

Implementation of the Basel III Liquidity Requirements in the Americas 2013



ASSOCIATION OF SUPERVISORS
OF BANKS OF THE AMERICAS



Multilateral Investment Fund
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2013



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Requirements in the Americas**

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Executive Summary

In December 2010, the Basel Committee on Banking Supervision issued a set of reform measures to strengthen the regulation, supervision and risk management of the banking sector. These measures, referred to as Basel III, were developed in response to the deficiencies revealed by the recent financial crisis, although the BCBS's main purpose is to improve the banking sector's ability to absorb shocks arising from financial and economic stress.

The new Basel III liquidity rules mark the first time that minimum standards for liquidity are introduced to reduce the risk of insolvency. The liquidity framework includes two ratios developed to achieve two separate but complementary objectives. The first is the Liquidity Coverage Ratio (LCR), a stock of high-quality liquid assets that a bank should hold to meet its liquidity needs for a 30 calendar-day liquidity stress scenario. The second is the Net Stable Funding Ratio (NSFR), which requires a minimum amount of stable sources of funding at a bank to meet the potential liquidity needs over a one-year horizon.

In this context, the Association of Supervisors of Banks of the Americas (ASBA) considered it important to prepare this document to identify and fully understand the best practices for the regulation and supervision of liquidity risk management. The document focuses on developing recommendations for the implementation of the LCR in the region, and discusses the challenges of implementing the NSFR.

This report presents a roadmap for the implementation of the Basel liquidity requirements, taking into account country-specific characteristics, the initial situation and the extent of the implementation of Basel III envisaged in each jurisdiction. The document identifies some regional aspects that could affect the implementation of the liquidity standards, including the importance of private pension funds, reserve requirements, the initial level of liquidity in the financial system, the depth of financial markets, the availability of information systems, and the implementation of liquidity management principles.

In addition, this document outlines a number of issues to be considered when applying the LCR. These topics include the scope of application of the requirement, the possible changes in the calculation of the LCR according to the specific characteristics of each jurisdiction, the development of a strategy to provide information to the general public promoting a balance between transparency and stability, reporting to the supervisor, and appropriate supervisory responses.

The report also highlights the importance of monitoring structural liquidity indicators, such as the NSFR, and promoting this practice among regulated entities. This raises a certain number of concerns regarding the current definition of the NSFR, including the use of a less granular approach to required stable funding, the use of maturity tranches for liabilities, the offsetting of assets and liabilities, and the treatment of collateral.

Finally, this document proposes a set of liquidity risk regulation and supervision best practices and provides examples from countries in the region. The main recommendation is to put in place a regulatory framework that combines compulsory limits and best practice guidelines, as both are complementary when managing liquidity risk. In this sense, supervisory guidelines should be inspired by the *Principles for Sound Liquidity Risk Management and Supervision*, which include detailed guidelines for the effective management and supervision of liquidity risk. Supervisors should implement a supervisory framework that would allow for adequate liquidity risk management, measuring the adequacy and tendency of the volume of liquidity, as well as the evolution of financial markets under both normal and stress situations.

I. INTRODUCTION

Within the Basel III framework, the Basel Committee on Banking Supervision has developed two standards for supervisors to limit liquidity risk. Although they have different objectives, they are both necessary to supervise this risk. The first standard, the Liquidity Coverage Ratio (LCR), is intended to promote banks' resilience against potential liquidity disruptions over a 30-day horizon with sufficient high quality liquid resources.

The second standard promotes resilience over a longer time horizon by creating additional incentives for banks to fund their activities with more stable sources of funding. The Net Stable Funding Ratio (NSFR) has a time horizon of one year, and has been developed to provide a sustainable maturity structure for assets and liabilities.

These standards are a key component of the supervisory approach to liquidity risk, but should be supplemented by detailed supervisory assessments of other aspects of a bank's liquidity risk management framework, in accordance with the *Sound Principles*¹.

The main goal of this document is to develop recommendations and best practices for implementing the liquidity standards of Basel III. With this in mind, the document presents good practices for the regulation and supervision of liquidity risk management in the banking systems of the region.

In order to identify and fully understand the best practices, in particular, Basel's liquidity management principles (2008) and the Basel III liquidity standards (2010), the Association of Supervisors of Banks of the Americas (ASBA) formed a Working Group and hired an expert to draft this document. The first task of the Working Group was to design and carry out a survey among ASBA members. The results of this survey would help determine how the Basel III liquidity standards would be applied in the region, as well as identify the best regulatory and supervisory practices for liquidity risk.

This document drew on the results of the survey to provide examples of the region's current situation, and to identify the obstacles in the liquidity standards application process. The survey also enabled the Working Group to look at existing practices and develop recommendations on regulatory principles and best practices for regulation and supervision, within the Basel III liquidity standards framework.

The purpose of this compilation of best practices is to assist member countries in adopting, modifying, and/or complementing their regulatory frameworks and supervisory procedures, taking into consideration the particular characteristics of each jurisdiction.

Section II of this document discusses the roadmap for the application of the LCR. Section III recommends best practices for the regulation and supervision of the LCR. Section IV addresses the future challenges in the implementation of the NSFR. Finally, Section V sets forth general proposals for best practices in liquidity risk regulation and supervision.

¹ Bank for International Settlements, *Principles for Sound Liquidity Risk Management and Supervision*, Basel Committee on Banking Supervision, Switzerland, 2008.

II. ROADMAP FOR THE IMPLEMENTATION OF THE LIQUIDITY COVERAGE RATIO (LCR)

INITIAL SITUATION

This section of the document puts forward suggestions for developing a roadmap to implement Basel III liquidity standards. The factors supervisors should consider when designing this roadmap include the specific circumstances of each country, the current situation, and the extent to which each jurisdiction expects to implement Basel III.

This section describes some regional characteristics that could affect the implementation of the liquidity standards, including the importance of private pension funds, the reserve requirements, the initial liquidity level of the financial system, the availability of information systems, and the implementation of liquidity management principles.

The first characteristic refers to the existence or absence of private pension funds with significant resources to invest in capital markets, both in the medium- and long-term. In jurisdictions where investment in foreign markets is limited, the presence of pension funds represents a stable source of funding for the financial sector. This is particularly true in the absence of well-developed capital, equity, and bond markets. It should be noted that this scenario facilitates the implementation of Basel III when the funding provided by private pension funds is considered stable for liquidity ratio calculation purposes.

The second characteristic involves establishing reserve requirements in the region's jurisdictions. These legal reserves could be used to meet Basel III requirements, thus enabling the implementation of the regulatory framework.

The third characteristic refers to the high levels of liquidity in the financial system. These high levels facilitate the application of the liquidity standards, but what is even more important is the existence of effective liquidity distribution mechanisms.

In any event, a more or less liquid financial system is not an excuse to avoid implementing the aforementioned requirements, as the level of liquidity is one additional factor to be considered during the transition to Basel III.

The fourth characteristic is the availability of effective, reliable information systems for both supervisors and supervised institutions. Supervisors should periodically receive accurate information on the liquidity of financial intermediaries and the behavior of the flows of assets, liabilities, and the local funding market. This information allows supervisors to make good decisions regarding the implementation process.

Finally, we recommend that countries apply and adhere to the *Principles for Sound Liquidity Risk Management and Supervision* before implementing Basel III. Those jurisdictions that have not implemented such requirements in their regulation and supervision frameworks, should aim to apply both liquidity standards (*Sound Principles* and Basel III) in parallel.

IMPLEMENTATION STAGES

Once the decision to apply the Basel III liquidity standards has been made, it is recommended that jurisdictions address the following issues/actions sequentially. The specific characteristics of each jurisdiction should be considered for each of the actions below.

- a. Develop an implementation project with adequate:
 - i. Resources;
 - ii. Technical teams;
 - iii. Systems, data gathering; and processing tools.
- b. Carry out an initial review to determine the project's critical path and identify implementation challenges, looking at:
 - i. Level of liquidity in the financial system and liquidity distribution mechanisms;

- ii. Funding characteristics;
 - iii. Liquidity regulation and supervision framework;
 - iv. Concerns from supervised institutions, including the availability of high-quality liquid assets (HQLA), and the transition period, among others.
- c. Conduct impact studies, including:
- i. Selecting the sample for the study, which should include at least one institution from each profile group (size, type of activities, domestic or foreign control). It is best to study the entire population of entities²;
 - ii. Determining the information needed to conduct the study;
 - iii. Verifying the quality of the information. Establishing good communication channels with supervised institutions to ensure the study is effectively conducted and all challenges faced by the institutions are adequately identified;
 - iv. Calibrating the parameters considered;
 - v. Measuring the quantitative impact using the Basel III liquidity ratio level for the system and for each of the bank profiles established in the sample;
 - vi. Assessing the operational impact, taking into account the difficulty in obtaining information and determining criteria to identify the elements to be included in the metrics. For example, the losses on derivatives due to market tensions or liquid assets control issues; and
 - vii. Conducting a cost-benefit analysis.
- d. Evaluate the results of the impact study to determine the current situation, procedures and possible actions on:
- i. Reporting to supervisors, timing and frequency of reporting;
 - ii. Calibration of the ratio and its parameters;
 - iii. Scope of application (type of institutions, exemptions);
 - iv. Impact on monetary policy;
 - v. Implementation timeframe and gradual approach to implement the ratio;
 - vi. Disclosure policy and communication strategy to inform stakeholders;
 - vii. Liquidity monitoring and supervisory activities; and
 - viii. Supervisory actions and measures.
- e. Implementation of the Basel III liquidity regulation and supervision framework.

² To eliminate the risk of excluding those institutions that need a longer period of adaptation or transition from the sample, it is recommended to examine all entities (statistical population).

III. BEST PRACTICES FOR THE REGULATION AND SUPERVISION OF THE LIQUIDITY COVERAGE RATIO (LCR)

III.1 LCR APPLICATION

It is recommended that countries meet the quantitative liquidity requirements of the LCR. The LCR promotes an effective management of short-term liquidity risks and strengthens the banking sector's ability to absorb shocks.

In 2013, the Basel Committee on Banking Supervision introduced changes to the formulation of the LCR originally published in December 2010, making the standard less stringent. Countries in the region are nevertheless encouraged to apply the LCR as originally formulated³. See Annex 1 for the main differences between the original and the revised standard.

Countries that have a quantitative liquidity requirement should analyze how to make the transition to the original LCR. To do so, supervisors should review the existing liquidity requirements to determine whether the existing requirements are more stringent than the LCR, and if the financial system would need more or less liquidity to adopt the 2010 LCR.

If the LCR requires less liquidity than the existing requirements, supervisors will evaluate whether

releasing liquidity is desirable, assessing the potential impact of such a measure and the convenience of a gradual release. Conversely, if the original LCR represents a more stringent provision than existing liquidity requirements, supervisors will consider a reasonable timetable for banks to meet the standard. Supervisors should also look at the convenience of establishing a gradual transition timeframe to meet the LCR liquidity requirements.

Each country should evaluate whether it is possible and desirable to integrate existing liquidity provisions and Basel III provisions into a single regulation. Supervisors will determine which existing liquidity requirements are similar to the original LCR, which are complementary or interchangeable, and whether there are any inconsistencies or duplicities in the rules.

If existing liquidity requirements are similar to the original LCR, both requirements would be substitutes and it would be preferable to replace the existing requirements with the LCR. When existing liquidity requirements are different from the LCR, they tend to be complementary and supervisors should maintain both, making sure there are no inconsistencies.

According to Basel III, supervisors should apply the LCR to all systemically important financial institutions. Additionally, the supervisory authority will evaluate the scope of application of the standard to non-systemically important financial institutions. This issue is further discussed in Section III.3 below.

As mentioned in Section II, it is recommended that supervisors carry out an impact study before implementing the LCR. Supervisors will then calibrate the ratio, based on the haircut rates for high-quality liquid assets, the run-off rates for cash outflows, and the cash inflows contemplated in Basel III. The next step will be establishing a dialogue with the private sector to determine LCR regulation (scope of application, ratio definition, reporting formats and frequency).

The supervisor will disclose the date on which the LCR regulation will come into force with enough lead time, specifying any arrangements for a phased introduction of the standard.

³ For a more detailed description of the differences between the two proposals, see: i) Bank for International Settlements, *Basel III: International framework for liquidity risk measurement, standards and monitoring*, BCBS, Switzerland, 2010; ii) Bank for International Settlements, *Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools*, BCBS, Switzerland, 2013.

Colombia: LCR implementation

Colombia was the first country in the region to implement the LCR. In October 2011, the Financial Superintendency issued a norm modifying the Liquidity Risk Management System (SARL) to adjust the Liquidity Risk Indicator, in line with the Basel III LCR standard. Three months later, the modification came into force. However, the limit of concentration of Level 1 assets (which in the case of Colombia is 30 per cent) was applied five months after the issuance date. Supervised entities are required to report the liquidity indicator on a weekly basis.

The prior existence of a liquidity risk indicator and reporting template as part of the SARL, enabled a prompt adoption of the LCR. The application of the standard served as a basis for focusing the discussion around the 2011 modification on bringing existing indicators in line with Basel III standards.

The high level of liquidity during the implementation of the new standards also enabled an smooth adoption of the new indicators by supervised institutions.

III.2 USE OF THE LCR

The latest Basel Committee publication defines the use of the LCR as a buffer with a level above 100%, as a good practice. In certain occasions, financial institutions will use the buffer causing the indicator to fall below the 100% level, particularly during a systemic event⁴.

The standard requires that under normal circumstances, the value of the ratio be no lower than 100%. However, the ratio's volatility is linked to the volatility of the estimated net cash outflows, encouraging banks to maintain a margin above the required 100% level.⁵ Where there is significant volatility, banks will maintain a great-

er margin on the ratio in order to meet the requirement, given the negative impact such circumstances would otherwise cause in lending practices and profit margins.

For the LCR to be used effectively as a buffer, there needs to be consequences for institutions whose ratio falls below 100%. In other words, financial institutions should experience some discomfort or cost for having an LCR of less than 100%. The absence of an appropriate supervisory response to the use of the LCR, entails the risk of institutions failing to recover the suggested ratio level.

The purpose of establishing the LCR as a buffer, rather than a strict limit, is having liquid assets available to meet liquidity needs in times of firm-specific or market-wide stress.

LCRs falling below 100% should be reported to the supervisory authorities as soon as possible, including the reasons and causes leading to the shortfall. The reasons for the fall can be clearly identified by the institution, and include:

- a. External / internal events;
- b. System-wide / firm-specific events;
- c. Isolated / extended events;
- d. Deliberate decision by the bank to reduce liquidity and increase credit;
- e. Structural reasons.

As an additional measure, we recommend that financial institutions whose LCR ratio has fallen below 100% present a plan for restoring the LCR to its normal level, showing how the deficit related to the ratio will be covered, and providing a timeframe that will not compromise the entity's viability. The supervisor will then evaluate the plan and provide a response based on the information received.

An unjustified fall of the LCR below 100% requires an adequate response from the supervisor, based on the causes of the fall. The actions that can be taken include:

- a. Increase the frequency of control and reporting (from weekly to daily, for example);
- b. Prohibit certain activities, such as increased lending, asset sales or distribution of dividends;
- c. Impose sanctions and/or fines for the misuse of the LCR;

⁴ Bank for International Settlements, *Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools*, BCBS, Switzerland, 2013.

⁵ LCR volatility comes from the calculation of net outflows, mainly from the fluctuations of the different banking liabilities, which is the basis for calculating the outflows. It is important to keep in mind that cash outflow rates are parameters predetermined by the BCBS.

- d. Hold senior management responsible⁶;
- e. Require the application of the contingency plan.

It should be noted that supervisors have the power to impose fines; however, publicizing the sanctions could negatively affect the credibility of the institution being fined. Disclosing sanctions imposed due to liquidity issues will raise concerns among depositors and counterparties, thus worsening the institution's liquidity situation. Therefore, supervisors should carefully assess the impact of disclosing sanctions to the market.

Special consideration should be given to system-wide crisis where the majority of banks report a decline of their LCR. This type of situation may require other actions to be taken, including support from the Central Bank or temporarily lowering of the required ratio, among others.

III.3 SCOPE OF APPLICATION

The LCR should be applied to all systemically important credit institutions. With regard to institutions that are not systemically important, in some jurisdictions small entities that do not receive funds from the public are regulated. These institutions are usually not in a position to meet the LCR standard, given their asset and liabilities structure. Therefore, in certain cases (as the one explained before), supervisors may decide not to apply the LCR requirement, after evaluating these type of institutions and ensuring this will not have a negative impact on system-wide liquidity.

To make a decision whether or not to require non-systemically important credit institutions to adhere to the LCR standard, supervisors should consider both the costs and advantages. One of the advantages of applying the LCR to both systemically important and non-systemically important credit institutions is that it is an equitable measure. In short, it limits the incentives for regulatory arbitrage, which might otherwise stimulate

the emergence of credit institutions that are not subject to the LCR requirement. Additionally, the standard provides a ratio that can be compared across the jurisdiction. It should be noted that the LCR is a micro-prudential measure, aimed at limiting the risk taken by financial institutions, and allows supervisors sufficient time to take action when problems arise. The latter argument may justify the application of the LCR to all credit institutions.

However, applying the LCR to all institutions may generate greater financial difficulties or even undermine smaller credit institutions, which usually make up the majority type of institutions in the region. Because these smaller institutions have limited access to the financial market, and less retail funding alternatives, they raise less systemic concern⁷. These institutions regularly face greater difficulties to meet the required ratio. As the aim of the LCR is to limit systemic liquidity risk, it would seem justified not to apply the standard to small credit institutions.

Some of the regulated financial institutions operating in the region have business models that would not allow them to meet the LCR requirement, and that may be financially vulnerable. This is the case of institutions that do not take deposits from the public and are largely funded by wholesale funding. In order to comply with the LCR requirement, these institutions would have to change their business models or disappear when they are deemed to represent a risk to the system. One alternative is for the supervisor to evaluate the reasons for non-compliance with the LCR, and adapt ratio compliance requirements, based on the individual institution's track record.

Supervisors should assess the risk of regulatory arbitrage in case of differential treatment for the various types of institutions. Additionally, when the supervisory authority has decided not to apply the LCR to certain non-systemically important credit institutions, alternative liquidity

⁶ In Bolivia, holding senior management responsible for non-compliance has worked well.

⁷ In Spain, small institutions show an increased level of compliance with the ratio when compared to larger institutions, as they are funded by stable retail deposits. Additionally, they provide less credit and do not carry out complex activities.

metrics should be required to these institutions to ensure that they maintain an adequate level of liquidity, and discourage regulatory arbitrage behaviors.

When supervisors apply the LCR to systemically important financial institutions (SIFIs), they should also establish the criteria to identify these institutions. Such criteria could include the local or international focus of the business, the size, leverage, level of interconnection within the financial system, the degree of substitution in the financial infrastructure, and the complexity of the business. When applying the LCR to SIFIs, and institutions with significant connections at the financial system level, regulators should consider:

- ~ Total assets;
- ~ Market share in the retail deposits market;
- ~ Market share in the credit market;
- ~ Market share in the interbank market;
- ~ Market share in the assets under custody and in payment systems;
- ~ Market share in the derivatives market;
- ~ Market share in the trading and available-for-sale investments market;
- ~ Dependency on funding from other financial institutions; and
- ~ Concentration on short-term financing.

Peru and Colombia: LCR application perimeter

Peru's 2012 liquidity risk management regulation includes a liquidity coverage ratio similar to the LCR. The regulation stipulates that the liquidity ratio will not be applied to financial institutions with a deposit ratio (deposits / liabilities) of less than 15%, unless their assets represent more than 1% of the total assets in the financial system. This rule allows institutions funded mainly through the institutional market to continue operating, as long as they do not pose a systemic risk.

Colombia, on the other hand, is applying the LCR to all credit institutions, regardless of systemic considerations.

III.4 CALCULATION OF THE RATIO

General Considerations

The objective of the LCR is to promote the short-term resilience of banks by ensuring that they have sufficient high-quality liquid assets (HQLA) to survive a significant stress scenario lasting 30 calendar days. The LCR is defined as follows:

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

Modifying the LCR to make it less stringent should be limited to exceptional cases, and must always be justified with empirical and objective data. Modifications in the ratio would involve changes in the categories and haircuts for liquid assets, cash outflow run-off factors and cash inflow rates by types of liabilities and assets, respectively. Supervisory decisions to modify any component of the LCR should be based on a prior evaluation of the potential impact of the proposed change, and historical data supporting the reasonableness of the change.

Jurisdictions contemplating a significant deviation from the application of the international standard, should evaluate the impact this would have on the subsidiaries of international credit institutions operating in the country (for example, supervisors should consider the duplication of reporting obligations to comply with home and host supervisory authorities), as well as other distortions that may arise (including, unequal conditions of competition within the country and among countries).

LCR Requirement by Currency

Banks are expected to meet their liquidity needs in each currency they operate in, and maintain HQLA consistent with the distribution of their liquidity needs by currency. Moreover, the bank should be able to generate liquidity in the currency and jurisdiction in which the net cash outflows arise.⁸

⁸ Bank for International Settlements, *Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools*, BCBS, Switzerland, 2013.

The presence of multiple currencies in various countries in the region calls for the LCR to be required and monitored by currency. Although supervisors do not establish a specific limit for the LCR by currency, it is recommended that they have regular information to devise the LCR by currency and by jurisdiction to be able to track any potential currency mismatch issues that may arise. This involves considering liquidity risk in a different currency, which differs from the traditional concept of exchange-rate risk.

Requiring a consolidated LCR based on a single currency represents a regulatory floor. Clearly, meeting the LCR in multiple currencies poses a greater requirement. The supervisory decision on the matter should consider the following factors:

- a. The degree of dollarization of the economy;
- b. The level of financial internationalization;
- c. Existing foreign exchange risks;
- d. Existing and expected liquidity transfer restrictions;
- e. Convertibility of foreign currencies; and
- f. Depth and liquidity of the foreign exchange market.

In jurisdictions where the LCR is required separately by currency, the possibility of transferring the surplus from one currency to another should be considered. In this case, supervisors will also decide whether or not to impose a discount on the use of the surplus in one currency to cover a deficit in another currency. The discount will be established based on the volatility of the exchange rate, as well as the depth and liquidity of the foreign exchange market. The compensation between currencies will occur in the case of a single ratio requirement (not disaggregated by currency). Similarly, the discount should also be applied when the calculation of liquid assets in different currencies is allowed.

Where currencies are not convertible, it would be technically improper to measure and require a consolidated LCR. In this scenario, an LCR by currency will be measured and required. According to the Basel Committee, liquid assets in non-convertible currencies can be included in the LCR only to the extent that they are used to cover the total net cash outflows in that particular currency.

Peru: LCR requirement in two currencies

As Peru's financial system is highly dollarized (approximately 37% of deposits are in U.S. dollars), the national supervisory authority requires financial institutions to report the LCR in both soles and U.S. dollars. Because the LCR is measured by currency, a compensation between HQLA (domestic currency for foreign currency or viceversa) is allowed subject to a 5% haircut or adjustment.

Considerations regarding the denominator of the LCR

In order to meet Basel III requirements, cash inflow and outflow rates should be equivalent to or more conservative than those proposed. Calibrations resulting in less stringent requirements should be exceptional and well justified. Regarding the areas for which Basel has not established guidelines for calibrating cash outflow and inflow rates, countries will make the necessary modifications to adapt these to their specific context.

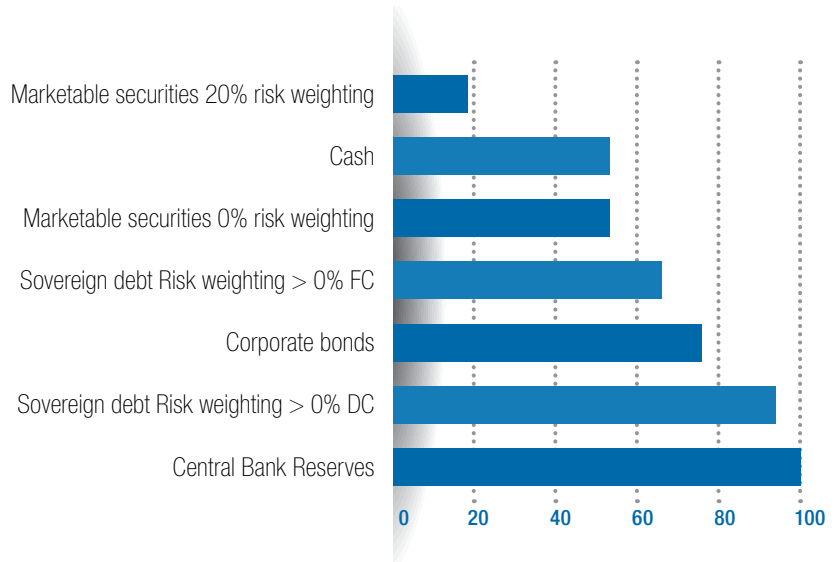
Considerations regarding the numerator of the LCR

The following charts show the results of a survey on HQLA availability in the region. Considering the differences in the size and degree of sophistication of the financial systems in the countries participating in the survey, results are presented in two separate country groups: (i) Brazil, Spain, and the U.S. (advanced financial systems); (ii) the rest of the surveyed countries⁹.

In the more developed economies in the region, the main sources of liquid assets in order of importance are: central bank reserves, sovereign debt in domestic currency, and corporate bonds. The availability and diversity of Level 1 and Level 2 liquid assets, reflects the degree of development of these countries' financial markets.

9 ASBA member countries participating in the survey are: Bolivia, Brazil, Cayman Islands, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Paraguay, Peru, Spain, United States and Uruguay.

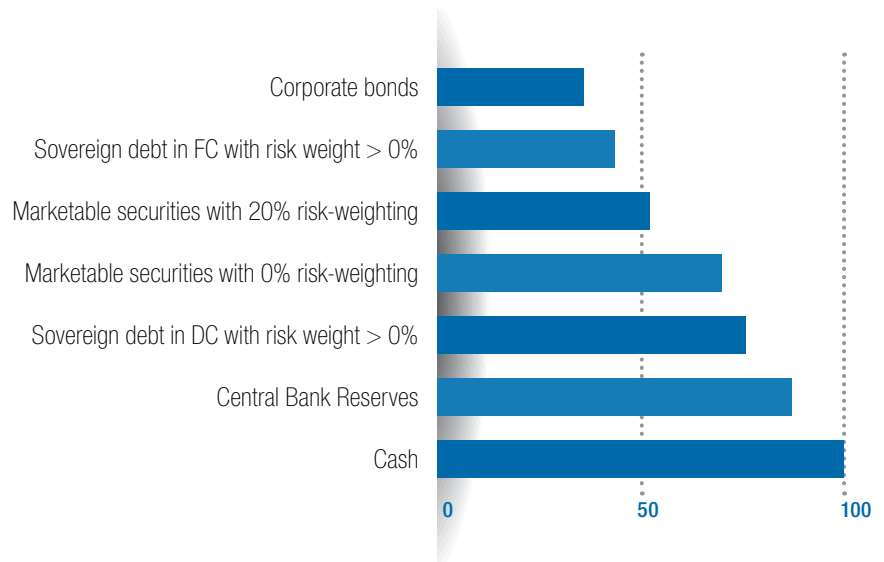
High-Quality Liquid Assets (BRA, SPA & USA)



In contrast, the following chart shows the liquid assets of what could be called the emerging markets of the region. The main sources of liquid assets for these countries are central bank reserves and sovereign debt in domestic currency. In some cases, the sovereign debt issued by emerging markets is not considered a

high-quality asset, because of the lack of deep markets. For emerging markets that do not issue hard currency and have highly open capital accounts, HQLA are very limited¹⁰. Unlike the first group of countries, emerging markets lack deep, active and ample markets. Therefore, there are less HQLA available.

High-Quality Liquid Assets (Rest of the countries)



¹⁰ Liliانا Rojas-Suarez, Center for Global Development. "The New Approach to Financial Regulation: Is It Relevant for Developing Countries?" (With Applications to Latin America, 2011).

Regarding Level 2 liquid assets, Basel III provides for a 40% concentration limit. In the region, Colombia applies a 30% limit for Level 2 assets, which is more stringent than the Basel III requirement. While looking at the historical behavior of banks' holdings in Level 2 liquid asset, supervisors observed that financial institutions have usually maintained Level 2 assets below 30%, with very few exceptions. In view of the significant difference between the level of development of the public debt or government-issued market (Level 1 assets) and that of the private debt market (Level 2 assets), a haircut rate of 0% and 15% is applied, respectively. These two levels of assets are determined based on their degree of liquidity¹¹.

Ideally, the assets to be considered for the LCR ratio should be admissible for monetary policy operations with the Central Bank. However, there are cases in which assets that do not meet this criterion are considered, as long as they have market li-

Colombia: Liquid assets definition

In Colombia, the definition of Level 1 liquid assets focused on the eligibility of investments according to the Central Bank, as these meet the Basel III requirements relative to market depth, price stability, and high degree of liquidity. All available assets, including required reserves, are added to the investments. It should be noted that the Central Bank only receives government debt securities as collateral for its monetary expansion operations, in view of their high degree of liquidity.

Considering the above, these assets are included in the stock of HQLA with the discounts used by the Central Bank for its repo operations (3% to 20%, depending on volatility and liquidity). These discount rates are updated and published monthly.

In the case of Level 2 liquid assets (mainly private debt securities) a 20% discount is used for very liquid assets and a 50% discount for illiquid assets.

quidity. Countries will have to evaluate the extent to which Level 2 assets proposed by Basel meet the liquidity characteristics, in order to exclude them from the ratio, if applicable.

Another aspect related to the liquid assets with the most impact in the region, is the treatment of legal reserves. As a minimum, countries may consider their excess reserve holdings over the required level as liquid assets counting toward the stock of HQLA. In the case of banks, when the required reserve rate is low and reserve holdings are remunerated, not considering required reserves as HQLA will not affect the banks' costs. On the other hand, when the reserve rate is high and reserve holdings are not remunerated, failing to consider reserves as HQLA may have a negative impact on the costs of supervised entities.

Bank supervisors in each jurisdiction should determine whether or not to consider legal reserves as HQLA.

When determining whether or not to consider legal reserves as HQLA, supervisors should take into account the reasons behind the establishment of said requirement. If the aim of the requirement is to control credit and increase security in the payment system, it would seem natural to consider only reserve holdings exceeding the required reserves in the LCR. If the legal reserve requirement aims to address deposit withdrawals, supervisors have the authority to consider the totality of required reserves as HQLA, so as to avoid duplicating liquidity requirements.

Additionally, supervisors should consider the timetable for compliance with both the legal reserves and the LCR requirements. If the compliance period for required reserves is shorter or equal to that of the LCR (daily), reserves cannot be considered as part of the liquid assets eligible for the LCR. In contrast, if the compliance period for required reserves is greater than that of the LCR, a larger portion of the reserves can be considered as part of the LCR.

In times of crisis, institutions are expected to honor their contractual obligations over honoring regulatory requirements, such as the minimum reserve requirement. In this case, financial institutions may be allowed to use reserve requirements as a liquidity management tool, even though the

11 Annex 4 presents a glossary of terms. This section includes definitions of Level 1, Level 2, Level 2A and Level 2B liquid assets.

Central Bank may impose a penalty for using these funds. This is a particularly important issue in jurisdictions where required reserves exceed 20% of liabilities. This means that not considering required reserves as part of the available assets for the LCR could affect the cost of credit.

Regardless of the policy for using reserve requirements to manage liquidity, the unnecessary duplication or multiplication of liquidity requirements should be avoided. It would also be important for bank supervisors and the Central Bank to consider the objectives leading to the reserve requirement and the potential negative effects of using required reserves on the effectiveness of monetary policies.

A third aspect relates to the range of assets that may be considered when calculating the LCR¹². In particular, we propose considering as part of the LCR, shares in mutual funds that exclusively invest in high-quality liquid assets as defined by Basel III, only when these are readily available on the same day.

A fourth aspect covers the Committee's alternative treatments for supervisors to apply when jurisdictions do not have a sufficient supply of liquid assets. These alternatives may have different effects in each jurisdiction, depending on the specific circumstances. Thus, some of the options described below may result better than others.

- ~ Option 1 – Contractual committed liquidity facilities from the relevant Central Bank, with a fee. This option is recommended for countries with insufficient Level 1 (public debt) and Level 2 (corporate and secured bonds) assets.
- ~ Option 2 – Foreign currency HQLA. Recommended for countries with significant liquid assets in U.S. dollars.
- ~ Option 3 – Additional use of Level 2 assets with a higher haircut. Recommended for countries with insufficient Level 1 assets and significant Level 2 assets.

A fifth aspect for jurisdictions to determine is whether or not the accounting classification of assets affects the definition of HQLA - available-for-sale assets (AFS), held-to-maturity assets (HTM) and trading assets.

To determine which financial instruments to be considered as liquid assets¹³, the supervisor will assess the institution's ability to obtain liquidity from these assets. For these assets to be included, the assets should be under the control of the institution's department charged with managing liquidity and there must be a market for the assets, either a primary or secondary market.

ASBA members implement various practices regarding accounting classification. For example, some countries do not consider assets held-to-maturity as HQLA, because they are not eligible for repo operations with the Central Bank, while others consider these assets as HQLA when they are available to the treasurer. However, some jurisdictions consider that classifying assets as held-to-maturity indicates a predisposition to hold the asset and not obtain liquidity, so these assets are excluded from the stock of HQLA.

Based on the accounting classification, doubts could arise about the convenience of including assets held-to-maturity as HQLA, as the classification establishes that the purpose is to keep these assets on the balance sheet and not sell them before their maturity. Although legal limitations may exist, these assets could be included in the buffer if they are eligible for repo and a repo market exists. When legal restrictions are in place, assets held-to-maturity will be excluded from the buffer.

Both Basel and this Working Group agree that assets available-for-sale should be considered as HQLA.

With respect to trading assets, there are diverse views on whether they should be included in the LCR. Basel excludes trading assets from the LCR, while some jurisdictions consider that trading assets can be used to face liquidity shocks, and so they should be part of the stock of liquid assets. Other countries consider that because

¹² In January 2013, the Committee expanded the definition of HQLA to include residential mortgage-backed securities satisfying a number of predetermined conditions, corporate debt securities rated A+ to BBB- and common equity shares traded on a major stock index in the home jurisdiction.

¹³ An asset is considered liquid when it can be easily turned into cash with a minimum loss of value.

trading assets are not under the control of the treasurer and their main use is to facilitate customer operations and cover financial risks, they are not HQLA.

It is important for supervisors to understand how banks manage their liquidity, particularly how the treasury function controls assets. Assets that are under the control of the treasury function should be included in the liquidity buffer.

The good practice is to follow accounting standards on the classification of financial assets, regardless of the liquidity situation of the economy.

III.5 PUBLIC DISCLOSURE

In view of the differences among regulatory frameworks, each country should determine its own disclosure policy. This policy should include details on what information will be disclosed and through what channels, what restrictions will be imposed on public disclosure, and who will be responsible for monitoring compliance with the information disclosure policy. In summary, each jurisdiction should have the power to define its public disclosure policy.

The disclosure policy should define what information will be available to the public, the consequences of disclosing or not disclosing information, the willingness of institutions to disclose information, and the information requirements of markets. Once the information to be disclosed by banks and other stakeholders has been determined, appropriate disclosure and dissemination guidelines will be issued.

It is recommended that a protocol be established for managing information in crisis situations. This will help evaluate the impact of disclosing information during periods of stress, as well as the risks of failing to disclose a homogenous message and having each institution provide different and sometimes conflicting information.

It is recommended that financial institutions publish information on liquidity risk management in order to strengthen market transparency, and avoid situations of mistrust or speculation that could threaten the stability of the financial system. This should be done in line with the principle of prudence.

Although disclosing information on risks supports market discipline, it is also true that certain sensitive information can potentially cause a run

on banks. For example, disclosing non-compliance with the LCR can destabilize a bank and, depending on the size of the institution, result in a negative system-wide impact. Likewise, disclosing LCR values during system-wide stress situations, with widespread non-compliance of the standard, could have a negative impact on the public's confidence in the entire banking system.

Since it is not possible to disclose all available information, the authorities regulating disclosure or bank supervisors should coordinate efforts to promote a balance between transparency and stability.

Authorities in charge of disclosure should review the information to be disclosed to the public and evaluate the possible effects of a timely or delayed reporting of LCR values. Delayed reporting could affect the liquidity position of institutions at the time of reporting, and could also cause the information to become rapidly obsolete. The pressures coming from an environment of transparency of information and/or the need to comply with relevant legislation should also be considered. However, it is critically important to provide stakeholders with as much information as possible through the proper channels. Otherwise, they will look for information from other less reliable sources.

III.6 REPORTING TO SUPERVISORS

Supervisors should receive comprehensive information. Financial institutions should be able to report daily at least basic data on deposits, treasury position and liquid assets, particularly during periods of stress. The supervisory authority should have the power to require information on a more frequent basis, when deemed necessary.

For supervision and monitoring purposes, it is proposed that supervisors require financial entities to report the LCR at least monthly under normal conditions. During periods of stress, the supervisor is responsible for providing specific guidelines¹⁴. To a certain extent, receiving daily

¹⁴ In stress situations, jurisdictions should have information as frequently as possible, ideally on a daily basis. However, according to the results of the impact studies, gathering all the information needed to calculate the LCR takes time, due to the detail and complexity involved.

information on deposits, treasury position and Central Bank eligible assets is sufficient to make a relatively adequate assessment of the institution's liquidity position.

There is a trade-off between timeliness and quality or accuracy of information related to liquidity. In fact, the shorter the period during which liquidity data is collected, the less reliable and accurate the information tends to be. However, if the time needed to calculate the data accurately is too long, the information will be obsolete and of less value.

On the other hand, irregular or erratic reporting makes it impossible to accurately assess the institution's liquidity position within a given period, and may result in opportunistic behavior on the part of supervised entities.

In the specific case of liquidity, timeliness and frequency tend to be more important, so that supervisors should have access to the same information about liquidity as the institution's treasurer at the end of each day. Nevertheless, supervisors will have access to solid, verifiable data at some point in the cycle.

III.7 FREQUENT SUPERVISION AND MONITORING OF THE LCR

Each supervisor will determine the frequency with which supervised entities report the LCR. Financial institutions should comply with the LCR on an ongoing basis, regardless of the frequency of reporting. Supervisors may request credit institution to provide information when needed to avoid opportunistic behavior, i.e. an institution meets the standard at the end of the period, but not throughout the period.

Therefore, it is recommended that supervisors receive two types of reports: a regulatory report, and a more frequent "best effort" report. The regulatory report is a comprehensive report, verified by the institution. These are considered "official" reports, and as a consequence legally binding. Financial institutions need time to prepare these reports to ensure the quality of the information provided to the supervisor.

On the other hand, "best effort" reports provide timely information, but no comprehensive verification is made concerning the quality of information.

It is suggested that in order to comply with Basel III, the formal LCR report be presented on a monthly basis; while "best effort" reports can be requested on a more frequent basis.

Supervising liquidity requires immediacy in the timeliness of the reporting. Therefore, supervisors should be able to obtain operating reports from the supervised entities. Operating reports include those made available to the treasurer at the end of each day. Daily operating reports should be consistent with the final regulatory reports presented to supervisors, even though they do not necessarily include all the details required for the "official" LCR report.

Supervisors and treasurers need up-to-date information to continuously be familiar with the liquidity position of the institution. However, the uses and customs of each country and the capacity of entities to generate high-frequency information may facilitate or complicate the periodicity of the provision of information.

Supervisors will be responsible for having in place the necessary information systems that would allow them to process and analyze the information they receive.

All regulated aspects relating to the LCR must be supervised. In particular, the following aspects should be supervised and evaluated both on-site as well as off-site:

- ~ The way in which the supervised entity monitors and manages liquidity, through compliance with the LCR.
- ~ The LCR compliance hierarchy, monitoring, and decision-making arrangements.
- ~ The adequacy of the liquidity risk monitoring systems.
- ~ The reliability of the information systems.
- ~ The integrity of the LCR calculation system.
- ~ The security of the information used to calculate the LCR.
- ~ The operational continuity of the LCR calculation process and submission to the supervisor.

- ~ The quality and completeness of data used to calculate the LCR.
- ~ The validation / reasonableness of the source information with the data presented in the liquidity report.
- ~ The verification of no errors in the LCR calculation systems.
- ~ Compliance with the indicators required by regulation (daily off-site monitoring and supervision).
- ~ Submission of LCR calculations by supervised entities to the supervisor, in a timely and appropriate manner (off-site supervision).

Based on the results of the supervisory assessment, supervisors may apply and/or require:

- ~ Supervisory measures and plans to restore liquidity levels in case of non-compliance.
- ~ Fines when “best effort” and regulatory reports show significant differences.

Colombia: Supervisory reporting requirements

Colombia requires a weekly report containing daily information on compliance with the LCR standard. Entities send the report on the first working day of each week. The supervisory authority verifies that the monthly report is consistent with the balance sheet, and that the weekly report is consistent with the monthly report.

IV. NET STABLE FUNDING RATIO APPLICATION CHALLENGES

Although the focus of this document is the application of the LCR, it is important for institutions and supervisors to monitor liquidity ratios of a structural nature as well. It is recommended that countries carry out impact studies to estimate the effects of requiring entities to comply with a structural liquidity ratio. Additionally, jurisdictions should ensure that entities start managing liquidity risk as a structural risk, rather than exclusively as a short-term risk.

The Net Stable Funding Ratio (NSFR) is defined as the proportion of long-term assets funded by long-term, stable funds. The standard requires a minimum amount of “stable funding” over a one-year horizon. The ratio is calculated based on liquidity risk factors assigned to assets, off-balance sheet liquidity exposures, and other contingent funding obligations of the bank. The aim of the standard is to ensure stable funding on an ongoing basis, so that an institution remains viable over a one-year time horizon, and under an extended firm-specific stress scenario. The NSFR is formally defined as:

$$\frac{\text{Available amount of stable funding (sources)}}{\text{Required amount of stable funding (uses)}} > 100\%$$

Like the Basel Committee, the ASBA Working Group has decided to focus on the LCR to subsequently address the NSFR. The Working Group firmly believes that the NSFR is key to evaluating

an institution’s liquidity position. The LCR focuses on a financial institution’s ability to meet its liquidity needs during a 30-calendar day liquidity stress scenario. The NSFR, on the other hand, provides a structural framework ensuring that each credit institution is able to resist a specific liquidity crisis over a one-year horizon. The structural metric is a key component to ensure that balance sheets are not manipulated to temporarily meet the LCR standard at the expense of long-term behavior.

The NSFR considers all bank assets, liabilities and off-balance sheet items, as well as the availability of liquidity (available stable funding or ASF) relative to its liquidity risk (defined in this structural liquidity metric as required stable funding or RSF). So, the standard requires that the ASF be more than the RSF. However, the Working Group recognizes that there are still some issues relating to the final structure of the NSFR that needs to be addressed. As the Basel Committee is still working on a final proposal, the discussion on the NSFR standard is limited to concepts to refine the metric. The main concerns regarding the December 2010 proposal are:

- ~ Consider the possibility of a less granular approach to the RSF relative to the ASF;
- ~ Contemplate a more granular approach to liability maturity tranches;
- ~ Review offsetting of assets and liabilities;
- ~ Evaluate the inclusion of fixed assets as part of the RSF¹⁵;
- ~ Analyze the fact that pledged assets or collateral should not be considered as part of the ASF.

Several members of the Working Group would like a less granular approach or treatment to the RSF, compared to the ASF. The change in approach would allow the structural metric to focus on funding stability, rather than on traditional banking operations (such as consumer lending and small business loans), which are naturally less liquid. As these operations play a key role in the banking system,

¹⁵ Fixed assets are currently included, but no difference is observed in the requirement of stable funding for this type of assets, which remain on the balance sheet.

they should not be discouraged due to a liquidity requirement. In any case, the decision whether or not to adopt a less granular approach is left to the supervisor of the jurisdiction.

On the other hand, it would be desirable to adopt a more granular approach to the maturities considered for various types of liabilities, in order to provide partial credit to obligations maturing in less than one year. For example, a six-month liability has more liquidity value than a one-day liability.

The current NSFR proposal assigns a 0% liquidity value to “other liabilities,” and assumes a 100% outflow rate for “other liabilities.” While this assumption is appropriate in many cases, in others it would seem reasonable to allow offsetting (debts, claims, deferred tax assets and liabilities).

The Working Group also addressed the issue of pledged assets, but was unable to reach consensus on the matter. Financial institutions usually have secured and unsecured funding. All other funding conditions being equal, a bank is more liquid when it has more unencumbered assets. However, secured funding through liquid assets has proven to be more stable than unsecured wholesale funding. When secured funding is reduced, the assets backing that funding are liberated and become available for new secured funding. Some of the members of

the Working Group believe that the LCR can capture a set of unencumbered assets needed to comply with the outflow of unsecured obligations and that the NSFR should not consider the issue of encumbrance. Other members believe that a structural measure is incomplete if it does not consider the existence of encumbered assets.

Each jurisdiction should carry out a quantitative impact study to determine the effects of applying the NSFR standard on the financial system.

Applying the NSFR poses a series of challenges for supervisors and supervised entities. Both should consider the following topics to face the challenges posed by implementing the NSFR:

- ~ Modifying information systems to capture the data needed to calculate the NSFR;
- ~ Ensuring flexibility in NSFR calculations given the revisions to be issued by the Basel Committee;
- ~ Moving the approach to liquidity risk management from the short-term to the medium- and long-term;
- ~ Modifying the traditional banking models and transfer pricing systems;
- ~ Deepening the medium- and long-term financing market;
- ~ Modifying the practices applied to time deposits with early redemption.

V. BEST PRACTICES FOR THE REGULATION AND SUPERVISION OF LIQUIDITY RISK

V.1 REGULATORY AND SUPERVISORY FRAMEWORK FOR LIQUIDITY RISK

The region's bank supervisors should develop regulations combining mandatory limits (LCR and others) and best practice guidelines (*Sound Principles*), as these regulations are complementary in reducing liquidity risk.

During the early phase of the global financial crisis that began in 2007, many banks experienced difficulties managing their liquidity, despite having maintained adequate capital levels. The crisis highlighted the importance of liquidity for the proper functioning of financial markets and the banking sector. The 2007 crisis showed 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 institutions¹⁶.

Banks experienced these difficulties mainly due to lapses in basic principles of liquidity risk management. In response, and to help promote better risk management in this critical area, the Basel Committee in 2008 published *Principles for Sound Liquidity Risk Management and Supervision* (“*Sound Principles*”), which provide detailed guidance on how to manage and supervise liquidity risk.

The Committee has further strengthened its liquidity framework by adding two minimum standards to reduce banks' liquidity risk in the short-term by means of the LCR and in the longer term by means of the NSFR. Annex 3 provides links to country websites containing information on liquidity best practice guidelines, quantitative requirements, and reporting requirements.

Costa Rica: Liquidity risk regulation and supervision

Costa Rica combines mandatory liquidity limits and qualitative regulations. The country's Comprehensive Risk Management framework provides a best practice guide for entities to develop a comprehensive risk management process that will enable them to identify, assess, supervise, control and mitigate all risks, particularly liquidity risk. The risk management process should be consistent with the nature, complexity, volume of operations, and risk profile of the supervised institution.

The management framework also regulates the following: corporate governance responsibilities, establishment of a risk committee and responsibilities of the risk unit, implementation of an internal control body, and requiring an external audit on the timeliness and adequacy of the risk management process.

According to the Corporate Governance Regulation, it is the responsibility of the Board of Directors to ensure all applicable regulations are complied with and all risks are effectively managed. The internal audit function is responsible for evaluating compliance with procedures and policies to identify credit, legal, liquidity, market, operational, and reputational risks.

In addition, the Superintendency issued a risk management guides establishing that the Board of Directors is responsible for determining guidelines to reduce financial risks and their potential impact on the entity's equity. The Board should also approve the models used to measure exposure to financial risks, including liquidity risk. Supervised institutions are required to put in place a system to

¹⁶ Bank for International Settlements, *Basel III: International framework for liquidity risk measurement, standards and monitoring*, BCBS, Switzerland, 2010.

identify and measure liquidity risk, using the statistical and mathematical tools that best adapt to the complexity and volume of operations. Finally, supervised institutions should have contingency plans for illiquidity. These plans are subject to regular adequacy tests.

In Costa Rica, maturity gaps and reserve requirements operate as liquidity limits. The Superintendency has developed a quantitative model for rating institutions. With regard to liquidity, it includes the assessment of maturity gaps at one-month and three months, ratios adjusted for volatility of current accounts and sight deposits. These regulations enable supervisors to evaluate the financial situation of supervised institutions, and establish a quantitative rating, based on six elements subject to analysis, known as CAMELS. For a one-month maturity gaps the expected level is a ratio equal to or more than 1, and for a three-month gap, a ratio of at least 0.85 is expected.

The Central Bank of Costa Rica requires supervised institutions to hold funds as legal reserves against deposits made by customers. In the case of savings and credit cooperatives, the reserve requirement is set at 15%, regardless of the currency in which the account is held. Legal reserves held in domestic currency should consist of instruments issued by the Central Bank. In the case foreign currency reserves, these may be instruments issued by the Central Bank, the government or banking institutions.

Countries are encouraged to develop best practice guidelines based on Basel's *Principles for Sound Liquidity Risk Management and Supervision*.

According to the *Sound Principles*, banks should meet minimum standards relative to aspects, such as defining policies, procedures and ensuring their compliance, developing a sound process for identifying, measuring, monitoring, controlling, and reporting liquidity risk.

An adequate liquidity management must be based on documented policies and procedures, as well as an appropriate organizational structure (which considers the participation of the Board of Directors and senior management, the existence of a risk and treasury units, a risk committee and control functions). Similarly, institutions should have the necessary technological infrastructure and an effective reporting system to the Board. Finally, effective liquidity management requires conducting regular stress tests and drafting a contingency plan; both designed according to the nature, size, complexity and risk profile of the entity.

Brazil: Liquidity regulatory framework

Brazil has developed a regulatory framework for liquidity risk management consistent with the Basel Committee's *Sound Practices for Managing Liquidity in Banking Organisations* (2000) and *Principles for Sound Liquidity Risk Management and Supervision* (2008).

The essential components of the liquidity risk management structure include clearly-documented risk management policies and strategies, as well as limits and procedures to maintain risk exposure within the levels set by management. This structure also includes sound processes for identifying, measuring, monitoring, and controlling risk exposure over different time horizons; funding policies and strategies to ensure adequate diversification of funding sources; a liquidity contingency plan to face liquidity stress situations; a stress testing program covering short- and long-term scenarios, as well as idiosyncratic and systemic stress events; and a liquidity risk assessment procedure as part of the approval process for new products.

Uruguay: Liquidity risk management policies and procedures

In Uruguay, supervised financial institutions are required to meet certain minimum liquidity risk management standards relative to the definition of policies and procedures, the measurement, monitoring and control of liquidity risk, and the independent regular reviews of the liquidity risk management system. Financial intermediation institutions must have in place a comprehensive risk management system that is appropriate to their nature, size and the complexity of their operations, and consistent with their risk profiles. The system should contemplate the institution's vision of the risks, involve all personnel, and be proactive.

In addition, the regulatory framework sets out how liquidity risk will be managed. In this context, Corporate Governance and Comprehensive Risk Management regulations and minimum standards are applied.

Peru: Liquidity risk regulatory framework

In December 2012, Peru issued the Regulation for Liquidity Risk Management. The purpose of the regulation is to promote high liquidity risk management standards, following the principles for sound liquidity risk management issued by the Basel Committee in 2008 and the Basel III liquidity standards (2010). The new requirements relate to: the responsibilities of the Assets and Liabilities Committee (ALCO), the risk committee, and the risk unit; policies and procedures to identify and manage liquidity risk, based on the complexity and volume of operations; stress testing and contingency planning; communication channels; establishing regulatory requirement to manage concentration risk; and the minimum requirements for the LCR.

V.2 LIQUIDITY RISK SUPERVISION

Supervisors should regularly perform a comprehensive assessment of a bank's overall liquidity risk management framework and its liquidity position. This assessment will determine the level of resilience to liquidity stress scenarios, given the bank's standing with respect to the financial system¹⁷.

Supervisors should require that banks to:

- a) have a robust liquidity risk management strategy, policies and procedures to identify, measure, monitor, and control liquidity risk consistent with the principles set out in this document¹⁸; and
- b) maintain a sufficient level of liquidity as insurance against liquidity stress scenarios.

The supervisory framework should allow supervisors to conduct thorough assessments of banks' liquidity risk management practices and the adequacy of their liquidity (in normal times and periods of stress). For this, on-site inspections and off-site monitoring can be conducted, involving regular communication with a bank's senior management and the Board of Directors. The supervisory framework should be publicly available.

Supervisory authorities are responsible for assessing the characteristics and risks of banks in their jurisdictions. Supervisors should evaluate the relevant local background factors under which banks operate, including the legal framework and market structure. Supervisors should also consider the risk each bank poses to the smooth functioning of the financial system given its size, role in payment and settlement systems, specialized business activities, or other relevant factors. Supervisors should carefully scrutinize banks that pose the largest risks to the financial system, and hold such banks to a higher standard of liquidity risk management¹⁹.

¹⁷ The document *Gestión y Supervisión del Riesgo de Liquidez: Identificación de las Mejores Prácticas y Recomendaciones de Supervisión* published by ASBA in 2010, addresses liquidity supervision in a more detailed manner.

¹⁸ These principles are based on the BCBS's *Principles for Sound Liquidity Risk Management and Supervision*.

¹⁹ Bank for International Settlements, *Principles for Sound Liquidity Risk Management and Supervision*, Basel Committee on Banking Supervision. Switzerland, 2008.

With respect to liquidity risk, supervisors should pay particular attention to the following considerations:

- ~ Assess banks' risk tolerance levels to ensure it has an adequate level of liquidity, given the bank's business model and role in the financial system;
- ~ Assess whether the Board of Directors and senior management are taking full responsibility for the sound management of liquidity risk, and are providing sufficient oversight and guidance for management to conduct their responsibilities;
- ~ Assess the effectiveness of a bank's processes to measure and monitor liquidity risk, through a review of the techniques (processes and internal controls) and underlying assumptions used to estimate future liquidity requirements²⁰;
- ~ Assess the adequacy of the size and composition of a bank's liquidity buffer, as well as the capacity to sell assets during stress scenarios;
- ~ Review banks' liquidity stress testing program and contingency planning, and understand how senior management and the Board use the results of stress tests to plan and take actions to mitigate vulnerabilities exposed by stress tests²¹;
- ~ Assess the comprehensiveness of the contingency funding plan, including whether it addresses vulnerabilities identified in stress tests and management's strategy to promote an understanding of the plan, through periodic testing and internal communication.

Supervisors should regularly assess a bank's liquidity risk management framework and liquidity position. For this, they should use a com-

ination of internal reports, prudential reports, and market information. They should require banks to submit information on their liquidity position and risks at regular intervals. The assessment should also include publicly available information on banks from the market and other sources.

The data collected will enable supervisors to determine whether a bank is facing a liquidity risk build-up or liquidity pressures, as well as to assess the bank's ability to face these scenarios. Supervisors may incorporate these data into an "early warning system" to enhance their monitoring of banks' liquidity risks.

Supervisors should collect and analyze information from banks with a frequency commensurate with the nature of the requested information, the bank's risk profile and its relevance in the financial system. Supervisors should follow market developments closely, to make necessary adjustments to the content and frequency of reporting, according to the stress situations.

For monitoring and assessment purposes, supervisors should collect and review banks' internal management reports, including the results of stress tests. It is recommended for supervisors to use a standardized supervisory reporting framework covering the data items supervisors consider necessary, in order to make meaningful comparisons between banks. In such cases, supervisors should provide clear definitions²².

All in all, the supervision of liquidity risk should include evaluating financial entities' risk management systems, and measuring both the level and tendency of liquidity risk.

The scope of supervision for liquidity risk will include all credit institutions, regardless of their size or activities. Institutions that pose the largest risks, according to the monitoring tools in place, will be more carefully supervised.

Although the scope of liquidity risk supervision focuses on the credit institutions of local

20 While some supervisors may find it useful to issue quantitative standards (e.g. limits or ratios) for liquidity risk management, these should not be understood as a substitute for banks' own measurement and active management of liquidity risk.

21 Such actions could be reflected in modifications to the bank's contingency funding plan, changes to current business activities and liquidity risk positions or an increase in the size of the buffer of unencumbered, highly liquid assets held as insurance against liquidity stress.

22 Bank for International Settlements, *Principles for Sound Liquidity Risk Management and Supervision*, Basel Committee on Banking Supervision. Switzerland, 2008. Principle 15.

financial conglomerates, supervisors should consider how the liquidity position of each credit unit affects the relationship with other members of the group (insurance companies, brokerage houses, investment funds, pension funds, etc.). Additionally, supervisors should evaluate the group's organizational features, together with the degree of centralization of risk management functions, and any possible restrictions to the transfer of liquidity among group units.

The supervision of liquidity risk should not distinguish between domestic banking institutions, and foreign banks' branches and subsidiaries. In a similar way to that of local financial groups, foreign conglomerates should inform the supervisor on the relationship between subsidiaries and branches and their parent companies, and how this relationship affects their liquidity position. This does not mean that supervisors will not evaluate the liquidity of each separate unit.

Uruguay: The risk supervision process

In Uruguay, the on-site supervision process involves assessing risk exposure and the quality of risk management, as well as projecting risk exposure and defining remedial actions when necessary.

The amount of risk is determined on the basis of stress tests measuring the institution's ability to face a possible decline of its deposits. Therefore, institutions analyze the levels of liquidity in different scenarios, carry out stress tests, and review the validity of the assumptions used for managing liquidity. Stress testing should consider the nature, volume and complexity of operations, and the institution's risk profile and solvency.

For items with undetermined maturities, the institution's historical experience is taken into account, as well as that of other equivalent institutions, to determine the cashflow behavior patterns during different scenarios.

Likewise, supervisors conduct quarterly liquidity stress tests for each financial institution, based on balance-sheet information received on residual maturities.

Stress testing is carried out over a three-month horizon and assumes a relevant drawdown of deposits. Term deposits maturing within three months are not renewed, and sight deposits are withdrawn at a rate of 10 per cent for the first month, 20 per cent for the second month, and 30 per cent for the third

month. The liquid assets backing the withdrawal of deposits include: securities issued by countries with a minimum BBB+ ranking; securities with a lower rating and which are subject to a haircut; other investments in the financial sector, depending on their maturity; Central Bank eligible government bonds in domestic currency; and the collection of 20 per cent of credits to the non-financial sector.

This test measures the time that a bank can withstand the scenario. The metric is similar to the LCR in many aspects and is expressed in months.

The quality of risk management is determined based on the evaluation of the following aspects: policies and procedures, lines of responsibility, reasonableness of the limits, lines of communication, transfer pricing systems, degree of understanding of risks, identification of processes, clarity of objectives, financial projections, volume and tendency of funding sources, interrelationships with other risks, performance of the trading desk, information and measurement system, quality of inputs and models, stress tests carried out by the institution, treatment of exceptions, contingency plan, performance of the internal audit function, structure and quality of reports.

Finally, to determine the projection or expected dynamics of the risk, supervisors are encouraged to review future outlooks considering the approved business plan.

V.3 COORDINATION BETWEEN THE CENTRAL BANK AND THE BANK SUPERVISOR

Central Banks and banking supervisors are responsible for monitoring and supervising liquidity in the financial system. Central Banks implement monetary policies, which involve determining the liquidity of the banking system and regularly overseeing the behavior of the monetary and interbank market, compliance with reserve requirements, as well as global liquidity and its distribution. The banking supervisors assess the liquidity risks taken by each bank.

Liquidity risks regulation can have significant effects on the operations of Central Banks to provide or withdraw liquidity to/from the money market, and vice versa. Therefore, the interaction between liquidity risk regulation and the operational framework of monetary policy should not be treated in isolation.

These interactions require effective coordination, so that the decisions made by one public authority do not negatively impact the other's ability to take action. Both bank regulation and the operational framework of the Central Bank's liquidity policy should focus on serving their own purposes, and not losing the effectiveness of their functions.

In order to adequately address the possible interactions between both policies, it is critical that supervisory authorities and Central Banks collaborate closely. For this reason, a good practice is to establish a coordination protocol between the supervisors and the Central Bank.

Close collaboration between supervisors and the Central Bank in monitoring banks' liquidity positions and general liquidity conditions in financial markets, promoted by the Basel Committee in its *Sound Principles*, is particularly useful during stress conditions.

V.4 INDICATORS FOR MONITORING LIQUIDITY

Each country's banking supervisors should regularly assess the level of risk using a range of liquidity indicators. As no single indicator can

comprehensively quantify liquidity risk, supervisors should have a set of indicators to obtain a global view of liquidity risk²³. Annex 2 describes a set of suggested indicators for bank supervisors, covering structural, operational, and market-related aspects.

The supervisory authority and the bank's senior management should have access to timely and accurate information on liquidity. The frequency with which they receive this information will depend on its nature.

V.5 STRESS TESTING AND LIQUIDITY CONTINGENCY PLANNING

Banks should conduct stress tests on a regular basis for a variety of short-term and long-term scenarios (institution-specific and market-wide) to identify sources of potential liquidity strain, and to ensure that current exposures remain in accordance with a bank's established liquidity risk tolerance. Stress tests will analyze the possible effects of the different scenarios on the institution's cash flow, liquidity position, profitability, and solvency.

Banks should use the results of their stress testing to adjust their liquidity risk management strategies, policies and positions, and to develop effective contingency plans. Even though banks manage liquidity daily under normal circumstances, they should be prepared to deal with stressed conditions²⁴.

V.6 LIQUIDITY IN INTERNATIONAL BANKS

The Basel Committee's *Principles for the Supervision of Banks' Foreign Establishments* (1983) sets out the responsibilities of banking supervisory authorities for monitoring the liquidity of international banks²⁵.

The allocation of responsibilities between home

23 See a detailed description of recommended liquidity indicators in ASBA's 2010 report, *Gestión y Supervisión del Riesgo de Liquidez: Identificación de las Mejores Prácticas y Recomendaciones de Supervisión*.

24 For further details on stress testing and contingency planning see the BCBS's *Principles for Sound Liquidity Risk Management and Supervision* (2008).

25 Bank of International Settlements, *Principles for the Supervision of Banks' Foreign Establishments*. BCBS, Switzerland, 1983.

and host supervisory authorities for the supervision of liquidity in foreign banks will depend on the type of financial group. It is recommended that host supervisors monitor the liquidity of the foreign bank's establishments in its jurisdiction, while the home supervisors should assess the liquidity of the banking group as a whole. For both branches and subsidiaries, the primary responsibility for supervising liquidity should rest with the host supervisor²⁶.

In the case of branches, host authorities will often be best equipped to supervise liquidity, as they have a better understanding of local practices and regulations and the functioning of their domestic money markets. It should be noted that the liquidity of foreign branches will always be a matter of concern to home supervisors. In practice, a branch's liquidity is frequently controlled directly by the parent bank, and cannot be viewed in isolation from that of the financial conglomerate of which it is part.

The above presupposes that home supervisors have access to all relevant information about the control systems of the branches, as well as the possible funding requirements imposed by parent banks on their foreign branches.

Host and home supervisors should always consult with each other to resolve any doubts that may arise regarding the responsibilities for the supervision of liquidity of foreign branches.

In the case of subsidiaries, home supervisors should take into account any funding facilities granted, and any commitments by parent banks to the banking establishments operating abroad. Host authorities should inform home supervisors of the importance of such facilities and commitments to the foreign establishment, to ensure that home supervisors take them into account when conducting their su-

perisory activities. Where host authorities have difficulties in supervising the liquidity of foreign banks' subsidiaries, especially in foreign currency, they must inform home supervisors, and put in place appropriate controls to ensure adequate supervision.

As good practice, liquidity supervision by the host supervisor should provide the same treatment to both subsidiaries and branches²⁷.

Home authorities are responsible for supervising the liquidity control systems employed by the banking groups they supervise, within the framework of consolidated supervision. This means, supervising the systems used by banking groups and ensuring that these systems and the overall liquidity position of the groups are adequate. However, a full consolidation approach to supervision may not be applicable when supervising liquidity, given differences in local regulations, market conditions, and banks operating in different time zones and different currencies. It is thus recommended that home authorities consult with host authorities to ensure that the latter are aware of the overall systems within which the foreign establishments are operating²⁸.

Host authorities have a duty to ensure that home authorities are immediately informed of any serious liquidity shortfall or insufficiency in a parent bank's foreign establishment.

However, in case of illiquidity in banks located in different jurisdictions, home and host supervisors may have different perspectives on how to solve the problem. The following table illustrates the varying supervisory perspectives depending on which jurisdiction faces a liquidity stress scenario.

A recommended good practice is to meet the

26 Bank of International Settlements, *Principles for the supervision of banks' foreign establishments*. BCBS, Switzerland, 1983.

27 It is important to point out that some countries, such as Chile, make no distinction between foreign bank subsidiaries and branches when evaluating liquidity.

28 Bank of International Settlements, *Principles for the supervision of banks' foreign establishments*. BCBS, Switzerland, 1983.

Home and host supervisors' perspectives on the issue of illiquidity

	Illiquidity in the home country	Illiquidity in the host country
Host Supervisor	Financial autonomy Maintain liquidity in the host country	Financial dependency Permitir financiamiento desde el país de origen
Home Supervisor	Financial dependency Allow funding by parent or holding company	Financial autonomy Maintain liquidity in the home country

liquidity requirements of each jurisdiction. Foreign bank branches and subsidiaries must meet the host liquidity standards, as the host authority will be in charge of supervising compliance within the jurisdiction. Additionally, another good practice is to sign cooperation agreements to ensure a steady flow of information about liquidity between home and host supervisors, especially in the case of internationally-active banks.

At the international level, a bank branch may move away from the traditional branch concept, depending on its own features and host country regulations. The more dependent the bank branch is from the parent bank, the closer it is to the traditional definition of a branch²⁹. If the bank branch has a large degree of autonomy, it is closer to a foreign bank subsidiary.

When a branch's articles of incorporation, li-

censing requirements, supervisory activities, local capital requirements, Board of Directors, deposit insurance, and access to Central Bank funding correspond to the host country (by legal disposition or decision by the institution), there will be a greater degree of independence from the parent bank. In other words, the more independence a branch is from its parent bank, the closer and similar the branch is to a foreign bank subsidiary. The absence of restrictions on deposit-taking from host country residents, and the existence of restrictions on financial relationships with related international banks, will give the branch greater financial autonomy.

The table below shows the institution-specific and regulatory factors that could generate higher degrees of independence of a foreign bank branch from its parent bank.

According to the international supervision prin-

Degree of autonomy of a foreign bank branch

Topic	Greater autonomy	Greater dependency
Incorporated in the host country	Yes	No
Licensing requirement in host country	Yes	No
Supervision by host authorities	Yes	No
Local capital requirement in the host country	Yes	No
Board of Directors requirement in the host country	Yes	No
Deposit insurance	Host country	Home country
Restricted deposit-taking from host country residents	No	Yes
Access to funding by host Central Bank	Yes	No
Restricted financial relationships with related international banks	Yes	No

²⁹ This is the case of a bank branch established in the same jurisdiction as its parent bank.

principle set forth by the Basel Committee in 1983, the home supervisory authority oversees consolidated liquidity, whereas the host authority supervises the liquidity of the banking institutions operating in its jurisdiction. However, consolidated supervision of liquidity presupposes that banks' foreign establishments do not exhibit financial autonomy vis-a-vis the parent bank, and that liquidity may be freely transferred within the international financial group.

In the case of international banking entities with a high degree of independence from the parent bank, assessing liquidity on a consolidated basis would not be useful.

Supervising a banking group's consolidated liquidity is only useful in the case of foreign branches and subsidiaries with a strong dependency on their parent bank. But even then, the general view is that liquidity should be supervised at the individual bank level in each jurisdiction.

Subsidiaries and/or branches that exhibit autonomy qualities from related foreign banks, should have the ability to operate autonomously and fulfill the principle of financial independence. These subsidiaries and/or branches should be self-sufficient in terms of liquidity management, as well as limiting their exposure and liquidity transfers to other related institutions at the international level. An example of this are the Spanish bank subsidiaries established in the region. These subsidiaries adhere to the principle of financial autonomy relative to their parent banks.

The financial autonomy requirement for foreign establishments means that all actions undertaken by the host and home supervisors must be consistent with the principle of financial autonomy.

Although cross-funding channels between internationally-related institutions may be used to alleviate liquidity stress in certain parts of the conglomerate, they can also spread the stress across the banking group. An institution providing regular funding to other members of the group could be unable to continue providing funds when faced with liquidity challenges of its own or when other institutions require extraordinary funding; thus, liquidity problems could be spread throughout the group. The contagion could be more severe in situations of uncertainty about the conversion of currencies,

particularly in stress situations.

A good practice is for the more independent foreign bank subsidiaries and/or branches to hold sufficient liquidity at the local level to meet their financial commitments. This means that regardless of the legal vehicle by which the foreign bank was established in the host country, supervisors must ensure that international banks established in their jurisdiction maintain an adequate level of liquidity locally.

In addition, to reduce the risk of contagion and maintain liquid assets with a limited exposure to related foreign institutions, restrictions should be applied to deposits and funding of foreign financial institutions. These restrictions have a double purpose: to maintain adequate levels of liquidity at the local level and reduce the exposure to related parties³⁰.

In short, home and host supervisors should take into account and act according to the regulatory framework of dependence or independence applied to foreign bank subsidiaries and branches, regardless of where the illiquidity event originates.

V.7 SUPERVISORY MEASURES AND RESPONSE

Supervisors should have the authority to require supervised entities to take appropriate remedial action when they identify deficiencies in their internal liquidity management processes, high levels of risk, or non-compliance with quantitative requirements.

Supervisory responses to deficiencies in liquidity risk management or situations of high risk should include the following:

- ~ Requiring the Board of Directors to adopt appropriate measures;
- ~ Memorandums of understanding;
- ~ Cease and desist orders;
- ~ Requiring the bank to improve its:
 - Policies and procedures;
 - Liquidity management;
 - Liquidity risk mitigation framework;
- ~ Commitments with:

³⁰ Contagion can also be caused by image/brand sharing.

- Concentration and growth limits;
- Restoring liquidity;
- Funding structure;
- More frequent and complete reporting.

When an institution fails to comply with a quantitative liquidity requirement, supervisors should require the institution to present a plan to restore liquidity levels, as well as increase the reporting frequency. If the plan is not followed by the institution, supervisors will resort to a combination of corrective actions, including:

- ~ Sanctions for regulatory non-compliance;
- ~ Restrictions to the conduct of business during the period of non-compliance.

In any case, empirical evidence shows that monetary sanctions tend to be less effective than other corrective actions, such as requiring more frequent reporting or prohibiting certain types of activities. Also, disclosing the imposition of a monetary sanction due to illiquidity problems, could generate mistrust in the market, and negatively im-

act the financial stability of the institution; thus undermining its viability.

Colombia: Corrective actions

In Colombia, when an institution does not comply with liquidity indicators, the legal representative must immediately inform the supervisor of the reasons that led to non-compliance, specifying whether the situation is temporary or long-lasting, and the actions that the institution will take to address the issue.

Additionally, while remedial action is being taken, the institution must send a daily report on the liquidity situation over different horizons (7 and 30 days). Under normal conditions, reporting is done on a weekly basis. If the institution is unable to remediate the situation, the following activities will be suspended: i) money market operations; ii) selling, disbursing or leasing loan portfolios; and iii) making investments and new acquisitions.

ANNEXES

ANNEX 1: MAIN CHANGES TO THE LIQUIDITY COVERAGE RATIO (LCR) SINCE THE DECEMBER 2010 VERSION

Liquid Assets

New assets, categorized as Level 2B, are included as part of HQLA. Level 2 assets are divided into Levels 2A and 2B. Level 2A assets are those defined as Level 2 by the Basel Committee in 2010. The new

assets make up Level 2B, and should not comprise more than 15 per cent of the total stock of HQLA. The table below shows the composition of HQLA as proposed by the Basel Committee in 2013.

HQLA		
Unlimited	Limited to 40% and 15% minimum hair-cut	
Level 1 Assets	Level 2A Assets Minimum Haircut 15%	Level 2B Assets 15% Limit Minimum Haircut 25%
<ul style="list-style-type: none"> • Cash • Central Bank reserves • Qualifying government bonds (0% standardized risk-weight under Basel II) 	<ul style="list-style-type: none"> • Government bonds (20% standardized risk-weight under Basel II) • Qualifying corporate bonds • Covered bonds with credit rating AA- and above 	<ul style="list-style-type: none"> • Qualifying RMBS (credit rating AA and above) • Corporate bonds (credit rating between A+ And BBB-) • Qualifying common equity shares

Source: ASBA

The following table shows the differences between the 2010 and 2013 proposals relating to Level 2B assets:

Level 2B Assets	2010	2013
Residential mortgage-backed securities		75%
Corporate debt securities rated A+ to BBB-		50%
Common equity shares		50%

Level 2B liquid assets include the following items:

- ~ Residential mortgage backed securities must satisfy the following conditions: (i) not be issued by, and the underlying assets have not been originated by, the bank itself or any of its affiliated entities; (ii) have a credit rating of AA or higher; (iii) the underlying assets have a maximum loan-to-value ratio of 80% on average; and (iv) the issuers retain an interest in the assets they securitize.
- ~ Corporate debt securities must not be issued by a financial institution or any of its affiliated entities, and have a credit rating between A+ and BBB-.
- ~ Common equity shares must not be issued by a financial institution or any of its affiliated entities, and should be included in an exchange index relevant to the jurisdiction where the liquidity risk lies.
- ~ All Level 2B liquid assets must be traded in active, liquid markets and have a proven record as a reliable source of liquidity in the markets, even during stressed market conditions.

The BCBS has also specified the operational requirements for inclusion in the stock of HQLA.

The main operational requirements are:

- ~ Assets should be periodically monetized, in order to test the bank's access to the market and the effectiveness of its processes.
- ~ The stock of HQLA should be under the control of the function charged with managing the liquidity of the bank
- ~ The market risk associated with ownership of the stock of HQLA can be hedged, provided the cash outflow that would arise if the hedge were to be closed out early is taken into account.
- ~ A bank should have a policy in place to monitor assets and collateral, in order to adequately identify these, and be able to determine whether an asset should be excluded from its stock of HQLA.
- ~ In order to mitigate undesired effects that could arise, if an eligible liquid asset becomes ineligible, a bank is permitted to keep it in its stock of liquid assets for an additional

30-calendar days, while the stock of HQLA is being adjusted.

The stock of HQLA should be well diversified. Banks should therefore have policies and limits in place in order to avoid concentration with respect to asset types, issue and issuer types, and currency.

Central Bank required reserves, certain term deposits, and overnight deposits may be included in the stock of HQLA at the discretion of national authorities.

Net cash outflows

The 2013 LCR refines the definition of stable funding by incorporating the concept of coverage by a deposit insurance scheme for both retail and wholesale funding. Insured retail deposits and wholesale funding receive a lower outflow rate than those that are covered by a deposit insurance scheme.

Retail deposits	2010	2013
Stable deposits (fully insured by deposit insurance)		3%
Stable deposits	5%	5%

Additionally, the assumed outflow rate for non-operational deposits provided by non-financial corporates, sovereigns, Central Banks, multilateral development banks, and PSEs are reduced from 75 per cent to 40 per cent, and from 40 per cent to 20 per cent when these deposits are fully-insured.

Unsecured wholesale funding	2010	2013
Operational deposits generated by clearing, custody and cash management activities	25%	25%
Portion covered by deposit insurance		5%
Non-financial corporates, sovereigns, Central Banks, multilateral development banks, and PSEs	75%	40%
If the entire amount fully covered by deposit insurance scheme		20%

Another significant modification is the possibility of including Level 2B assets in the stock of HQLA. New qualifying criteria are introduced when funding is backed by Level 2B assets.

Secured funding	2010	2013
Backed by RMBS eligible for inclusion in Level 2B		25%
Backed by other Level 2B assets		50%

In a similar manner, expected inflow rates are included for maturing lending transactions backed by collateral, when collateral is included in Level 2B assets and when it is not.

Inflows from maturing secured lending transactions	2010	2013
Backed by RMBS eligible for inclusion in Level 2B		25%
Backed by other Level 2B assets		50%
Margin lending backed by all other collateral		50%

Three types of derivative transactions with collateral that must be considered at an assumed 100 per cent outflow rate are included. These are:

Additional requirements: Increased liquidity needs related to collateral	2010	2013
Excess collateral held by a bank related to derivative transactions that could contractually be called at any time by its counterparty		100%
Liquidity needs related to collateral contractually due from the reporting bank on derivatives transactions		100%
Increased liquidity needs related to derivative transactions that allow collateral substitution to non-HQLA assets		100%

The differences in the treatment of liquidity and credit facilities are made more explicit. In addition, the treatment of liquidity and credit facilities held with other financial institutions (distinguishing between banks and non-banks) is modified.

Additional requirements: Credit and liquidity facilities	2010	2013
Credit facilities provided to non-financial corporates, sovereigns, Central Banks, multilateral development banks, and PSEs	10%	10%
Liquidity facilities provided to non-financial corporates, sovereigns, Central Banks, multilateral development banks, and PSEs	100%	30%
Credit and liquidity facilities provided to banks subject to prudential supervision		40%
Credit facilities provided to other financial institutions (include securities firms, insurance companies)		40%
Liquidity facilities provided to other financial institutions (include securities firms, insurance companies)		100%

Some criteria for the treatment of other contingent funding obligations, including trade finance and customer short positions covered by other customers' collateral, are more detailed and standardized. Until these changes were made, these issues were left to the discretion of national supervisors.

Additional requirements: Contingent funding liabilities	2010	2013
Trade finance		0-5%
Customer short positions covered by other customers' collateral		50%

The 2013 version introduces a standard method for calculating increased liquidity needs related to market valuation changes on derivative transac-

tions. The method requires identifying the largest absolute net 30-day collateral flow realized during the preceding 24 months.

In order to avoid double counting of items, where derivatives (or any other transactions) are collateralized by HQLA, cash inflows should be cal-

culated net of any corresponding cash or contractual collateral outflows that would result, all other things being equal, from contractual obligations for cash or collateral to be posted by the bank, given these contractual obligations would reduce the stock of HQLA.

ANNEX 2: LIQUIDITY RISK MONITORING TOOLS

Liquidity risk monitoring tools should address three general areas:

- ~ Structural liquidity
- ~ Operational liquidity
- ~ Market-related information

Structural liquidity

The following measures help monitor potential structural liquidity risk:

Loan-To-Deposits (LTD)	$\frac{\text{Credit net of reserves}}{\text{Customers' deposits}}$	A value of more than 100% indicates that a portion of investments is financed in wholesale markets.
Wholesale funding ratio	$\frac{\text{Wholesale funding-Liquid assets}}{\text{Credit net of reserves}}$	A value of more than 100% indicates that a portion of investments is financed in wholesale markets.

1) Reliance on wholesale funding

Wholesale funding is less stable. When financial institutions rely heavily on wholesale funding sources, their liquidity risk will be high. The ratios that can be used to monitor this reliance are the loan-to-deposit ratio (LTD) and the wholesale funding ratio.

2) Maturity gap adequacy in the balance-sheet

Maturity transformation is a key part of what credit institutions do on a daily basis; however, exaggerating this activity increases liquidity risk. Therefore, long-term assets should be adequately covered by stable funding to avoid increased risk.

The study of maturity gaps distribution complements the study of the dependence on wholesale funding. Where there is heavy dependence on wholesale funding, the risk can generally be mitigated if the funding is long-term.

Monitoring the stable funding ratio or the volatile funding ratio (discussed later on) can be useful for this analysis.

Stable funding ratio	$\frac{\text{Stable funding}}{\text{Long-term assets}}$	Stable funding includes: equity, retail deposits and wholesale funding with a duration of more than one year.
		Long-term assets include credit, tangible fixed assets, holdings and the remaining assets.

3) Concentration of funding

It is critical for the distribution of the maturities to have a regular profile and that concentration by counterparties be limited.

A useful ratio is the one that calculates the 10 top depositors as a proportion of liquid assets. This indicator measures the institution's capacity to cover the potential withdrawal of the top 10 depositors, with its liquid assets (monthly average).

4) Volatile funding ratio

This indicator determines the proportion of non-liquid assets and/or long-term assets that have been financed by volatile liabilities. It is important to monitor this indicator as it measures the portion of volatile liabilities that could not be covered with liquid assets, and had to be addressed with illiquid assets, with a possible loss of value.

The risk is higher, as the percentage increases. An increase in the ratio indicates poor structural liquidity management.

$$\frac{(\text{Volatile liabilities} - \text{Liquid assets})}{(\text{Total assets} - \text{Liquid assets})}$$

Where volatile liabilities include:

- ~ Deposits not covered by a deposit insurance scheme
- ~ Total deposits (corporates and financial system)
- ~ Current liabilities
- ~ Interbank funds

Operational liquidity

The following set of indicators helps measure operational liquidity:

- i. Measurements for the survival period include all liquid assets to short-term liabilities ratios. It should be mentioned that the definitions of liquid assets and short-term liabilities are not necessarily the same for all countries. For example, short-term liabilities may include all short-term liabilities, only wholesale liabilities, or the gap.

- ii. Measurements of the institution’s cash flow, to determine how it generates cash and mitigates its liquidity risk through this means.
- iii. Availability of credit facilities.
- iv. Secured vs. unsecured funding.

1) Survival period without renewal of wholesale liabilities

This refers to the first time horizon, where liquid assets do not cover the wholesale gap.

Liquid assets include cash, Central Bank eligible assets, and deposits with the Central Bank.

The wholesale gap is the net cash outflows and inflows contractually expected as a result of wholesale operations.

2) Cash flow from traditional bank activities

Another useful indicator is the commercial gap, i.e. the difference between loans and deposits, which indicates how traditional bank activities are generating cash. The indicator is defined as the variation of retail deposits minus the variation of gross credit investment.

3) Other operational liquidity indicators include:

Because the next four indicators can be used as early warning indicators in monitoring potential liquidity difficulties at banks, they should be monitored on a regular basis.

1.	$\frac{\text{Short-term liabilities}}{\text{Liquid assets}}$	Liquid assets: cash and cash equivalents, Central Bank reserves and investments regardless of their rating or maturity. Short-term liabilities: Deposits, collections and short-term obligations.
2.	$\frac{\text{Liquid assets without interbank}}{\text{Short-term liabilities}}$	Liquid assets: cash and cash equivalents, Central Bank reserves and investments regardless of their rating or maturity. Short-term liabilities: Deposits, collections and short-term obligations.
3.	$\frac{\text{Liquid assets without required reserves}}{\text{Short-term liabilities}}$	Liquid assets: cash and cash equivalents and investments regardless of their rating or maturity. Short-term liabilities: Deposits, collections and short-term obligations.
4.	$\frac{\text{Loans (principal balance)}}{\text{Total deposits}}$	Loan portfolio principal balance Deposits taken from the public.
5.	$\frac{\text{Liquid assets}}{\text{Flow from 30 and 90-day maturity mismatches}}$	Liquid assets 30 and 90-day maturity mismatches * Applicable to foreign currency and both currencies combined.

Indicator number five shows the liquidity position, taking into account the outflows and inflows over 30 and 90 days, both in foreign currency as well as a combination of domestic and foreign currencies.

It is suggested that consideration be given to the availability of credit facilities and the evolution of the composition of wholesale funding, from unsecured operations to secured operations.

Furthermore, the availability of credit facilities (in terms of amount and number) shows the quantity and diversification of the short-term resources potentially available to the bank, in case of an increased need of liquidity.

The evolution of the composition of secured vs. unsecured wholesale funding can indicate the degree of difficulty experienced by the institution when trying to access funding. This is why it can be regarded as an early warning of liquidity problems.

Market-related indicators

Indicators showing banks' funding costs can reflect difficulties in obtaining liquidity. Therefore, funding costs should be monitored; in particular, the following:

- ~ Interest rate on interbank liabilities;
- ~ Interest rate spreads on interbank liabilities relative to the average for the system;
- ~ Retail deposit interest rate;
- ~ Credit-default-swap spreads (CDS).

Other indicators³¹

An additional set of liquidity indicators used by financial institutions to measure liquidity risk, identified in ASBA's 2010 report include:

Operational liquidity:

- ~ Available liquid assets / expected outflows over 30 days;
- ~ Detailed liquid assets;
- ~ Short-term liabilities, differentiated according to degree of stability;
- ~ Cash outflows and inflows: contractual, expected and adjusted for asset deterioration (potential for non-performing assets), planned renewal;
- ~ Short-term gaps according to residual contractual maturity (7, 30, 90, 180, 360 days, rest).
- ~ Implemented contingent facilities / contingent facilities provided to third parties.

Structural liquidity:

- ~ Large creditors (top 10 and 20);
 - ~ Marketable securities maturity structure;
 - ~ Main depositors (State, pension fund administrators, financial system, etc.);
 - ~ Foreign deposits and their use (daily management in foreign currency and foreign currency credits);
 - ~ Own resources + insured deposits (stable) / total assets;
 - ~ Total credit portfolio (excluding interbank) – deposits net of wholesale;
 - ~ Interbank dependence / total liabilities;
 - ~ Dependence on central bank / total liabilities;
 - ~ Foreign funding / total liabilities;
 - ~ Uninsured deposits (volatile) / total liabilities;
 - ~ Used credit lines / approved credit lines.
- Market-wide information:
- ~ Stock exchange listings, if applicable.

31 Drawn from ASBA's 2010 publication: *Gestión y Supervisión del Riesgo de Liquidez: Identificación de las Mejores Prácticas y Recomendaciones de Supervisión*.

ANNEX 3: LIQUIDITY REGULATION – LINKS TO RELEVANT WEBSITES

Country	Best Practice Guidelines	Quantitative Requirements	Regular Reporting Regulation
Bolivia	http://servdmzw.asfi.gob.bo/circular/textos/T09.pdf	http://servdmzw.asfi.gob.bo/circular/Anexos/TITULO%20X/CAPITULO%20XVII/T09C17A1.pdf	http://servdmzw.asfi.gob.bo/circular/Anexos/TITULO%20IX/CAPITULO%20XVII/T09C17A-A.pdf
Brazil	www.bcb.gov.br/pre/normativos/res/2012/pdf/res_4090_v1_0.pdf		www3.bcb.gov.br/normativo/detalharNormativo.do?N=108064814&method=detallarNormativo
Cayman Islands	http://www.cimoney.com.ky/regulatoryframework/reg_frame_ra.aspx?Internal	http://www.cimoney.com.ky/regulatoryframework/reg_frame_ra.aspx?Internal	http://www.cimoney.com.ky/regulatoryframework/reg_frame_ra.aspx?Internal
Chile	http://www.sbfic.cl/sbficweb3/internet/archivos/norma_40_1.pdf	http://www.bcentral.cl/normativa/normas-financieras/pdf/CapIIB2.pdf http://www.sbfic.cl/sbficweb3/internet/archivos/norma_67_1.pdf	http://www.sbfic.cl/sbficweb3/internet/archivos/norma_203_1.pdf
Colombia	http://www.superfinanciera.gov.co/Normativa/NormasyReglamentaciones/cir100/cap06sari.doc	http://www.superfinanciera.gov.co/Normativa/NormasyReglamentaciones/cir100/cap06anexo1.doc	http://www.superfinanciera.gov.co/Normativa/NormasyReglamentaciones/cir100/anexo1.zip , and ANEXO1 INSTRUMENTO F1000-F1000-125 formato 458 in effect starting 10 June 2012.
Costa Rica	http://www.sugef.fi.cr/pagina.asp?pagina=servicios/documentos/Normativa/NormativaPrudencial/Reglamento 2-10SUGEF 2-10.pdf	http://www.sugef.fi.cr/pagina.asp?pagina=servicios/documentos/Normativa/normativaprudencial/Reglamento 24-00/sugef 24-00.pdf	http://www.sugef.fi.cr/pagina.asp?lang=08&pagina=servicios/documentos/normativa/ManualInformacion-SICVECA/DefaultManualInf.asp
Dominican Republic		http://www.sb.gob.do/legal/leyes/reglamentos/RiesgoLiquidez.pdf http://sb.gob.do/Circulares_Resoluciones_V2/Admin/Upload/ci/Ci07-06.pdf	http://sb.gob.do/Circulares_Resoluciones_V2/Admin/Upload/ci/76404017614384CI02-12.pdf
Guatemala	http://www.sib.gob.gt/web/sib/leyesreglamentos/reglamentos?p_p_id=110_INSTANCE_n1HH&p_p_action=08&p_p_state=maximized&p_p_mode=view&p_p_col_id=column-3&p_p_col_pos=1&p_p_col_count=2&_110_INSTANCE_n1HH_struts.action=%2Fdocument_library_display%2Fview&_110_INSTANCE_n1HH_folderId=97154		http://www.sib.gob.gt/web/sib/leyesreglamentos/oficios?p_p_id=110_INSTANCE_n1HH&p_p_action=0&p_p_state=maximized&p_p_mode=view&p_p_col_id=column-3&p_p_col_pos=1&p_p_col_count=2&_110_INSTANCE_n1HH_struts.action=%2Fdocument_library_display%2Fview&_110_INSTANCE_n1HH_folderId=100245

Country	Best Practice Guidelines	Quantitative Requirements	Regular Reporting Regulation
Honduras	http://ftp.cnbs.gov.hk/circulares/CNBS2010/C 185 2010.pdf	http://ftp.cnbs.gov.hk/circulares/CNBS2010/C 185 2010.pdf	http://ftp.cnbs.gov.hk/circulares/CNBS2010/C 185 2010.pdf
Peru	https://intranet1.sbs.gob.pe/IDXALL/FINANCIERO/DOC/RESOLUCION/PDF/9075-2012.R.PDF	https://intranet1.sbs.gob.pe/IDXALL/FINANCIERO/DOC/RESOLUCION/PDF/9075-2012.R.PDF	https://intranet1.sbs.gob.pe/IDXALL/FINANCIERO/DOC/RESOLUCION/PDF/9075-2012.R.PDF
Spain	http://www.bde.es/f/webbde/SJU/normativa/circulares/c-4-2011.pdf		http://www.bde.es/f/webbde/SJU/normativa/circulares/c-4-2011.pdf
United States	http://www.fdic.gov/regulations/laws/rules/5000-5230.html		

Source: Supervisory authorities of countries surveyed.

ANNEX 4: GLOSSARY OF TERMS

ALCO

A bank's asset and liability management committee.

ASBA

Association of Supervisors of Banks of the Americas

ASF

Available stable funding.

Available-for-sale assets (AFS)

All assets other than held-to-maturity (HTM) and trading assets.

Banking entity/institution

A financial institution that accepts deposits and channels those deposits into lending activities.

Basel III

A comprehensive set of reform measures designed to improve the regulation, supervision, and risk management within the banking sector, issued by the Basel Committee on Banking Supervision.

BCBS

Basel Committee on Banking Supervision.

BIS

Bank of International Settlements.

Board of Directors

The group of people responsible for supervising the affairs of a financial institution. Members are elected by the institution's shareholders.

CAMELS

An international bank-rating system where bank supervisory authorities rate institutions according to the following six factors: capital adequacy (C), asset quality (A), management quality (M), earnings (E), liquidity (L), and sensitivity to market risks (S).

Cash Flow

A revenue or expense stream of cash over a given period of time.

Collateral

Property or other assets that a borrower offers a lender to secure a loan.

Comprehensive risk management

A management framework that allows financial institutions to implement a comprehensive risk management process to identify, assess, oversee, and control or mitigate all relevant risks.

Contingency funding plan (Contingency planning)

A set of general policies and procedures resulting from a vulnerability analysis, used to prevent, address and overcome any type of emergencies arising during the conduct of business in a financial institution, and specifically in this case, liquidity problems.

Contingent liability

A is either a possible obligation arising from past events and depending on future events not under an entity's control, or a present obligation not recognized because either the entity cannot measure the obligation or settlement is not probable.

Coordination protocol

The definition of specific coordination instruments formally agreed to by different institutions.

Corporate governance

The system by which corporations are directed and controlled. A set of principles and practices that regulate the design, integration and functioning of a company's governance structure: shareholders, board of directors and senior management.

Corrective actions

Actions taken by the supervisor to eliminate the causes of an institution's problems or weaknesses.

Credit institution

Is a company the principal and permanent economic activity of which is to receive cash deposits and other repayable funds from the public and to grant loans for its own account and in its own name and provide other financing. Includes credit institutions that issue means of payment in the form of electronic money.

Credit line

An arrangement in which a bank extends a specified amount of unsecured credit to a specified borrower for a specified time period.

Currency convertibility

The ease with which a country's currency can be converted into another currency.

Deposit insurance

A measure implemented in many countries to protect bank depositors, in full or in part, from losses caused by a bank's inability to pay its debts when due.

Derivative

A financial contract, whose value depends on the value of one or more underlying assets, rates or indices.

Dollarization

Dollarization means adopting the US dollar as the currency of choice in a foreign country.

Early redemption of a deposit

Anticipated withdrawal of a deposit.

Early warning system

A set of financial indicators used to detect certain risks in advance.

Financial autonomy

A supervised financial institution's ability to conduct financial management independently from its parent company or other related establishments.

Foreign exchange risk

A financial risk posed by an exposure to unanticipated changes in the exchange rate between two currencies.

Funds transfer pricing

A method used to individually measure how much each source of funding is contributing to overall profitability. The funds transfer pricing process is most often used in the banking industry as a means of outlining the areas of strength and weakness within the funding of the institution.

Held-to-maturity assets (HTM)

Assets that the financial institution has decided to hold until maturity.

Home supervisory authority

The supervisor located where the foreign bank subsidiary's parent bank is established.

Host supervisory authority

The supervisor located where the foreign bank subsidiary or branch is established.

HQLA

High-quality liquid assets as defined by Basel III.

Interbank liability

A financial institution's obligation to pay another financial institution at an agreed interest rate for periods of illiquidity considered temporary.

International financial crisis

A lack of stability of the financial market at the global level, which compromises the stability of the system as a whole.

IRL

A liquidity risk indicator used by the Financial Superintendence of Colombia.

LCR

Liquidity Coverage Ratio. Part of Basel III's liquidity standards.

Level 1 assets

Include: Coins and bank notes, qualifying Central Bank reserves, qualifying marketable securities from sovereigns, Central Banks, PSEs, and multilateral development banks, and domestic sovereign or central bank debt for non-0% risk-weighted sovereigns.

Level 2 assets

As defined by the Basel Committee, it includes: Level 2A and Level 2B liquid assets.

Level 2A assets

Include: Sovereign, Central Bank, multilateral development banks, and PSE assets qualifying for 20% risk weighting, qualifying corporate debt securities rated AA- or higher, and qualifying covered bonds rated AA- or higher.

Level 2B assets

Include: Qualifying RMBS, qualifying corporate debt securities rated between A+ and BBB-, and qualifying common equity shares.

Line of liquidity

A revolving-type credit agreement that enables the customer to obtain funds to meet very short-term liquidity needs.

Liquidity buffer

A liquidity requirement that may be used under extraordinary circumstances or crisis situations.

Liquidity position

The difference between the sum of liquid assets on one side and short-term liabilities on the other side, measured over a defined period.

Liquidity risk management

The process of identifying, measuring, monitoring, controlling and reporting liquidity risk. A set of objectives, policies, procedures and actions established for this purpose.

Maturity mismatch

Occurs when the financial terms of an institution's assets and liabilities do not correspond.

Non-performing assets

A classification used by financial institutions that refers to loans that are in jeopardy of default. Once the borrower has failed to make interest or principal payments for 90 days the loan is considered to be a non-performing asset.

NSFR

Net Stable Funding Ratio. Part of Basel III's liquidity standards.

Off-balance sheet exposures

Refers to accounts that are not part of a financial institution's balance-sheet.

Offsetting

Netting of asset positions with liability positions.

Off-site inspection

Desk-based inspection carried out by the supervisory authority, based on financial and management information provided by financial institutions.

On-site inspection

Inspection carried out by the supervisory authority through inspections or visits to financial institutions.

Payment system

A set of instruments, banking procedures and interbank fund transfer systems that ensure the circulation of money. Traditionally, payments systems are classified in two groups: high value and low value.

Pledged assets or collateral

An asset that is transferred to a lender for the purpose of securing debt. The lender of the debt maintains possession of the pledged asset, but does not have ownership unless default occurs.

SARL

A liquidity risk management system.

RCL

Liquidity indicator used in Peru, similar to the LCR.

Repurchase Agreement “Repo”

A form of short-term borrowing. The dealer sells the securities, usually on an overnight basis, and buys them back at a future date and price.

Reserve requirements

Requirements regarding the amount of funds that banks must hold in reserve against deposits made by their customers. This money must be in the bank’s vaults or at the central bank.

Residual maturity

Is the remaining time until the expiration or the repayment of the instrument.

Retail funding

Funding provided by small and medium-sized companies and individuals.

Risk exposure

The quantified potential for loss that might occur as a result of some activity.

Risk tolerance

The level of risk a company can or is willing to absorb, determined by the board of directors.

RSF

Required stable funding.

Savings and credit cooperatives

Savings and credit cooperatives is a type of cooperative whose objective is to pool savings for the members and in turn provide them with credit facilities.

Scenario

An internally consistent picture of a phenomenon, sequence of events, or situation, based on certain assumptions and factors (variables) chosen by its creator. Scenarios are used in estimating the probable effects of one or more variables, and are an integral part of situation analysis and long-term planning.

Secured funding

Funding backed by assets.

Securitization

The process of turning assets into securities, financial instruments that can be readily bought and sold in financial markets, the way stocks, bonds and futures contracts are traded.

Senior management

A group of high-level executives that actively participates in the planning and administrative processes required by a financial institution to help meet its objectives.

Small credit institution

A credit institution that concentrates a small percentage of the assets of the financial system.

Sound Principles

For the purposes of this document, refers to the *Principles for Sound Liquidity Risk Management and Supervision*, (BIS/BCBS - September 2008).

Specific crisis

Unstable situation specific to a particular financial institution.

Stable funding

Includes deposits and short-term liabilities that are expected to stay with the institution for an extended period, and liabilities with effective maturities of one year or greater.

Stress conditions

Unusual financial events where financial variables exhibit extreme behavior.

Stress tests

An analysis conducted under unfavorable economic scenarios, which is designed to determine whether a bank has enough capital to withstand the impact of adverse developments. Used for decision-making.

Supervision perimeter

The legal definition of the scope of supervision, in terms of entities and sectors to be supervised.

Surplus

The amount of an asset or resource that exceeds the portion that is utilized.

Systemically-important financial institution

Is a financial institution whose failure might trigger a financial crisis.

Systemic crisis

Unstable situation of the entire financial system.

Trading assets

A collection of securities held by a financial institution for the purpose of reselling for a profit.

Wholesale funding

Funding provided by institutions managing significant financial resources, such as, banks, institutional investors, large companies and international corporations.

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MISSION

Contribute to the strengthening of bank regulation and supervision and financial system stability in the Region by actively sharing information and disseminating knowledge; providing support and services that lead to increased technical capacity and leadership; supporting the adoption and implementation of sound supervisory practices; and promoting timely and relevant international dialogue.

OBJECTIVES

- a. Promote and maintain close communication among the Association's Members, in order to facilitate co-operation among them, and to promote the improvement of their respective capabilities;
- b. Provide its members with a high-level discussion forum for the exchange of information, ideas, techniques, experiences and knowledge over their scope of competence;
- c. Promote and carry out research and analysis on financial regulation and supervision as well as financial stability;
- d. Organize and conduct systematic and permanent training programs as well as technical cooperation amongst its Members;
- e. Promote cooperation and exchange relationships with non-member bank supervisors, with financial standard setting institutions, with international and multilateral technical cooperation institutions, with other organizations with similar objectives and with organizations representative of the supervised entities; and
- f. In general, to carry out every activity related to its purposes.