

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<sup>5</sup> Duration measures the price sensitivity of a fixed income security to changes in interest rate.

assumed to remain intact even in periods of severe idiosyncratic and market stress. Such assets often benefit from a flight to quality in these circumstances. Lower quality assets fail to meet that test. An attempt by a bank to raise liquidity from lower quality assets under conditions of severe market stress would entail acceptance of a large fire-sale discount or haircut to compensate for high market risk. That may not only erode the market's confidence in the bank, but would also generate mark-to-market losses for banks holding similar instruments and add to the pressure on their liquidity position, thus encouraging further fire sales and declines in prices and market liquidity. In these circumstances, private market liquidity for such instruments is likely to disappear extremely quickly. Taking into account the system-wide response, only high-quality liquid assets that meet the test can be readily converted into cash under severe stress in private markets.

24. High-quality liquid assets should also ideally be eligible at central banks<sup>6</sup> for intraday liquidity needs and overnight liquidity facilities. In the past, central banks have provided a further backstop to the supply of banking system liquidity under conditions of severe stress. Central bank eligibility should thus provide additional confidence that banks are holding assets that could be used in events of severe stress without damaging the broader financial system. That in turn would raise confidence in the safety and soundness of liquidity risk management in the banking system.

25. It should be noted however, that central bank eligibility does not by itself constitute the basis for the categorisation of an asset as a "high-quality liquid asset."

(2) *Operational requirements*

26. All assets in the stock must be managed as part of that pool and are subject to the following operational requirements. The assets must be available for the bank to convert into cash at any time to fill funding gaps between cash inflows and outflows during the stressed period. The assets must be unencumbered.

27. "Unencumbered" means not pledged (either explicitly or implicitly) to secure, collateralise or credit-enhance any transaction. However, assets received in reverse repo and securities financing transactions that are held at the bank, have not been rehypothecated, and are legally and contractually available for the bank's use can be considered as part of the stock. In addition, assets which qualify for the stock of high-quality liquid assets that have been pledged to the central bank or a public sector entity (PSE) but are not used may be included in the stock.

28. The stock of liquid assets should not be co-mingled with or used as hedges on trading positions, be designated as collateral or be designated as credit enhancements in structured transactions or be designated to cover operational costs (such as rents and salaries), and should be managed with the clear and sole intent for use as a source of contingent funds. A bank is permitted to hedge the price risks associated with ownership of the stock of liquid assets and still include the assets in the stock. If it chooses to hedge the associated risks, the bank should take into account (in the market value applied to each asset) the cash outflow that would arise if the hedge were to be closed out early (in the event of the asset being sold). Client pool securities or cash received from a repo backed by client pool securities should not be treated as liquid assets.

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<sup>6</sup> In most jurisdictions, high-quality liquid assets should be central bank eligible in addition to being liquid in markets during stressed periods. In jurisdictions where central bank eligibility is limited to an extremely narrow list of assets, a supervisor may allow unencumbered, non-central bank eligible assets that meet the qualifying criteria for Level 1 or Level 2 assets to count as part of the stock (see *Definition of liquid assets* beginning from paragraph 34).

29. The stock should be under the control of the specific function or functions charged with managing the liquidity risk of the bank (typically the treasurer). A bank should periodically monetise a proportion of the assets in the stock through repo or outright sale to the market in order to test its access to the market, the effectiveness of its processes for monetisation, and the usability of the assets, as well as to minimise the risk of negative signalling during a period of stress.

30. As noted in paragraphs 193 and 194, at the consolidated level, banks may also include in the stock qualifying liquid assets that are held to meet legal entity requirements (where applicable), to the extent that the related risks (as measured by the legal entity's net cash outflows) are also reflected in the consolidated LCR. Any surplus of liquid assets held at the legal entity can only be included in the consolidated stock if those assets would be freely available to the consolidated (parent) entity in times of stress.

31. In addition, banks and regulators should be aware that the LCR stress does not cover expected or unexpected intraday liquidity needs that occur during the day and disappear by the end of the day.<sup>7</sup>

32. While the LCR is expected to be met and reported in a single common currency, banks are expected to be able to meet their liquidity needs in each currency and maintain high-quality liquid assets consistent with the distribution of their liquidity needs by currency. The bank should be able to use the stock to generate liquidity in the currency and jurisdiction in which the net cash outflows arise. As such, the LCR by currency is expected to be monitored and reported to allow the bank and its supervisor to track any potential currency mismatch issues that could arise, and is outlined in section III.4 below. In managing foreign exchange liquidity risk, the 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, and that sudden, adverse exchange rate movements could sharply widen existing mismatched positions and alter the effectiveness of any foreign exchange hedges in place.

33. In order to mitigate cliff effects that could arise, if an eligible liquid asset became ineligible (eg due to rating downgrade) a bank would be allowed to keep the asset in its stock of liquid assets for an additional 30 calendar days. This would allow the bank additional time to adjust its stock as needed or replace the asset.

### (3) *Definition of high-quality liquid assets*

34. The stock of high-quality liquid assets should comprise assets with the characteristics outlined above. This section describes the type of assets that meet these characteristics and can therefore be included in the stock:

35. There are two categories of assets that can be included in the stock. Assets to be included in each category are those that the bank is holding on the first day of the stress period. "Level 1" assets can be included without limit, while "Level 2" assets can only comprise up to 40% of the stock.

36. The calculation of the 40% cap should take into account the impact on the amounts held in cash or other Level 1 or Level 2 assets caused by secured funding transactions (or collateral swaps) maturing within 30 calendar days undertaken with any non-Level 1 assets.

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<sup>7</sup> The Committee is currently reviewing if and how intraday liquidity risk should be addressed.

The maximum amount of adjusted Level 2 assets in the stock of high-quality liquid assets is equal to two-thirds of the adjusted amount of Level 1 assets after haircuts have been applied.

37. The adjusted amount of Level 1 assets is defined as the amount of Level 1 assets that would result if all short term secured funding, secured lending and collateral swap transactions involving the exchange of any Level 1 assets for any non-Level 1 assets, were unwound. The adjusted amount of Level 2 assets is defined as the amount of Level 2 assets that would result if all short term secured funding, secured lending and collateral swap transactions involving the exchange of any Level 2 assets for any non-Level 2 assets, were unwound, and includes cash or other Level 1 assets. In this context, short term transactions are transactions with a maturity date up to and including 30 calendar days. As outlined below, relevant haircuts would be applied prior to calculation of the cap.

38. All high-quality liquid assets should ideally be central bank eligible<sup>8</sup> for intraday liquidity needs and overnight liquidity facilities in a jurisdiction and currency where the bank has access to the central bank.

(i) *Level 1 assets*

39. Level 1 assets can comprise an unlimited share of the pool, are held at market value and are not subject to a haircut under the LCR. However, national supervisors may wish to require haircuts for Level 1 securities based on, among other things, their duration, credit and liquidity risk, and typical repo haircuts.

40. Level 1 assets are limited to:

- (a) cash;
- (b) central bank reserves, to the extent that these reserves can be drawn down in times of stress;<sup>9</sup>
- (c) marketable securities representing claims on or claims guaranteed by sovereigns, central banks, non-central government PSEs, the Bank for International Settlements, the International Monetary Fund, the European Commission, or multilateral development banks and satisfying all of the following conditions:
  - assigned a 0% risk-weight under the Basel II Standardised Approach;
  - traded in large, deep and active repo or cash markets characterised by a low level of concentration;
  - proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions; and
  - not an obligation of a financial institution or any of its affiliated entities.

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<sup>8</sup> *Central bank eligibility:* In most jurisdictions, high-quality liquid assets should be central bank eligible for intraday liquidity needs and overnight liquidity facilities in addition to being liquid in markets during stressed periods. In jurisdictions where central bank eligibility is limited to an extremely narrow list of assets, a jurisdiction may allow unencumbered, non-central bank eligible assets that meet all the other the liquid asset criteria to count as part of the stock.

<sup>9</sup> Local supervisors should discuss and agree with the relevant central bank the extent to which central bank reserves should count towards the stock of liquid assets, ie the extent to which reserves are able to be drawn down in times of stress.

- (d) for non-0% risk-weighted sovereigns, sovereign or central bank debt securities issued in domestic currencies by the sovereign or central bank in the country in which the liquidity risk is being taken or in the bank's home country; and,
- (e) for non-0% risk-weighted sovereigns, domestic sovereign or central bank debt securities issued in foreign currencies, to the extent that holding of such debt matches the currency needs of the bank's operations in that jurisdiction.

(ii) *Level 2 assets*

41. Level 2 assets can be included in the stock of liquid assets, subject to the requirement that they comprise no more than 40% of the overall stock after haircuts have been applied. As mentioned above, the Level 2 cap also effectively includes cash or other Level 1 assets generated by secured funding transactions (or collateral swaps) maturing within 30 days. The method for calculating the cap on Level 2 assets is set out in paragraph 36. The portfolio of Level 2 assets held by any institution should be well diversified in terms of type of assets, type of issuer (economic sector in which it participates, etc) and specific counterparty or issuer.

42. A minimum 15% haircut is applied to the current market value of each Level 2 asset held in the stock. Level 2 assets are limited to the following:

- (a) Marketable securities representing claims on or claims guaranteed by sovereigns, central banks, non-central government PSEs or multilateral development banks that satisfy all of the following conditions.
  - assigned a 20% risk weight under the Basel II Standardised Approach for credit risk;
  - traded in large, deep and active repo or cash markets characterised by a low level of concentration;
  - proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions (ie maximum decline of price or increase in haircut over a 30-day period during a relevant period of significant liquidity stress not exceeding 10%); and
  - not an obligation of a financial institution or any of its affiliated entities.
- (b) **Corporate bonds**<sup>10</sup> and **covered bonds**<sup>11</sup> that satisfy all of the following conditions:
  - not issued by a financial institution or any of its affiliated entities (in the case of corporate bonds);

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<sup>10</sup> *Corporate bonds* in this case only include plain vanilla assets whose valuation is readily available based on standard methods and does not depend on private knowledge, ie these do not include complex structured products or subordinated debt. If firms merge, the assets issued by the new firm receive the liquidity value of the respective firm whose assets had the least liquid characteristics before the merger.

<sup>11</sup> *Covered bonds* are bonds issued and owned by a bank or mortgage institution and are subject by law to special public supervision designed to protect bond holders. Proceeds deriving from the issue of these bonds must be invested in conformity with the law in assets which, during the whole period of the validity of the bonds, are capable of covering claims attaching to the bonds and which, in the event of failure of the issuer, would be used on a priority basis for the reimbursement of the principal and payment of the accrued instrument.

- not issued by the bank itself or any of its affiliated entities (in the case of covered bonds);
- assets have a credit rating from a recognised external credit assessment institution (ECAI) of at least AA-<sup>12</sup> or do not have a credit assessment by a recognised ECAI and are internally rated as having a probability of default (PD) corresponding to a credit rating of at least AA-;
- traded in large, deep and active repo or cash markets characterised by a low level of concentration; and
- proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions: ie, maximum decline of price or increase in haircut over a 30-day period during a relevant period of significant liquidity stress not exceeding 10%.

#### *Testing of additional criteria*

43. Both credit ratings and additional qualitative and quantitative criteria determine the eligibility of Level 2 assets. The additional criteria are not meant to exclude qualifying Level 2 assets, but to address assets that are not liquid, as well as to provide measures in addition to credit ratings with which to evaluate the liquidity characteristics of assets so as not to place undue reliance on external ratings alone. The Committee will test a number of qualitative and quantitative criteria during the observation period to determine the appropriate set and calibration of the criteria to use. These tested criteria will include volume, bid-ask spread, turn-over, and other possible criteria to be further developed by the Committee.

44. As these criteria become more robust, there should be less emphasis placed on external ratings and more on the additional criteria.

#### *(iii) Treatment for jurisdictions with insufficient liquid assets*

45. Some jurisdictions may have an insufficient supply of Level 1 assets in their domestic currency to meet the aggregate demand of banks with significant exposures in this currency. In addition, in several of these currencies, the supply of Level 2 assets may be very limited. To address this situation, the Committee has agreed to develop alternative treatments for the holdings in the stock of liquid assets. This treatment will apply to very few jurisdictions and currencies where insufficiencies of liquid assets exist. During the observation period, the Committee will develop a prescriptive quantitative threshold to determine which jurisdictions/currencies are eligible for alternative treatments for liquid assets. Additional qualitative criteria for the use of these alternative treatments may also be necessary that reflect that debt issued in monetary unions is considered available for all jurisdictions in that union, and that this alternative treatment is linked to a true shortfall in high-quality liquid assets in the domestic currency as relates to the needs in that currency. Globally active banks that have a large proportion of their liabilities denominated in foreign currencies should meet their LCR needs in those currencies and only qualify for the alternative treatment if there are shortfalls in domestic currency for domestic currency outflow needs.

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<sup>12</sup> In the event of split ratings, the applicable rating should be determined according to the method used in Basel II's standardised approach for credit risk.



46. The extent of the usage of any of these options would also be limited to a certain percentage of the liquidity pool. Potential options for this treatment are outlined below, to be finalised during the observation period.

47. *Option 1 – Contractual committed liquidity facilities from the relevant central bank, with a fee:* For currencies that do not have sufficient high-quality liquid assets, as determined by the prescriptive threshold and criteria, Option 1 would allow banks to access contractual committed liquidity facilities provided by the relevant central bank (ie relevant given the currency in question) for a fee. These facilities should not be confused with regular central bank standing arrangements. In particular, these facilities are contractual arrangements between the central bank and the commercial bank with a maturity date which, at a minimum, falls outside the 30-day LCR window. Further, the contract must be irrevocable prior to maturity and involve no ex-post credit decision by the central bank. Such facilities are only permissible if there is also a fee for the facility which is charged regardless of the amount, if any, drawn down against that facility and the fee is set so that banks which claim the facility line to meet the LCR, and banks which do not, have similar financial incentives to reduce their exposure to liquidity risk. That is, the fee should be set so that the net yield on the assets used to secure the facility should be similar to the net yield on a representative portfolio of Level 1 and Level 2 assets, after adjusting for any material differences in credit risk.

48. *Option 2 – Foreign currency liquid assets:* For currencies that do not have sufficient high-quality liquid assets, as determined by the prescriptive threshold and criteria, Option 2 would allow supervisors to choose to allow banks that evidence a shortfall of liquid assets in the domestic currency (which would match the currency of the underlying risks) to hold liquid assets in a currency that does not match the currency of the associated liquidity risk, provided that the resulting currency mismatch positions are justifiable and controlled within limits agreed by their supervisors. Supervisors should restrict such positions within levels consistent with the bank's foreign exchange risk management capacity and needs, and ensure that such positions relate to currencies that are freely and reliably convertible, are effectively managed by the bank, and would not pose undue risk to its financial strength. In managing those positions, the bank should take into account the risks that its ability to swap currencies, and its access to the relevant foreign exchange markets, may erode rapidly under stressed conditions. It should also take into account that sudden, adverse exchange rate movements could sharply widen existing mismatch positions and alter the effectiveness of any foreign exchange hedges in place. A limit on the amount of this option could possibly be expressed as a ratio of the (i) maximum amount of total net cash outflows in a given currency with insufficient liquid assets to be covered by other currency liquid assets to (ii) amount of total net cash outflows in that given currency.

49. *Option 3 – Additional use of Level 2 assets with a higher haircut:* This option addresses currencies for which there are insufficient Level 1 assets, as determined by the prescriptive threshold and criteria, but where there are sufficient Level 2 assets. In this case, supervisors may choose to allow banks that evidence a shortfall of liquid assets in the domestic currency (to match the currency of the liquidity risk incurred) to hold additional Level 2 assets in the stock, up to a prescriptive limit to be determined by the Committee. These additional assets would have a higher haircut than the Level 2 assets that are included in the 40% cap.

*B. Total net cash outflows*

50. The term total net cash outflows<sup>13</sup> is defined as the total expected cash outflows minus total expected cash inflows in the specified stress scenario for the subsequent 30 calendar days. Total expected cash outflows are calculated by multiplying the outstanding balances of various categories or types of liabilities and off-balance sheet commitments by the rates at which they are expected to run off or be drawn down. Total expected cash inflows are calculated by multiplying the outstanding balances of various categories of contractual receivables by the rates at which they are expected to flow in under the scenario up to an aggregate cap of 75% of total expected cash outflows.

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

51. While most roll-off rates, draw-down rates and similar factors are harmonised across jurisdictions as outlined in this standard, a few parameters are to be determined by supervisory authorities at the national level. Where this is the case, the parameters should be transparent and made publicly available.

52. The template in Annex 1 is an example of the framework that banks should use and the factors that are applied to each category.

53. Banks will not be permitted to double count items – ie if included as part of the “stock of high-quality liquid assets” (ie the numerator), the assets cannot also be counted as cash inflows. Where there is potential that an item could be counted in multiple outflow categories, (eg committed liquidity lines granted to cover debt maturing within the 30 calendar day period), a bank only has to assume up to the maximum contractual outflow for that product.

*(1) Cash outflows*

*(i) Retail deposit run-off*

54. Retail deposits are defined as deposits placed with a bank by a natural person. Deposits from legal entities, sole proprietorships or partnerships are captured in wholesale deposit categories. Retail deposits subject to the LCR include demand deposits and term deposits, unless otherwise excluded under the criteria set out in paragraphs 62 and 63.

55. These retail deposits are divided into “stable” and “less stable” portions of funds as described below, with minimum run-off rates listed for each category. The run-off rates for retail deposits are minimum floors, with higher run-off rates established by individual jurisdictions as appropriate to capture depositor behaviour in a period of stress in each jurisdiction.

*(a) Stable deposits (run-off rate = 5% and higher):*

56. Stable deposits, which receive a minimum run-off factor of at least 5% in every jurisdiction, are those deposits that are fully covered by an effective deposit insurance scheme or by a public guarantee that provides equivalent protection and where:

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<sup>13</sup> Where applicable, cash inflows and outflows should include interest that is expected to be received and paid during the 30-day time horizon.

- the depositors have other established relationships with the bank that make deposit withdrawal highly unlikely; or,
- the deposits are in transactional accounts (eg accounts where salaries are automatically deposited).

(b) *Less stable deposits (run-off rates = 10% and higher):*

57. Supervisory authorities are expected to develop additional buckets with higher run-off rates as necessary to apply to buckets of potentially less stable retail deposits in their jurisdictions, with a minimum run-off rate of 10%. These jurisdiction-specific run-off rates should be clearly outlined and publicly transparent. Buckets of less stable deposits could include deposits that are not covered by an effective deposit insurance scheme or sovereign deposit guarantee, high-value deposits, deposits from sophisticated or high net worth individuals, deposits that can be withdrawn quickly (eg internet deposits) and foreign currency deposits, as determined by each jurisdiction.

58. An “effective deposit insurance scheme” refers to a scheme (i) that guarantees that it has the ability to make prompt payouts, (ii) for which the coverage is clearly defined and (iii) of which public awareness is high. The deposit insurer in an effective deposit insurance scheme has formal legal powers to fulfil its mandate and is operationally independent, transparent and accountable. A jurisdiction with an explicit and legally binding sovereign deposit guarantee that effectively functions as deposit insurance can be regarded as having an effective deposit insurance scheme.

59. The presence of deposit insurance alone is not sufficient to consider a deposit “stable”.

60. If a bank is not able to readily identify which retail deposits would qualify as “stable” according to the above definition (eg the bank cannot determine which deposits are covered by an effective deposit insurance scheme or a sovereign deposit guarantee) it should place the full amount in the “less stable” buckets as established by its supervisor.

61. Foreign currency deposits are deposits denominated in any other currency than the domestic currency in a jurisdiction in which the bank operates. Supervisors will determine the run-off factor that banks in their jurisdiction should use for foreign currency deposits. Foreign currency deposits will be considered as “less stable” if there is a reason to believe that such deposits are more volatile than domestic currency deposits. Factors affecting the volatility of foreign currency deposits include the type and sophistication of the depositors, and the nature of such deposits (eg whether the deposits are linked to business needs in the same currency, or whether the deposits are placed in a search for yield).

62. *Retail fixed-term deposits:* the maturity of fixed or time deposits with a residual maturity or withdrawal notice period of greater than 30 days will be recognised (ie excluded from the LCR) if the depositor has no legal right to withdraw deposits within the 30-day horizon of the LCR, or if early withdrawal results in a significant penalty that is materially greater than the loss of interest.

63. If a bank allows a depositor to withdraw such deposits without applying the corresponding penalty, or despite a clause that says the depositor has no legal right to withdraw, the entire category of these funds would then have to be treated as demand deposits (ie regardless of the remaining term, the deposits would be subject to the deposit run-off rates as specified in paragraphs 55-61). Supervisors in each jurisdiction may choose to outline exceptional circumstances that would qualify as hardship, under which the exceptional term deposit could be withdrawn by the depositor without changing the treatment of the entire pool of deposits.

64. Notwithstanding the above, supervisors may also opt to treat retail term deposits that meet these qualifications with higher run-off rates if they consider it likely that depositors would withdraw term deposits in a similar fashion as retail demand deposits during either normal or stress times, or that banks may repay such deposits early in stressed times for reputational reasons. Supervisors can apply a higher than 0% run-off rate, clearly stating the treatment that applies for their jurisdiction and applying this treatment in a similar fashion across banks in their jurisdiction.

(ii) *Unsecured wholesale funding run-off*

65. For the purposes of the LCR, "unsecured wholesale funding" is defined as those liabilities and general obligations that are raised from non-natural persons (ie legal entities, including sole proprietorships and partnerships) and are **not** collateralised by legal rights to specifically designated assets owned by the borrowing institution in the case of bankruptcy, insolvency, liquidation or resolution. Obligations related to derivative contracts are explicitly excluded from this definition.

66. The wholesale funding included in the LCR is defined as all funding that is callable within the LCR's horizon of 30 days or that has its earliest possible contractual maturity date situated within this horizon (such as maturing term deposits and unsecured debt securities) as well as funding with an undetermined maturity. This should include all funding with options that are exercisable at the investor's discretion within the 30 calendar day horizon. For funding with options exercisable at the bank's discretion, supervisors should take into account reputational factors that may limit a bank's ability not to exercise the option.<sup>14</sup> In particular, where the market expects certain liabilities to be redeemed before their legal final maturity date, banks and supervisors should assume such behaviour for the purpose of the LCR and include these liabilities as outflows.

67. Wholesale funding that is callable<sup>15</sup> by the funds provider subject to a contractually defined and binding notice period surpassing the 30-day horizon is not included.

68. For the purposes of the LCR, unsecured wholesale funding is to be categorised as detailed below, based on the assumed sensitivity of the funds providers to the rate offered and the credit quality and solvency of the borrowing bank. This is determined by the type of funds providers and their level of sophistication, as well as their operational relationships with the bank. The run-off rates for the scenario are listed for each category.

(a) *Unsecured wholesale funding provided by small business customers: 5%, 10% and higher*

69. Unsecured wholesale funding provided by small business customers is treated the same way as retail deposits for the purposes of this standard, effectively distinguishing between a "stable" portion of funding provided by small business customers and different buckets of less stable funding defined by each jurisdiction. The same bucket definitions and associated run-off factors apply as for retail deposits, with the "stable" portion of unsecured wholesale funding provided by small business customers receiving a minimum 5% run-off factor and less stable funding categories receiving minimum run-off factors of 10%.

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<sup>14</sup> This could reflect a case where a bank may imply that it is under liquidity stress if it did not exercise an option on its own funding.

<sup>15</sup> This takes into account any embedded options linked to the funds provider's ability to call the funding before contractual maturity.

70. This category consists of deposits and other extensions of funds made by non-financial small business customers that are managed as retail exposures and are generally considered as having similar liquidity risk characteristics to retail accounts, provided the total aggregated funding<sup>16</sup> raised from one small business customer is less than €1 million (on a consolidated basis where applicable).

71. Term deposits from small businesses should be treated in accordance with the treatment for term retail deposits as outlined in paragraph 62 and 63.

*(b) Unsecured wholesale funding with operational relationships: 25%*

72. Qualifying portions of deposits and other extensions of funds from wholesale customers with specific operational relationships as outlined below are treated in this section. Financial and non-financial customers are included in this treatment. Funds that qualify are those that are demonstrated to be specifically needed for operational purposes as outlined below. These funds may receive a 25% run-off factor if the customer has an established operational relationship with the bank upon which it has a substantive dependency. An established operational relationship in this context refers to clearing, custody or cash management relationships in which the customer is reliant on the bank to perform these services as an independent third party intermediary in order to fulfil its normal banking activities over the next 30 days. These deposits have to be by-products of the underlying services provided by the banking organisation, not sought out in the wholesale market in the sole interests of offering interest income. Such deposits must be priced below the market in comparison to deposits of a similar duration and held in specifically designated accounts. Only the specific amount of deposits utilised for these operational functions qualify for the 25% factor. Excess balances that could be withdrawn and would leave enough funds to fulfil the above operational requirements do not qualify for the 25% factor. In other words, only that part of the balance in the deposit with the service provider that is proven to serve operational needs can qualify as stable. Any amounts in the deposit exceeding this balance do not qualify for the 25% factor.

73. Deposits which receive a 25% outflow factor at the bank holding the deposit would receive a 0% inflow assumption for the depositing bank, as these funds are considered to remain with the bank conducting the operational activity. Supervisory approval would have to be given to ensure that banks utilising this treatment actually are conducting these operational activities at the level indicated.

74. Notwithstanding these operational categories, if the deposit under consideration arises out of correspondent banking or from the provision of prime brokerage services, it will be treated as if there were no operational relationship for the purpose of determining run-off factors.<sup>17</sup>

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<sup>16</sup> Funds extended by “small business customers” are defined in line with the definition of loans extended to small businesses in paragraph 231 of the Basel II framework. “Aggregated funding” means the gross amount (ie not taking any form of credit extended to the legal entity into account) of all forms of funding (eg deposits or debt securities for which the counterpart is known to be a small business customer). In addition, applying the limit on a consolidated basis means that where one or more small business customers are affiliated with each other, they may be considered as a single creditor such that the limit is applied to the total funding received by the bank from this group of customers.

<sup>17</sup> Correspondent banking refers to arrangements under which one bank (correspondent) holds deposits owned by other banks (respondents) and provides payment and other services in order to settle foreign exchange transactions (eg so-called nostro and vostro accounts used to settle foreign exchange transactions for the provision of clearing and settlement of payments). Prime brokerage is a package of services offered to large

75. A clearing relationship, in this context, refers to a service arrangement that enables customers to transfer funds (or securities) indirectly through direct participants in domestic settlement systems to final recipients. Such services are limited to the following activities: transmission, reconciliation and confirmation of payment orders; daylight overdraft, overnight financing and maintenance of post-settlement balances; and determination of intra-day and final settlement positions. Clearing and related services must be provided under a legally binding agreement to institutional customers.

76. A custody relationship, in this context, refers to the provision of safekeeping, reporting, processing of assets and/or the facilitation of the operational and administrative elements of related activities on behalf of customers in the process of their transacting and retaining financial assets. Custody related services must be provided under a legally binding custodial services or other similar agreement to institutional customers. Such services are limited to the settlement of securities transactions, the transfer of contractual payments, the processing of collateral, the execution of foreign currency transactions, the holding of related cash balances and the provision of ancillary cash management services. Also included are the receipt of dividends and other income, client subscriptions and redemptions, scheduled distributions of client funds and the payment of fees, taxes and other expenses. Custodial services can furthermore extend to asset and corporate trust servicing, treasury, escrow, funds transfer, stock transfer and agency services, including payment and settlement services (excluding correspondent banking), trade financing, and depository receipts.

77. A cash management relationship, in this context, refers to the provision of cash management and related services to customers. Cash management and related services must be provided under a legally binding agreement to institutional customers. Cash management services, in this context, refers to those products and services provided to a customer to manage its cash flows, assets and liabilities, and conduct financial transactions necessary to the customer's ongoing operations. Such services are limited to the provision of information or of information systems used to manage the customer's financial transactions, payment remittance, collection and aggregation, payroll administration, control over the disbursement of funds, automated payments and other transactions that facilitate financial operations.

78. The portion of the unsecured wholesale funding provided by non-financial corporate customers, sovereigns, central banks and public sector entities with operational relationships that is fully covered by deposit insurance can receive the same treatment as "stable" retail deposits, ie 5%.

*(c) Treatment of deposits in institutional networks of cooperative banks*

79. 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 and/or specialised service providers. A 25% run-off rate can be given to the amount of deposits of member institutions with the central institution and/or specialised central service providers that are placed (a) due to statutory minimum deposit requirements, which are registered at regulators or (b) in the context of common task sharing and legal, statutory or contractual arrangements so long as both the bank that has received the monies and the bank that has deposited participate in the same institutional network's mutual protection scheme against

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active investors, particularly hedge funds. These services usually include: clearing, settlement and custody; consolidated reporting; financing (margin, repo or synthetic); securities lending; capital introduction; and risk analytics.

illiquidity and insolvency of its members. As with other operational deposits, these deposits would receive a 0% inflow assumption for the depositing bank, as these funds are considered to remain with the centralised institution.

80. Supervisory approval would have to be given to ensure that banks utilising this treatment actually are the central institution and/or a central service provider of such a cooperative (or otherwise named) network. Correspondent banking activities would not be included in this treatment and would receive a 100% outflow treatment, as would funds placed at the central institutions and/or specialised service providers for any other reason other than those outlined in (a) and (b) in the paragraph above, or for operational functions of clearing, custody, or cash management as outlined in paragraphs 75-77.

(d) *Unsecured wholesale funding provided by non-financial corporates and sovereigns, central banks and public sector entities: 75%*

81. This category comprises all deposits and other extensions of unsecured funding from non-financial corporate customers (that are not categorised as small business customers) and (both domestic and foreign) sovereign, central bank and PSE customers that are not specifically held for operational purposes (as defined above). Funds from multilateral development banks would also be included in this category. The run-off factor for these funds is 75%.

(e) *Unsecured wholesale funding provided by other legal entity customers: 100%*

82. This category consists of all deposits and other funding from other institutions (including banks, securities firms, insurance companies, etc), fiduciaries,<sup>18</sup> beneficiaries,<sup>19</sup> conduits and special purpose vehicles, affiliated entities of the bank and other entities that are not specifically held for operational purposes (as defined above) and not included in the prior three categories. The run-off factor for these funds is 100%.

83. All notes, bonds and other debt securities issued by the bank are included in this category regardless of the holder, unless the bond is sold exclusively in the retail market and held in retail accounts, in which case the instruments can be treated in the appropriate retail deposit category.

(iii) *Secured funding run-off*

84. For the purposes of this standard, "secured funding" is defined as those 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.

85. **Loss of secured funding on short term financing transactions** – in this scenario, the ability to continue to transact repurchase, reverse repurchase and other securities financing transactions is limited to transactions backed by high-quality liquid assets or with

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<sup>18</sup> Defined in this context as a legal entity that is authorised to manage assets on behalf of a third party. Fiduciaries include asset management entities such as hedge funds, pension funds and other collective investment vehicles.

<sup>19</sup> Defined in this context as a legal entity that receives, or may become eligible to receive, benefits under a will, insurance policy, retirement plan, annuity, trust, or other contract.

the bank's domestic sovereign, PSE or central bank.<sup>20</sup> Collateral swaps should be treated as repurchase or reverse repurchase agreements, as should any other transaction with a similar form. For the scenario, a bank should apply the following factors to all outstanding secured funding transactions with maturities within the 30 calendar day stress horizon. The amount of outflow is calculated based on the amount of funds raised through the transaction, and not the value of the underlying collateral.

86. Due to the high-quality of Level 1 assets, no reduction in funding availability against these assets is assumed to occur. A 15% reduction in funding availability will be assigned to maturing transactions backed by Level 2 assets. A 25% factor is applied for maturing secured funding transactions with the bank's domestic sovereign, domestic central bank, or domestic PSEs that have a 20% or lower risk weight, when the transactions are backed by assets other than Level 1 or Level 2 assets, in recognition that these entities are unlikely to withdraw secured funding from banks in a time of market-wide stress. This, however, gives credit only for outstanding secured funding transactions, and not for unused collateral or merely the capacity to borrow.

87. For all other maturing transactions the run-off factor is 100%. The table below summarises the applicable rules:

Categories for outstanding maturing secured funding transactions	Amount to add to cash outflows
• Backed by Level 1 assets.	0%
• Backed by Level 2 assets.	15%
• Secured funding transactions with domestic sovereign, central banks or PSEs that are not backed by Level 1 or 2 assets. PSEs that receive this treatment should be limited to those that are 20% or lower risk weighted.	25%
• All others	100%

(iv) *Additional requirements*

88. **Derivatives payables:** 100% run-off. For derivatives, known amounts payable and receivable are taken into account on a net basis. Amounts should also be net of Level 1 and Level 2 collateral, to the extent that this collateral is not already counted in the stock of liquid assets, in line with the principle in paragraph 53 that items cannot be double-counted in the standard. If a net payable exists, it will receive a 100% run-off factor.

89. **Increased liquidity needs related to downgrade triggers embedded in financing transactions, derivatives and other contracts:** (100% of the amount of collateral that would be posted for or contractual cash outflows generated by any downgrade up to and including a 3-notch downgrade). Often, contracts governing derivatives and other transactions have clauses that require the posting of additional collateral, drawdown of contingent facilities, or early repayment of existing liabilities upon the bank's downgrade by a

<sup>20</sup> In this context, PSEs that receive this treatment should be limited to those that are 20% risk weighted or better, and "domestic" can be defined as a jurisdiction where a bank is legally incorporated.



recognised credit rating organisation. The scenario therefore requires that for each contract in which “downgrade triggers” exist, the bank assumes that 100% of this additional collateral or cash outflow will have to be posted for any downgrade up to and including a 3-notch downgrade of the bank’s long-term credit rating. Triggers linked to a bank’s short-term rating should be assumed to be triggered at the appropriate long-term rating in accordance with published ratings criteria.

**90. Increased liquidity needs related to the potential for valuation changes on posted collateral securing derivative and other transactions:** (20% of the value of non-Level 1 posted collateral.) Observation of market practices indicates that most counterparties to derivatives transactions typically are required to secure the mark-to-market valuation of their positions and that this is predominantly done using cash or sovereign, central bank, or PSE debt securities with a 0% risk weight under the Basel II standardised approach. When these Level 1 liquid asset securities are posted as collateral, the framework will not require that an additional stock of liquid assets be maintained for potential valuation changes. If however, counterparties are securing mark-to-market exposures with other forms of collateral, to cover the potential loss of market value on those securities, 20% of the value of all such posted collateral will be required to be added to the stock of liquid assets by the bank posting such collateral. This 20% will be calculated off the notional amount required to be posted as collateral after any other haircuts have been applied that may be applicable to the collateral category.

**91. Loss of funding on asset-backed securities,<sup>21</sup> covered bonds and other structured financing instruments** – The scenario assumes the outflow of 100% of the funding transaction maturing within the 30-day period, when these instruments are issued by the bank itself (as this assumes that the re-financing market will not exist).

**92. Loss of funding on asset-backed commercial paper, conduits, securities investment vehicles and other such financing facilities:** (100% of maturing amount and 100% of returnable assets). Banks having structured financing facilities that include the issuance of short term debt instruments, such as asset backed commercial paper, should fully consider the potential liquidity risk arising from these structures. These risks include, but are not limited to, (i) the inability to refinance maturing debt, and (ii) 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 period. Where the structured financing activities of a bank are conducted through a special purpose entity<sup>22</sup> (such as a special purpose vehicle, conduit or SIV), the bank should, in determining the liquid asset requirements, 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.

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<sup>21</sup> To the extent that sponsored conduits/SPVs are required to be consolidated under liquidity requirements, their assets and liabilities will be taken into account. Supervisors need to be aware of other possible sources of liquidity risk beyond that arising from maturing debt within the 30 days.

<sup>22</sup> A Special purpose entity (SPE) is defined in the Basel II Framework (paragraph 552) as a corporation, trust, or other entity organised for a specific purpose, the activities of which are limited to those appropriate to accomplish the purpose of the SPE, and the structure of which is intended to isolate the SPE from the credit risk of an originator or seller of exposures. SPEs are commonly used as financing vehicles in which exposures are sold to a trust or similar entity in exchange for cash or other assets funded by debt issued by the trust.

Potential Risk Element	Stock of High-quality Liquid Assets Required
Debt maturities within the calculation period	100% of maturing amount
Embedded options in financing arrangements that allow for the return of assets or potential liquidity support	100% of the amount of assets that could potentially be returned, or the liquidity required

93. **Drawdowns on committed credit and liquidity facilities** – For the purpose of the standard, credit and liquidity facilities are defined as explicit contractual agreements and/or obligations to extend funds at a future date to retail or wholesale counterparties. For the purpose of the standard, these facilities only include contractually irrevocable (“committed”) or conditionally revocable agreements to extend funds in the future. Unconditionally revocable facilities that are unconditionally cancellable by the bank (in particular, those without a precondition of a material change in the credit condition of the borrower) are excluded from this section and included in “Other Contingent Funding Liabilities”. These off-balance sheet facilities or funding commitments can have long 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 facilities of any maturity, even short-term maturities, to be able to quickly pay back the borrowings. Therefore, for purposes of this standard, all facilities that are assumed to be drawn (as outlined in the paragraphs below) will remain outstanding at the amounts assigned throughout the duration of the test, regardless of maturity.

94. For the purposes of this standard, the currently undrawn portion of these facilities is calculated net of any high-quality liquid assets that have already been posted as collateral by the counterparty to secure the facilities, if and only if the bank is legally entitled and operationally capable to re-use 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 collateral can be netted against the outstanding amount of the line to the extent that this collateral is not already counted in the stock of liquid assets, in line with the principle in paragraph 53 that items cannot be double-counted in the standard.

95. A liquidity facility is defined as any committed, undrawn back-up facility put in place expressly for the purpose of refinancing the debt of a customer in situations where such a customer is unable to obtain its ordinary course of business funding requirements (eg pursuant to a commercial paper programme) in the financial markets. General working capital facilities for corporate entities (eg revolving credit facilities in place for general corporate and/or working capital purposes) will not be classified as liquidity facilities, but as credit facilities. The amount of the liquidity line captured here excludes the portion of the liquidity line that is backing securities issued that do not mature within the 30-day window. Available, unused capacity to issue financings that could mature within the 30-day horizon should be subject to the relevant assumed draw on the liquidity facility for the available capacity.

96. For that portion of financing programs that are captured in paragraphs 91 and 92 (ie are maturing or have liquidity puts that may be exercised in the 30-day horizon), banks that are providers of associated liquidity facilities do not need to double count the maturing financing instrument and the liquidity facility for consolidated programs.

97. Any contractual loan drawdowns from committed facilities<sup>23</sup> and estimated drawdowns from revocable facilities within the 30-day period should be fully reflected as outflows.

- (a) *5% draw-downs on committed credit and liquidity facilities to retail and small business customers:* Banks should assume a 5% drawdown of the currently undrawn portion of these facilities.
- (b) *10% draw-downs on committed **credit** facilities to non-financial corporates, sovereigns and central banks, public sector entities and multilateral development banks:* Banks should assume a 10% drawdown of the currently undrawn portion of these credit facilities.
- (c) *100% draw-downs on committed **liquidity** facilities to non-financial corporates, sovereigns and central banks, public sector entities, and multilateral development banks:* A bank should assume a 100% drawdown of the currently undrawn portion of these liquidity facilities.
- (d) *100% draw-downs on committed credit and liquidity facilities to other legal entities:* These entities include financial institutions (including banks, securities firms, insurance companies), conduits and special purpose vehicles,<sup>24</sup> fiduciaries,<sup>25</sup> beneficiaries,<sup>26</sup> and other entities not included in the prior categories: Banks record a cash outflow equal to 100% of the currently undrawn portion of these facilities.

98. **Contractual obligations to extend funds within a 30-day period.** Any contractual lending obligations to financial institutions not captured elsewhere in this standard should be captured here at a 100% outflow rate.

99. If the total of all contractual obligations to extend funds to retail and non-financial corporate clients within the next 30 calendar days (not captured in the prior categories) exceeds 50% of the total contractual inflows due in the next 30 calendar days from these clients, the difference should be reported as a 100% outflow.

100. **Other contingent funding obligations:** (*run-off rates at national discretion*). National supervisors will work with supervised institutions in their jurisdictions to determine the liquidity risk impact of these contingent liabilities and the resulting stock of high-quality liquid assets that should accordingly be maintained. Supervisors should disclose the run-off rates they assign to each category publicly.

101. These 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

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<sup>23</sup> Committed facilities refer to those which are irrevocable.

<sup>24</sup> The potential liquidity risks associated with the bank's own structured financing facilities should be treated according to paragraphs 91 and 92 of this document (100% of maturing amount and 100% of returnable assets are included as outflows).

<sup>25</sup> Refer to footnote 18 for definition.

<sup>26</sup> Refer to footnote 19 for definition.

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.

102. Some of these contingent funding obligations are explicitly contingent upon a credit or other event that is not always related to the liquidity events simulated in the stress scenario, but may nevertheless have the potential to cause significant liquidity drains in times of stress. For this standard, each supervisor and bank should consider which of these “other contingent funding obligations” may materialise under the assumed stress events. The potential liquidity exposures to these contingent funding obligations are to be treated as a nationally determined behavioural assumption where it is up to the supervisor to determine whether and to what extent these contingent outflows are to be included in the LCR. All identified contractual and non-contractual contingent liabilities and their assumptions should be reported on the template, along with their related triggers. Supervisors and banks should, at a minimum, use historical behaviour in determining appropriate outflows.

103. Other contingent funding obligations include products and instruments such as:

- unconditionally revocable "uncommitted" credit and liquidity facilities;
- guarantees;
- letters of credit;
- other trade finance instruments; and
- non-contractual obligations such as:
  - potential requests for debt repurchases of the bank's own debt or that of related conduits, securities investment vehicles and other such financing facilities;
  - structured products where customers anticipate ready marketability, such as adjustable rate notes and variable rate demand notes (VRDNs); and
  - managed funds that are marketed with the objective of maintaining a stable value such as money market mutual funds or other types of stable value collective investment funds etc.
- For issuers with an affiliated dealer or market maker, there may be a need to include an amount of the outstanding debt securities (unsecured and secured, term as well as short term) having maturities greater than 30 calendar days, to cover the potential repurchase of such outstanding securities.
- **Increased liquidity needs related to market valuation changes on derivative or other transactions:** – (non-0% requirement to be determined at national supervisory discretion). As market practice requires full collateralisation of mark-to-market exposures on derivative and other transactions, banks face potentially substantial liquidity risk exposures to these valuation changes. Inflows and outflows of transactions executed under the same master netting agreement can be treated on a net basis.

104. **Other contractual cash outflows:** (100%). Any other contractual cash outflows within the next 30 calendar days should be captured in this standard, such as dividends, with explanation given as to what comprises this bucket. Outflows related to operating costs, however, are not included in this standard.

(2) *Cash inflows*

105. When considering its available cash inflows, the bank should only include contractual inflows from outstanding exposures that are fully performing and for which the bank has no reason to expect a default within the 30-day time horizon.

106. Banks and supervisors need to monitor the concentration of expected inflows across wholesale counterparties in the context of their liquidity management in order to ensure that the liquidity position of banks is not overly dependent on the arrival of expected inflows from one or a limited number of wholesale counterparties.

107. **Cap on total inflows:** In order to prevent banks from relying solely on anticipated inflows to meet their liquidity requirement, and also to ensure a minimum level of liquid asset holdings, the amount of inflows that can offset outflows is capped at 75% of total expected cash outflows as calculated in the standard. This requires that a bank must maintain a minimum amount of stock of liquid assets equal to 25% of the outflows.

(i) *Reverse repos and securities borrowing*

108. A bank should assume that maturing reverse repurchase or securities borrowing agreements secured by Level 1 assets will be rolled-over and will not give rise to any cash inflows (0%). Maturing reverse repurchase or securities lending agreements secured by Level 2 liquid assets will lead to 15% cash inflows due to the reduction of funds extended against the collateral. A bank is assumed **not** to roll-over maturing reverse repurchase or securities borrowing agreements secured by non-Level 1 and non-Level 2 assets, and can assume to receive back 100% of the cash related to those agreements. This treatment is in line with the assumptions outlined for secured lending in the outflows section.

109. As an exception to the above paragraph, if the collateral obtained through reverse repo, securities borrowing, or collateral swaps, which matures within the 30-day horizon, is re-used (ie rehypothecated) and is tied up for 30 days or longer to cover short positions, a bank should assume that such reverse repo or securities borrowing arrangements will be rolled-over and will not give rise to any cash inflows (0%), reflecting its need to continue to cover the short position or to re-purchase the relevant securities.

<b>Maturing reverse repos backed by the following asset Category:</b>	<b>Inflow rate (if collateral is not used to cover short positions):</b>	<b>Inflow rate (if collateral is used to cover short positions):</b>
Level 1 assets	0%	0%
Level 2 assets	15%	0%
All Other Collateral	100%	0%

110. Despite the roll-over assumptions in paragraphs 108 and 109, a bank should manage its collateral such that they are able to fulfil obligations to return collateral whenever the counterparty decides not to roll-over any reverse repo or securities lending transaction.<sup>27</sup> This is especially the case for non-Level 1 or 2 assets collateral, since such outflows are not captured in the LCR framework. Supervisors should monitor the bank's collateral management.

<sup>27</sup> This is in line with Principle 9 of the *Sound Principles*.

(ii) *Lines of credit*

111. No lines of credit, liquidity facilities or other contingent funding facilities that the bank holds at other institutions for its own purposes are assumed to be able to be drawn. Such facilities receive 0%, meaning that this scenario does not consider inflows from committed credit or liquidity facilities. This is to reduce the contagion risk of liquidity shortages at one bank causing shortages at other banks and to reflect the risk that other banks may not be in a position to honour credit lines, or may decide to incur the legal and reputational risk involved in not honouring the commitment, in order to conserve their own liquidity or reduce their exposure to that bank.

(iii) *Other inflows by counterparty*

112. For all other types of transactions, either secured or unsecured, the inflow rate will be determined by counterparty. In order to reflect the need for a bank to conduct ongoing loan origination/roll-over with different types of counterparties, even during a time of stress, a set of limits on contractual inflows by counterparty type are applied. When considering loan payments, the bank should only include inflows from fully performing loans.

(a) *Retail and small business customer inflows*

113. This scenario assumes that banks will receive all fully performing contractual inflows from retail and small business customers. At the same time, however, banks are assumed to continue to extend loans to retail and small business customers, at a rate of 50% of contractual inflows. This results in a net inflow number of 50% of the contractual amount.

(b) *Other wholesale inflows*

114. This scenario assumes that banks will receive all fully performing contractual wholesale cash inflows. In addition, banks are assumed to continue to extend loans to wholesale clients, at a rate of 0% of inflows for financial institutions and 50% for all others, including non-financial corporates, sovereigns, central banks and PSEs. This will result in an inflow percentage of:

- 100% inflows from financial institution counterparties
- 50% inflow rate for non-financial wholesale counterparties.

Inflows from maturing securities should be treated in the same category as inflows from financial institutions.

115. *Operational deposits: 0% inflow.* Deposits held at other financial institutions for operational purposes, as outlined in paragraphs 72-77, such as for clearing, custody, and cash management purposes, are assumed to stay at those institutions, and no inflows can be counted for these funds – ie they will receive a 0% inflow rate.

116. Likewise, for deposits held at the centralised institution in a cooperative banking network, that are assumed to stay at the centralised institution as are outlined in paragraphs 79 and 80; in other words, the depositing bank should not count any inflow for these funds – ie they will receive a 0% inflow rate.

(iv) *Other cash inflows*

117. *Derivatives receivables, 100% inflow:* Known derivative amounts payable and receivable are taken into account on a net basis. Amounts should also be net of Level 1 and Level 2 collateral, to the extent that this collateral is not already counted in the stock of liquid

assets, in line with the principle in paragraph 53 that items cannot be double-counted in the standard. If a net receivable exists, it will receive a 100% inflow factor.

118. *Other contractual cash inflows*: Other contractual cash inflows should be captured here, with explanation given to what comprises this bucket. Inflow percentages should be determined as appropriate for each type of inflow by supervisors in each jurisdiction. Cash inflows related to non-financial revenues are not taken into account in the calculation of the net cash outflows for the purposes of this standard.

## II.2 Net Stable Funding Ratio

### 1. Objective

119. To promote more medium and long-term funding of the assets and activities of banking organisations, the Committee has developed the Net Stable Funding Ratio (NSFR). This metric establishes a minimum acceptable amount of stable funding based on the liquidity characteristics of an institution's assets and activities over a one year horizon. This standard is designed to act as a minimum enforcement mechanism to complement the LCR and reinforce other supervisory efforts by promoting structural changes in the liquidity risk profiles of institutions away from short-term funding mismatches and toward more stable, longer-term funding of assets and business activities.

120. In particular, the NSFR standard is structured to ensure that long term assets are funded with at least a minimum amount of stable liabilities in relation to their liquidity risk profiles. The NSFR aims to limit over-reliance on short-term wholesale funding during times of buoyant market liquidity and encourage better assessment of liquidity risk across all on- and off-balance sheet items. In addition, the NSFR approach offsets incentives for institutions to fund their stock of liquid assets with short-term funds that mature just outside the 30-day horizon for that standard.

### 2. Definition of the standard

$\frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} > 100\%$
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121. The NSFR builds on traditional "net liquid asset" and "cash capital" methodologies used widely by internationally active banking organisations, bank analysts and rating agencies. In computing the amount of assets that should be backed by stable funding, the methodology includes required amounts of stable funding for all illiquid assets and securities held, regardless of accounting treatment (eg trading versus available-for-sale or held-to-maturity designations). Additional funding stable sources are also required to support at least a small portion of the potential calls on liquidity arising from off-balance sheet (OBS) commitments and contingencies.

122. The NSFR is defined as the amount of available amount of stable funding to the amount of required stable funding. This ratio must be greater than 100%.<sup>28</sup> "*Stable funding*" is defined as the portion of those types and amounts of equity and liability financing expected to be reliable sources of funds over a one-year time horizon under conditions of extended

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<sup>28</sup> In addition, supervisors may use alternative levels of this NSFR as thresholds for potential supervisory action.

stress. The amount of such funding *required* of a specific institution is a function of the liquidity characteristics of various types of assets held, OBS contingent exposures incurred and/or the activities pursued by the institution.

123. The Committee will continue to consider whether to apply some amount of recognition to matched funding within the one-year time frame and will gather data to allow analysis as well as some other structural changes to the proposal. See paragraph 134 below for further discussion.

A. *Definition of available stable funding*

124. Available stable funding (ASF) is defined as the total amount of a bank's:

- (a) capital;
- (b) preferred stock with maturity of equal to or greater than one year;
- (c) liabilities with effective maturities of one year or greater;
- (d) that portion of non-maturity deposits and/or term deposits with maturities of less than one year that would be expected to stay with the institution for an extended period in an idiosyncratic stress event; and
- (e) the portion of wholesale funding with maturities of less than a year that is expected to stay with the institution for an extended period in an idiosyncratic stress event.

125. The objective of the standard is to ensure stable funding on an ongoing, viable entity basis, over one year in an extended firm-specific stress scenario where a bank encounters, and investors and customers become aware of:

- A significant decline in profitability or solvency arising from heightened credit risk, market risk or operational risk and/or other risk exposures;
- A potential downgrade in a debt, counterparty credit or deposit rating by any nationally recognised credit rating organisation; and/or
- A material event that calls into question the reputation or credit quality of the institution.

126. For the purposes of this standard, extended borrowing from central bank lending facilities outside regular open market operations are not considered in this ratio, in order not to create a reliance on the central bank as a source of funding.

127. The available amount of stable funding is calculated by first assigning the carrying value of an institution's equity and liabilities to one of five categories as presented in Table 1 below. The amount assigned to each category is to be multiplied by an ASF factor and the total ASF is the sum of the weighted amounts.

128. Table 1 below summarises the components of each of the ASF categories and the associated maximum ASF factor to be applied in calculating an institution's total amount of available stable funding under the standard.



Table 1  
**Components of Available Stable Funding and Associated ASF Factors**

ASF Factor	Components of ASF Category
100%	<ul style="list-style-type: none"> <li>• The total amount of capital, including both Tier 1 and Tier 2 as defined in existing global capital standards issued by the Committee.<sup>29</sup></li> <li>• The total amount of any preferred stock not included in Tier 2 that has an effective remaining maturity of one year or greater taking into account any explicit or embedded options that would reduce the expected maturity to less than one year.</li> <li>• The total amount of secured and unsecured borrowings and liabilities (including term deposits) with effective remaining maturities of one year or greater excluding any instruments with explicit or embedded options that would reduce the expected maturity to less than one year. Such options include those exercisable at the investor's discretion within the one-year horizon.<sup>30</sup></li> </ul>
90%	<ul style="list-style-type: none"> <li>• "Stable" non-maturity (demand) deposits and/or term deposits (as defined in the LCR in paragraphs 55-61) with residual maturities of less than one year provided by retail customers and small business customers.<sup>31</sup></li> </ul>
80%	<ul style="list-style-type: none"> <li>• "Less stable" (as defined in the LCR in paragraphs 55-61) non-maturity (demand) deposits and/or term deposits with residual maturities of less than one year provided by retail and small business customers.</li> </ul>
50%	<ul style="list-style-type: none"> <li>• Unsecured wholesale funding, non-maturity deposits and/or term deposits with a residual maturity of less than one year, provided by non-financial corporates, sovereigns, central banks, multilateral development banks and PSEs.</li> </ul>
0%	<ul style="list-style-type: none"> <li>• All other liabilities and equity categories not included in the above categories.<sup>32</sup></li> </ul>

<sup>29</sup> Tier 1 and Tier 2 capital is considered after deductions. Items that have been deducted from capital already can be excluded from receiving any required stable funding. Rules governing Tier 1 and Tier 2 capital are described in the document *Basel III: A global regulatory framework for more resilient banks and banking systems*.

<sup>30</sup> When determining the maturity of an instrument, investors are assumed to redeem a call option at the earliest possible date. For funding with options exercisable at the bank's discretion, supervisors should take into account reputational factors that may limit the bank's ability not to exercise the call option. In particular, where the market expects certain liabilities to be redeemed before their legal final maturity date, banks and supervisors should assume such behaviour for the purpose of the NSFR.

<sup>31</sup> The definition of deposits provided by small business customers is the same as the one used in the LCR in footnote 16, in line with paragraph 231 of Basel II.

<sup>32</sup> A possible exclusion to this treatment is for stable deposits from cooperative banks that are required by law to be placed at the central organisation and are legally constrained within the cooperative bank network as "minimum deposit requirements". These deposits would receive no higher than a 75% ASF factor for the centralised institution if the depositor is a retail or small business customer. If these deposits are placed by other customers, the ASF factor should match the ASF factor for the funding provided by those counterparties (ie deposits from non-financial corporates would receive a 50% ASF factor). Also, if there are certain assets that are required to be held with the funds from these minimum deposit requirements, the bank would assign the same ASF factor as the RSF factor of the corresponding assets. For instance, if Level 1 government bonds are required to be held (which have a 5% RSF factor), the corresponding ASF factor would also be 5%. Regardless of the percentage applied, there would be a 100% RSF factor for these funds for the depositing bank.

*B. Definition of required stable funding for assets and off-balance sheet exposures*

129. The amount of stable funding required by supervisors is to be measured using supervisory assumptions on the broad characteristics of the liquidity risk profiles of an institution's assets, off-balance sheet exposures and other selected activities. The required amount of stable funding is calculated as the sum of the value of the assets held and funded by the institution, multiplied by a specific required stable funding (RSF) factor assigned to each particular asset type, added to the amount of OBS activity (or potential liquidity exposure) multiplied by its associated RSF factor. The RSF factor applied to the reported values of each asset or OBS exposure is the amount of that item that supervisors believe should be supported with stable funding. Assets that are more liquid and more readily available to act as a source of extended liquidity in the stressed environment identified above receive lower RSF factors (and require less stable funding) than assets considered less liquid in such circumstances and, therefore, require more stable funding.

130. The RSF factors assigned to various types of assets are parameters intended to approximate the amount of a particular asset that could **not** be monetised through sale or use as collateral in a secured borrowing on an *extended basis* during a liquidity event lasting one year. Under this standard such amounts are expected to be supported by stable funding.

131. For secured funding arrangements that are assets of a bank maturing within the one-year horizon, a bank should look through the secured funding transaction to see what asset will be used to settle the transaction at the maturity date, and use the corresponding RSF factor for that asset. If the bank will receive cash, then the RSF of the transaction would be 0%. If the bank will receive another asset, the RSF factor of that asset would be used.

132. Encumbered assets<sup>33</sup> on the balance sheet receive a 100% RSF, unless there is less than a year remaining in the encumbrance period. In that case, the assets are treated as "unencumbered".

133. Table 2 summarises the specific types of assets to be assigned to each asset category and their associated RSF factor. For amortising loans, the portion that comes due within the one-year horizon can be treated in the "less than a year" residual maturity category. Definitions mirror those outlined in the LCR, unless specified otherwise.

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<sup>33</sup> Among others, encumbered assets include those backing asset backed securities or covered bonds.

Table 2

**Detailed Composition of Asset Categories and Associated RSF Factors**

Components of RSF Category	RSF Factor
<ul style="list-style-type: none"> <li>• Cash immediately available to meet obligations, not currently encumbered as collateral and not held for planned use (as contingent collateral, salary payments, or for other reasons)</li> <li>• Unencumbered short-term unsecured instruments and transactions with outstanding maturities of less than one year<sup>34</sup></li> <li>• Unencumbered securities with stated remaining maturities of less than one year with no embedded options that would increase the expected maturity to more than one year</li> <li>• Unencumbered securities held where the institution has an offsetting reverse repurchase transaction when the security on each transaction has the same unique identifier (eg ISIN number or CUSIP)</li> <li>• Unencumbered loans to financial entities with effective remaining maturities of less than one year that are not renewable and for which the lender has an irrevocable right to call</li> </ul>	0%
<ul style="list-style-type: none"> <li>• Unencumbered marketable securities with residual maturities of one year or greater representing claims on or claims guaranteed by sovereigns, central banks, BIS, IMF, EC, non-central government PSEs) or multilateral development banks that are assigned a 0% risk-weight under the Basel II standardised approach, provided that active repo or sale-markets exist for these securities</li> </ul>	5%
<ul style="list-style-type: none"> <li>• Unencumbered corporate bonds or covered bonds rated AA- or higher with residual maturities of one year or greater satisfying all of the conditions for Level 2 assets in the LCR, outlined in paragraph 42(b)</li> <li>• Unencumbered marketable securities with residual maturities of one year or greater representing claims on or claims guaranteed by sovereigns, central banks, non-central government PSEs that are assigned a 20% risk-weight under the Basel II standardised approach, provided that they meet all of the conditions for Level 2 assets in the LCR, outlined in paragraph 42(a)</li> </ul>	20%
<ul style="list-style-type: none"> <li>• Unencumbered gold</li> <li>• Unencumbered equity securities, not issued by financial institutions or their affiliates, listed on a recognised exchange and included in a large cap market index</li> <li>• Unencumbered corporate bonds and covered bonds that satisfy all of the following conditions:                             <ul style="list-style-type: none"> <li>– Central bank eligibility for intraday liquidity needs and overnight liquidity shortages in relevant jurisdictions<sup>35</sup></li> <li>– Not issued by financial institutions or their affiliates (except in the case of covered bonds)</li> </ul> </li> </ul>	50%

<sup>34</sup> Such instruments include but are not limited to: short-term government and corporate bills, notes and obligations; commercial paper; negotiable certificates of deposits; reserves with central banks and sale transactions of such funds (eg fed funds sold); bankers acceptances; money market mutual funds.

<sup>35</sup> See footnote 8 for further discussion of central bank eligibility.

<ul style="list-style-type: none"> <li>– Not issued by the respective firm itself or its affiliates</li> <li>– Low credit risk: assets have a credit assessment by a recognised ECAI of A+ to A-, or do not have a credit assessment by a recognised ECAI and are internally rated as having a PD corresponding to a credit assessment of A+ to A-</li> <li>– Traded in large, deep and active markets characterised by a low level of concentration</li> </ul> <ul style="list-style-type: none"> <li>• Unencumbered loans to non-financial corporate clients, sovereigns, central banks, and PSEs having a remaining maturity of less than one year</li> </ul>	
<ul style="list-style-type: none"> <li>• Unencumbered residential mortgages of any maturity that would qualify for the 35% or lower risk weight under Basel II Standardised Approach for credit risk</li> <li>• Other unencumbered loans, excluding loans to financial institutions, with a remaining maturity of one year or greater, that would qualify for the 35% or lower risk weight under Basel II Standardised Approach for credit risk</li> </ul>	65%
<ul style="list-style-type: none"> <li>• Unencumbered loans to retail customers (ie natural persons) and small business customers (as defined in the LCR) having a remaining maturity of less than one year (other than those that qualify for the 65% RSF above)</li> </ul>	85%
<ul style="list-style-type: none"> <li>• All other assets not included in the above categories</li> </ul>	100%

134. **Assets and liabilities with a remaining maturity of less than one year:** the Committee will gather data to allow analysis on buckets of both assets and liabilities maturing within the one-year horizon during the observation period, to further consider the treatment of these instruments in the NSFR. Buckets will be from 0-3 months, 3-6 months, 6-9 months, and 9-12 months. This is to evaluate the treatment of matched funded assets and liabilities, and to provide incentives for terming out funding within a year – eg to recognise that 9 month funding is preferential to 3 month funding.

135. **Off-balance sheet exposures:** Many potential OBS liquidity exposures require little direct or immediate funding but can lead to significant liquidity drains in times of market or idiosyncratic stress. As a result, the application of an RSF factor to various OBS activities results in a requirement for the institution to establish a “reserve” of stable funding that would be expected to fund existing assets that might not otherwise be funded with stable funds as defined in other parts of this standard. While funds are indeed fungible within a financial institution, this requirement could be viewed as promoting the stable funding of the stock of liquid assets that could be used to meet liquidity requirements arising from OBS contingencies in times of stress.

136. Consistent with the LCR, the NSFR identifies OBS exposure categories based broadly on whether the commitment is a credit or liquidity facility or some other contingent funding liability. Table 3 identifies the specific types of off-balance sheet exposures to be assigned to each OBS category and their associated RSF factor.

Table 3

**Composition of Off-balance Sheet Categories and Associated RSF Factors**

RSF Category	RSF Factor
Conditionally revocable and irrevocable credit and liquidity facilities to any client	5% of the currently undrawn portion
Other contingent funding obligations, including products and instruments such as: <ul style="list-style-type: none"> <li>• Unconditionally revocable "uncommitted" credit and liquidity facilities;</li> <li>• Guarantees;</li> <li>• Letters of credit;</li> <li>• Other trade finance instruments; and</li> <li>• Non-contractual obligations such as:                             <ul style="list-style-type: none"> <li>– Potential requests for debt repurchases of the bank's own debt or that of related conduits, securities investment vehicles and other such financing facilities;</li> <li>– Structured products where customers anticipate ready marketability, such as adjustable rate notes and variable rate demand notes (VRDNs); and</li> <li>– Managed funds that are marketed with the objective of maintaining a stable value such as money market mutual funds or other types of stable value collective investment funds etc.</li> </ul> </li> </ul>	National supervisors can specify the RSF factors based on their national circumstances.

### III. Monitoring tools

137. In addition to the metrics outlined in Section II to be used as standards, this section outlines metrics to be used as consistent monitoring tools. These metrics capture specific information related to a bank's cash flows, balance sheet structure, available unencumbered collateral and certain market indicators.

138. These metrics, together with the standards in Section II, provide the cornerstone of information that aid supervisors in assessing the liquidity risk of a bank. In addition, supervisors may need to supplement this framework by using additional tools and metrics tailored to help capture elements of liquidity risk specific to their jurisdictions. In utilising these metrics, supervisors should take action when potential liquidity difficulties are signalled through a negative trend in the metrics, or when a deteriorating liquidity position is identified, or when the absolute result of the metric identifies a current or potential liquidity problem. Examples of actions that supervisors can take are outlined in the Committee's *Sound Principles* (paragraphs 141-143). One area in particular where more work on monitoring tools will be conducted relates to intraday liquidity risk.

139. The metrics discussed in this section include the following:

- III.1 Contractual maturity mismatch
- III.2 Concentration of funding
- III.3 Available unencumbered assets

III.4 LCR by significant currency

III.5 Market-related monitoring tools

### III.1 Contractual maturity mismatch

#### 1. Objective

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

#### 2. Definition and practical application of the metric

Contractual cash and security inflows and outflows from all on- and off-balance sheet items, mapped to defined time bands based on their respective maturities.

141. A bank should report contractual cash and security flows in the relevant time bands based on their residual contractual maturity. Supervisors in each jurisdiction will determine the specific template, including required time bands, by which data must be reported. Supervisors should define the time buckets so as to be able to understand the bank's cash flow position. Possibilities include requesting the cash flow mismatch to be constructed for the overnight, 7 day, 14 day, 1, 2, 3, 6 and 9 months, 1, 2, 3, 5 and beyond 5 years buckets. Instruments that have no specific maturity (non-defined or open maturity) should be reported separately, with details on the instruments, and with no assumptions applied as to when maturity occurs. Information on possible cash flows arising from derivatives such as interest rate swaps and options should also be included to the extent that their contractual maturities are relevant to the understanding of the cash flows.

142. At a minimum, the data collected from the contractual maturity mismatch should provide data on the categories outlined in the LCR. Some additional accounting (non-dated) information such as capital or non-performing loans may need to be reported separately.

#### *Contractual cashflow assumptions*

143. No rollover of existing liabilities is assumed to take place. For assets, the bank is assumed not to enter into any new contracts.

144. Contingent liability exposures that would require a change in the state of the world (such as contracts with triggers based on a change in prices of financial instruments or a downgrade in the bank's credit rating) need to be detailed, grouped by what would trigger the liability, with the respective exposures clearly identified.

145. A bank should record all securities flows. This will allow supervisors to monitor securities movements that mirror corresponding cash flows as well as the contractual maturity of collateral swaps and any uncollateralised stock lending/borrowing where stock movements occur without any corresponding cash flows.

146. A bank should report separately the customer collateral received that the bank is permitted to rehypothecate as well as the amount of such collateral that is rehypothecated at

each reporting date. This also will highlight instances when the bank is generating mismatches in the borrowing and lending of customer collateral.

### **3. Utilisation of the metric**

147. Banks will provide the raw data to the supervisors, with no assumptions included in the data. Standardised contractual data submission by banks enables supervisors to build a market-wide view and identify market outliers vis-à-vis liquidity.

148. Given that the metric is based solely on contractual maturities with no behavioural assumptions, the data will not reflect actual future forecasted flows under the current, or future, strategy or plans, ie, under a going-concern view. Also, contractual maturity mismatches do not capture outflows that a bank may make in order to protect its franchise, even where contractually there is no obligation to do so. For analysis, supervisors can apply their own assumptions to reflect alternative behavioural responses in reviewing maturity gaps.

149. As outlined in the *Sound Principles*, banks should also conduct their own maturity mismatch analyses, based on going-concern behavioural assumptions of the inflows and outflows of funds in both normal situations and under stress. These analyses should be based on strategic and business plans and should be shared and discussed with supervisors, and the data provided in the contractual maturity mismatch should be utilised as a basis of comparison. When firms are contemplating material changes to their business models, it is crucial for supervisors to request projected mismatch reports as part of an assessment of impact of such changes to prudential supervision. Examples of such changes include potential major acquisitions or mergers or the launch of new products that have not yet been contractually entered into. In assessing such data supervisors need to be mindful of assumptions underpinning the projected mismatches and whether they are prudent.

150. A banks should be able to indicate how it plans to bridge any identified gaps in its internally generated maturity mismatches and explain why the assumptions applied differ from the contractual terms. The supervisor should challenge these explanations and assess the feasibility of the bank's funding plans.

## **III.2 Concentration of funding**

### **1. Objective**

151. This metric is meant to identify those sources of wholesale funding that are of such significance that withdrawal of this funding could trigger liquidity problems. The metric thus encourages the diversification of funding sources recommended in the Committee's *Sound Principles*.

### **2. Definition and practical application of the metric**

#### **A. Funding liabilities sourced from each significant counterparty**

The bank's balance sheet total

#### **B. Funding liabilities sourced from each significant product/instrument**

The bank's balance sheet total

#### **C. List of asset and liability amounts by significant currency**

### *Calculation of the metric*

152. The numerator for A and B is determined by examining funding concentrations by counterparty or type of instrument/product. Banks and supervisors should monitor both the absolute percentage of the funding exposure, as well as significant increases in concentrations.

#### *A. Significant counterparties*

153. The numerator for counterparties is calculated by aggregating the total of all types of liabilities to a single counterparty or group of connected or affiliated counterparties, as well as all other direct borrowings, both secured and unsecured, which the bank can determine arise from the same counterparty<sup>36</sup> (such as for overnight CP/CD funding).

154. A “significant counterparty” is defined as a single counterparty or group of connected or affiliated counterparties accounting in aggregate for more than 1% of the bank's total balance sheet, although in some cases there may be other defining characteristics based on the funding profile of the bank. A group of connected counterparties is, in this context, defined in the same way as in the “Large Exposure” regulation of the host country in the case of consolidated reporting for solvency purposes. Intra-group deposits and deposits from related parties should be identified specifically under this metric, regardless of whether the metric is being calculated at a legal entity or group level, due to the potential limitations to intra-group transactions in stressed conditions.

#### *B. Significant instruments / products*

155. The numerator for type of instrument/product should be calculated for each individually significant funding instrument/product, as well as by calculating groups of similar types of instruments/products.

156. A “significant instrument/product” is defined as a single instrument/product or group of similar instruments/products that in aggregate amount to more than 1% of the bank's total balance sheet.

#### *C. Significant currencies*

157. In order to capture the amount of structural currency mismatch in a bank's assets and liabilities, banks are required to provide a list of the amount of assets and liabilities in each significant currency.

158. A currency is considered “significant” if the aggregate liabilities denominated in that currency amount to 5% or more of the bank's total liabilities.

### *Time buckets*

159. The above metrics should be reported separately for the time horizons of less than one month, 1-3 months, 3-6 months, 6-12 months, and for longer than 12 months.

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<sup>36</sup> For some funding sources, such as debt issues that are transferable across counterparties (such as CP/CD funding dated longer than overnight, etc), it is not always possible to identify the counterparty holding the debt.



### **3. Utilisation of the metric**

160. In utilising this metric to determine the extent of funding concentration to a certain counterparty, both the bank and supervisors must recognise that currently it is not possible to identify the actual funding counterparty for many types of debt.<sup>37</sup> The actual concentration of funding sources, therefore, could likely be higher than this metric indicates. The list of significant counterparties could change frequently, particularly during a crisis. Supervisors should consider the potential for herding behaviour on the part of funding counterparties in the case of an institution-specific problem. In addition, under market-wide stress, multiple funding counterparties and the bank itself may experience concurrent liquidity pressures, making it difficult to sustain funding, even if sources appear well diversified.

161. In interpreting this metric, one must recognise that the existence of bilateral funding transactions may affect the strength of commercial ties and the amount of the net outflow.<sup>38</sup>

162. These metrics do not indicate how difficult it would be to replace funding from any given source.

163. To capture potential foreign exchange risks, the comparison of the amount of assets and liabilities by currency will provide supervisors with a baseline for discussions with the banks about how they manage any currency mismatches through swaps, forwards, etc. It is meant to provide a base for further discussions with the bank rather than to provide a snapshot view of the potential risk.

### **III.3 Available unencumbered assets**

#### **1. Objective**

164. This metric provides supervisors with data on the quantity and key characteristics, including currency denomination and location, of banks' available unencumbered assets. These assets have the potential to be used as collateral to raise additional secured funding in secondary markets and/or are eligible at central banks and as such may potentially be additional sources of liquidity for the bank.

#### **2. Definition and practical application of the metric**

<p><b>Available unencumbered assets that are marketable as collateral in secondary markets and/or eligible for central banks' standing facilities</b></p>
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165. A bank is to report the amount, type and location of available unencumbered assets that could serve as collateral for secured borrowing in secondary markets at prearranged or current haircuts at reasonable costs.

166. Likewise, a bank should report the amount, type and location of available unencumbered assets that are eligible for secured financing with relevant central banks at

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<sup>37</sup> For some funding sources, such as debt issues that are transferable across counterparties (such as CP/CD funding dated longer than overnight, etc), it is not always possible to identify the counterparty holding the debt.

<sup>38</sup> Eg where the monitored institution also extends funding or has large unused credit lines outstanding to the "significant counterparty."

prearranged (if available) or current haircuts at reasonable costs, for standing facilities only (ie excluding emergency assistance arrangements). This would include collateral that has already been accepted at the central bank but remains unused. For assets to be counted in this metric, the bank must have already put in place the operational procedures that would be needed to monetise the collateral.

167. A bank should report separately the customer collateral received that the bank is permitted to deliver or re-pledge, as well as the part of such collateral that it is delivering or re-pledging at each reporting date.

168. In addition to providing the total amounts available, a bank should report these items categorised by significant currency. A currency is considered “significant” if the aggregate stock of available unencumbered collateral denominated in that currency amounts 5% or more of the associated total amount of available unencumbered collateral (for secondary markets and/or central banks).

169. In addition, a bank must report the estimated haircut that the secondary market and/or relevant central bank would require for each asset. In the case of the latter, a bank would be expected to reference, under business as usual, the haircut required by the central bank that it would normally access (which likely involves matching funding currency – eg ECB for euro-denominated funding, Bank of Japan for yen funding, etc).

170. As a second step after reporting the relevant haircuts, a bank should report the expected monetised value of the collateral (rather than the notional amount) and where the assets are actually held, in terms of the location of the assets and what business lines have access to those assets.

### **3. *Utilisation of the metric***

171. The metric does not capture potential changes in counterparties’ haircuts and lending policies that could occur under either a systemic or idiosyncratic event and could provide a false comfort that the estimated monetised value of available unencumbered collateral is greater than it would be when it is most needed. Supervisors should keep in mind that this metric does not compare available unencumbered assets to the amount of outstanding secured funding or any other balance sheet scaling factor. To gain a more complete picture, the information generated by this metric should be complemented with the maturity mismatch metric and other balance sheet data.

## **III.4 LCR by significant currency**

### **1. *Objective***

172. While the standards are required to be met in one single currency, in order to better capture potential currency mismatches, banks and supervisors should also monitor the LCR in significant currencies. This will allow the bank and the supervisor to track potential currency mismatch issues that could arise.

## **2. Definition and practical application of the metric**

**Foreign Currency LCR = Stock of high-quality liquid assets in each significant currency / Total net cash outflows over a 30-day time period in each significant currency**

**(Note: Amount of total net foreign exchange cash outflows should be net of foreign exchange hedges)**

173. The definition of the stock of high-quality foreign exchange assets and total net foreign exchange cash outflows should mirror those of the LCR for common currencies.<sup>39</sup>

174. A currency is considered "significant" if the aggregate liabilities denominated in that currency amount to 5% or more of the bank's total liabilities.

175. As the foreign currency LCR is not a standard but a monitoring tool, it does not have an internationally defined minimum required threshold. Nonetheless, supervisors in each jurisdiction could set minimum monitoring ratios for the foreign exchange LCR, below which a supervisor should be alerted. In this case, the ratio at which supervisors should be alerted would depend on the stress assumption. Supervisors should evaluate banks' ability to raise funds in foreign currency markets and the ability to transfer a liquidity surplus from one currency to another and across jurisdictions and legal entities. Therefore, the ratio should be higher for currencies in which the supervisors evaluate a bank's ability to raise funds in foreign currency markets and/or the ability to transfer a liquidity surplus from one currency to another and across jurisdictions and legal entities to be limited.

## **3. Utilisation of the metric**

176. This metric is meant to allow the bank and supervisor to track potential currency mismatch issues that could arise in a time of stress.

### **III.5 Market-related monitoring tools**

#### **1. Objective**

177. High frequency market data with little or no time lag can be used as early warning indicators in monitoring potential liquidity difficulties at banks.

#### **2. Definition and practical application of the metric**

178. While there are many types of data available in the market, supervisors can monitor data at the following levels to focus on potential liquidity difficulties:

- A. Market-wide information
- B. Information on the financial sector

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<sup>39</sup> Cash flows from assets, liabilities and off-balance sheet items will be computed in the currency that the counterparties are obliged to deliver to settle the contract, independent of the currency to which the contract is indexed (or "linked"), or the currency whose fluctuation it is intended to hedge.

## C. Bank-specific information

### A. *Market-wide information*

179. Supervisors can monitor information both on the absolute level and direction of major markets and consider their potential impact on the financial sector and the specific bank. Market-wide information is also crucial when evaluating assumptions behind a bank's funding plan.

180. Valuable market information to monitor includes, but is not limited to, equity prices (ie overall stock markets and sub-indices in various jurisdictions relevant to the activities of the supervised banks), debt markets (money markets, medium-term notes, long term debt, derivatives, government bond markets, credit default spread indices, etc); foreign exchange markets, commodities markets, and indices related to specific products, such as for certain securitised products (eg the ABX).

### B. *Information on the financial sector*

181. To track whether the financial sector as a whole is mirroring broader market movements or is experiencing difficulties, information to be monitored includes equity and debt market information for the financial sector broadly and for specific subsets of the financial sector, including indices.

### C. *Bank-specific information*

182. To monitor whether the market is losing confidence in a particular institution or has identified risks at an institution, it is useful to collect information on equity prices, CDS spreads, money-market trading prices, the situation of roll-overs and prices for various lengths of funding, the price/yield of bank debenture and/or subordinated debt in the secondary market.

## 3. **Utilisation of the metric/data**

183. Information such as equity prices and credit spreads are readily available. However, the accurate interpretation of such information is important. For instance, the same CDS spread in numerical terms may not necessarily imply the same risk across markets due to market-specific conditions such as low market liquidity. Also, when considering the liquidity impact of changes in certain data points, the reaction of other market participants to such information can be different, as various liquidity providers may emphasise different types of data.

## IV. **Application issues for standards**

184. This section outlines a number of issues related to the application of the standards. These issues include the frequency with which banks calculate and report the metrics, the scope of application of the metrics (whether apply at group and/or entity level and to foreign bank branches), the aggregation of currencies within the metrics, and information regarding the observation period of the standards.

### IV.1 **Frequency of calculation and reporting**

185. Metrics should be used on an ongoing basis to help monitor and control liquidity risk. Banks are expected to meet the requirements of the standards continuously.

186. The LCR should be reported at least monthly, with the operational capacity to increase the frequency to weekly or even daily in stressed situations at the discretion of the supervisor. The NSFR should be calculated and reported at least quarterly. The time lag in reporting should be as short as feasible and ideally should not surpass two weeks for the LCR and for the NSFR, the allowable time-lag under the capital standards.

## **IV.2 Scope of application**

187. The application of the requirements in this document follow the existing scope of application set out in Part I (Scope of Application) of the Basel II Framework.<sup>40</sup> The standards and monitoring tools should be applied to all internationally active banks on a consolidated basis, but may be used for other banks and on any subset of entities of internationally active banks as well to ensure greater consistency and a level playing field between domestic and cross-border banks. The standards should be applied consistently wherever they are applied.

188. Regardless of the scope of application of these liquidity standards, in keeping with Principle 6 as outlined in the *Principles for Sound Liquidity Risk Management and Supervision*, a bank should actively monitor and control liquidity risk exposures and funding needs at the level of individual legal entities, foreign branches and subsidiaries, and the group as a whole, taking into account legal, regulatory and operational limitations to the transferability of liquidity.

189. To ensure consistency in applying the consolidated standards across jurisdictions, further information is provided below on two application issues.

### **1. Differences in home / host liquidity requirements**

190. While most of the parameters in the liquidity standards are internationally “harmonised”, national differences in liquidity treatment may occur in those items subject to national discretion (eg deposit run-off rates, contingent funding obligations, market valuation changes on derivative transactions, etc) and where more stringent parameters are adopted by some supervisors.

191. When calculating the liquidity standards on a consolidated basis, a cross-border banking group should apply the liquidity parameters adopted in the home jurisdiction to all legal entities being consolidated except for the treatment of retail / small business deposits that should follow the relevant parameters adopted in host jurisdictions in which the entities (branch or subsidiary) operate. This approach will enable the stressed liquidity needs of legal entities of the group (including branches of those entities) operating in host jurisdictions to be more suitably reflected, given that deposit run-off rates in host jurisdictions are more influenced by jurisdiction-specific factors such as the type and effectiveness of deposit insurance schemes in place and the behaviour of local depositors.

192. Home requirements for retail and small business deposits should apply to the relevant legal entities (including branches of those entities) operating in host jurisdictions if: (i) there are no host requirements for retail and small business deposits in the particular jurisdictions; (ii) those entities operate in host jurisdictions that have not implemented the

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<sup>40</sup> See BCBS, *International Convergence of Capital Measurement and Capital Standards: A Revised Framework - Comprehensive Version*, June 2006 (“Basel II Framework”).

liquidity standards; or (iii) the home supervisor decides that home requirements should be used that are stricter than the host requirements.

## **2. Treatment of liquidity transfer restrictions**

193. As noted in paragraph 30, as a general principle, no excess liquidity should be recognised by a cross-border banking group in its consolidated LCR if there is a reasonable doubt about the availability of such liquidity. Liquidity transfer restrictions (eg ring-fencing measures, non-convertibility of local currency, foreign exchange controls, etc) in jurisdictions in which a banking group operates will affect the availability of liquidity by inhibiting the transfer of liquid assets and fund flows within the group. The consolidated LCR should reflect such restrictions in a manner consistent with paragraph 30 of this document. For example, the eligible liquid assets that are held by a legal entity being consolidated to meet its local LCR requirements (where applicable) can be included in the consolidated LCR to the extent that such liquid assets are used to cover the total net cash outflows of that entity, notwithstanding that the assets are subject to liquidity transfer restrictions. If the liquid assets held in excess of the total net cash outflows are not transferable, such surplus liquidity should be excluded from the standard.

194. For practical reasons, the liquidity transfer restrictions to be accounted for in the consolidated ratio are confined to existing restrictions imposed under applicable laws, regulations and supervisory requirements.<sup>41</sup> A banking group should have processes in place to capture all liquidity transfer restrictions to the extent practicable, and to monitor the rules and regulations in the jurisdictions in which the group operates and assess their liquidity implications for the group as a whole.

### **IV.3 Currencies**

195. As outlined in paragraph 32, while the standards are expected to be met on a consolidated basis and reported in a common currency, supervisors and banks should also be aware of the liquidity needs in each significant currency. As indicated in the LCR, the currencies of the pool of liquid assets should be similar in composition to the operational needs of the bank. Banks and supervisors cannot assume that currencies will remain transferable and convertible in a stress, even for currencies that in normal times are freely transferable and highly convertible.

### **IV.4 Observation periods and transitional arrangements for the standards**

196. The Committee will monitor the implications of these standards for financial markets, credit extension and economic growth, addressing unintended consequences as necessary. The observation period will be used to monitor the impact of the standards on smaller institutions versus larger, and on different business lines, especially focusing on the impact on retail versus wholesale business activities. During the observation period, some of the specific issues to be closely monitored will be the treatment of liquidity lines to non-financial corporates, the further development of additional quantitative and qualitative criteria for Level 2 asset eligibility, as well as the treatment of term deposits in the LCR.

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<sup>41</sup> There are a number of factors that can impede cross-border liquidity flows of a banking group, many of which are beyond the control of the group and some of these restrictions may not be clearly incorporated into law or may become visible only in times of stress.

197. The timeline for the observation period is as follows:

- QIS: Conduct additional QIS using data from year end 2010 and mid-year 2011 reference periods to inform analysis for both the LCR and the NSFR. Additional QIS data could be collected at other times during the observation period as well, to be determined by the Committee.
- Reporting to supervisors throughout the observation period: To give banks more time to develop their reporting systems, reporting to supervisors would first be expected by Jan 1, 2012 for the two standards. The information reported to supervisors would include the overall percentages of the LCR and NSFR, as well as information on all the components, similar to the information gathered for the QIS.
- In order to address unintended consequences, the Committee is prepared to make revisions to specific components of the standards if this proves necessary in light of the analyses conducted and the data collected during the observation period. At the latest, any revisions would be made to the LCR by mid-2013 and to the NSFR by mid-2016.
- The LCR, including any revisions, will be introduced on 1 January 2015. The NSFR, including any revisions, will move to a minimum standard by 1 January 2018.

## Annex 1

### Illustrative Template for the LCR

Item	Factor (to be multiplied against total amount)	Total amount	With factor applied
<b>Stock of high-quality liquid assets</b>			
<b>A. Level 1 assets:</b>			
Cash	100%		
Qualifying marketable securities from sovereigns, central banks, public sector entities, and multilateral development banks	100%		
Qualifying central bank reserves	100%		
Domestic sovereign or central bank debt in domestic currency	100%		
Domestic sovereign debt for non-0% risk weighted sovereigns, issued in foreign currency	100%		
<b>B. Level 2 assets:</b>			
Sovereign, central bank, and PSE assets qualifying for 20% risk weighting	85%		
Qualifying corporate bonds rated AA- or higher	85%		
Qualifying covered bonds rated AA- or higher	85%		
<i>Calculation of 40% cap of liquid assets</i>	Maximum of 2/3 of adjusted Level 1 assets that would exist after an unwind of all secured funding transactions, as in paragraph 36.		
<b>Total value of stock of highly liquid assets</b>			
<b>Cash Outflows</b>			
<b>A. Retail deposits:</b>			
Demand deposit and qualifying term deposits with residual maturity or notice period within 30 days			
• stable deposits	Minimum 5% (additional categories to be determined by jurisdiction)		
• less stable retail deposits	Minimum 10% (additional categories to be determined by jurisdiction)		



Term deposit with residual maturity greater than 30 days with a withdrawal with a significant penalty, or no legal right to withdraw	0% (or higher rate to be determined by jurisdictions)		
<b>B. Unsecured wholesale funding:</b>			
Funding from:			
Stable small business customers	Minimum 5% (additional categories to be determined by jurisdiction)		
Less stable small business customers	Minimum 10% (additional categories to be determined by jurisdiction)		
Legal entities with operational relationships	25% of deposits needed for operational purposes		
<ul style="list-style-type: none"> <li>Portion of corporate deposits with operational relationships covered by deposit insurance – same treatment as for retail demand deposits</li> </ul>			
Cooperative banks in an institutional network	25% of the qualifying deposits with the centralised institution		
Non-financial corporates, sovereigns, central banks and PSEs	75%		
Other legal entity customers	100%		
<b>C. Secured funding:</b>			
Secured funding transactions backed by Level 1 assets, with any counterparty	0%		
Secured funding transactions backed by Level 2 assets, with any counterparty	15%		
Secured funding transactions backed by assets that are not eligible for the stock of highly liquid assets, with domestic sovereigns, domestic central banks, or domestic public sector entities as a counterparty	25%		
All other secured funding transactions	100%		
<b>D. Additional requirements:</b>			
Liabilities related to derivative collateral calls related to a downgrade of up to 3-notches	100% of collateral that would be required to cover the contracts in case of up to a 3-notch downgrade		
Market valuation changes on derivatives transactions	Treatment determined by supervisors in each jurisdiction		
Valuation changes on posted collateral securing derivative transactions that is comprised of non-Level 1 assets	20%		

ABCP, SIVs, Conduits, etc:			
Liabilities from maturing ABCP, SIVs, SPVs, etc	100% of maturing amounts and 100% of returnable assets		
Asset Backed Securities (including covered bonds)	100% of maturing amounts		
Currently undrawn portion of committed credit and liquidity facilities to:			
<ul style="list-style-type: none"> <li>retail and small business clients</li> </ul>	5% of outstanding credit and liquidity lines		
<ul style="list-style-type: none"> <li>non-financial corporates, sovereigns and central banks, and PSEs; credit facilities</li> </ul>	10% of outstanding credit lines		
<ul style="list-style-type: none"> <li>non-financial corporates, sovereigns and central banks, and PSEs; liquidity facilities</li> </ul>	100% of outstanding liquidity lines		
<ul style="list-style-type: none"> <li>other legal entity customers, credit and liquidity facilities</li> </ul>	100% of outstanding credit and liquidity lines		
Other contingent funding liabilities (such as guarantees, letters of credit, revocable credit and liquidity facilities, derivative valuations, etc)	Treatment determined by supervisors in each jurisdiction		
Any additional contractual outflows	100%		
Net derivative payables	100%		
Any other contractual cash outflows	100%		
<b>Total cash outflows</b>			
<b>Cash Inflows</b>			
Reverse repos and securities borrowing, with the following as collateral:			
<ul style="list-style-type: none"> <li>Level 1 assets</li> </ul>	0%		
<ul style="list-style-type: none"> <li>Level 2 assets</li> </ul>	15%		
<ul style="list-style-type: none"> <li>All other assets</li> </ul>	100%		
Credit or liquidity facilities	0%		
Operational deposits held at other financial institutions	0%		
<ul style="list-style-type: none"> <li>Deposits held at centralised institution of a network of co-operative banks</li> </ul>	0% of the qualifying deposits with the centralised institution		
Other inflows by counterparty:			
<ul style="list-style-type: none"> <li>Amounts receivable from retail counterparties</li> </ul>	50%		
<ul style="list-style-type: none"> <li>Amounts receivable from non-financial wholesale counterparties, from transactions other than those listed in the inflow categories above.</li> </ul>	50%		

• Amounts receivable from financial institutions, from transactions other than those listed in the inflow categories above.	100%		
Net derivative receivables	100%		
Other contractual cash inflows	Treatment determined by supervisors in each jurisdiction		
<b>Total inflows</b>			
<b>Total net cash outflows = Total cash outflows minus min [total cash inflows, 75% of gross outflows]</b>			
<b>LCR (= Total value of stock of high-quality liquid assets / Net cash outflows)</b>			

## Annex 2

### Summary of Net Stable Funding Ratio

(Refer to text and Tables 1, 2, and 3 for expanded explanations on the treatment ASF and RSF categories. This table is only a summary for easy reference which does not capture all the nuance).

Available Stable Funding (Sources)		Required Stable Funding (Uses)	
Item	Availability Factor	Item	Required Factor
<ul style="list-style-type: none"> <li>Tier 1 &amp; 2 Capital Instruments</li> <li>Other preferred shares and capital instruments in excess of Tier 2 allowable amount having an effective maturity of one year or greater</li> <li>Other liabilities with an effective maturity of one year or greater</li> </ul>	100%	<ul style="list-style-type: none"> <li>Cash</li> <li>Short-term unsecured actively-traded instruments (&lt; 1 yr)</li> <li>Securities with exactly offsetting reverse repo</li> <li>Securities with remaining maturity &lt; 1 yr</li> <li>Non-renewable loans to financials with remaining maturity &lt; 1 yr</li> </ul>	0%
<ul style="list-style-type: none"> <li>Stable deposits of retail and small business customers (non-maturity or residual maturity &lt; 1yr)</li> </ul>	90%	<ul style="list-style-type: none"> <li>Debt issued or guaranteed by sovereigns, central banks, BIS, IMF, EC, non-central government, multilateral development banks with a 0% risk weight under Basel II standardised approach</li> </ul>	5%
<ul style="list-style-type: none"> <li>Less stable deposits of retail and small business customers (non-maturity or residual maturity &lt; 1yr)</li> </ul>	80%	<ul style="list-style-type: none"> <li>Unencumbered non-financial senior unsecured corporate bonds and covered bonds rated at least AA-, and debt that is issued by sovereigns, central banks, and PSEs with a risk-weighting of 20%; maturity ≥ 1 yr</li> </ul>	20%
<ul style="list-style-type: none"> <li>Wholesale funding provided by non-financial corporate customers, sovereign central banks, multilateral development banks and PSEs (non-maturity or residual maturity &lt; 1yr)</li> </ul>	50%	<ul style="list-style-type: none"> <li>Unencumbered listed equity securities or non-financial senior unsecured corporate bonds (or covered bonds) rated from A+ to A-, maturity ≥ 1 yr</li> <li>Gold</li> <li>Loans to non-financial corporate clients, sovereigns, central banks, and PSEs with a maturity &lt; 1 yr</li> </ul>	50%
<ul style="list-style-type: none"> <li>All other liabilities and equity not included above</li> </ul>	0%	<ul style="list-style-type: none"> <li>Unencumbered residential mortgages of any maturity and other unencumbered loans, excluding loans to financial institutions with a remaining maturity of one year or greater that would qualify for the 35% or lower risk weight under Basel II standardised approach for credit risk</li> </ul>	65%
		<ul style="list-style-type: none"> <li>Other loans to retail clients and small businesses having a maturity &lt; 1 yr</li> </ul>	85%

		<ul style="list-style-type: none"> <li>All other assets</li> </ul>	100%
		Off Balance Sheet Exposures	
		<ul style="list-style-type: none"> <li>Undrawn amount of committed credit and liquidity facilities</li> </ul>	5%
		<ul style="list-style-type: none"> <li>Other contingent funding obligations</li> </ul>	National Supervisory Discretion