IPPF
International Professional Practices Framework

Auditing Liquidity Risk Management for Banks

2nd Edition

Supplemental Guidance | **Practice Guide**

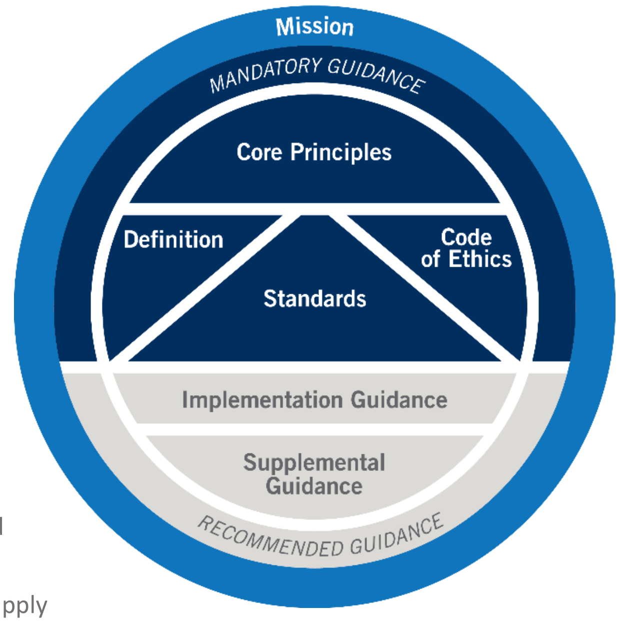
FINANCIAL SERVICES

The Institute of Internal Auditors

About the IPPF

International Professional Practices Framework

The International Professional Practices Framework® (IPPF®) is the conceptual framework that organizes authoritative guidance promulgated by The IIA for internal audit professionals worldwide.



Mandatory Guidance is developed following an established due diligence process, which includes a period of public exposure for stakeholder input. The mandatory elements of the IPPF are:

- Core Principles for the Professional Practice of Internal Auditing.
- Definition of Internal Auditing.
- Code of Ethics.
- International Standards for the Professional Practice of Internal Auditing.

Recommended Guidance includes Implementation and Supplemental Guidance. Implementation Guidance is designed to help internal auditors understand how to apply and conform with the requirements of Mandatory Guidance.

About Supplemental Guidance

Supplemental Guidance provides additional information, advice, and best practices for providing internal audit services. It supports the *Standards* by addressing topical areas and sector-specific issues in more detail than Implementation Guidance and is endorsed by The IIA through formal review and approval processes.

Practice Guides

Practice Guides, a type of Supplemental Guidance, provide detailed approaches, step-by-step processes, and examples intended to support all internal auditors. Select Practice Guides focus on:

- Financial Services.
- Public Sector.
- Information Technology (GTAG®).

For an overview of authoritative guidance materials provided by The IIA, please visit www.theiia.org.

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Executive Summary

Banking supervisors[1] consider liquidity to be a pillar of a robust and solvent financial sector. Supervisory principles hold boards accountable for an organization's liquidity adequacy assessment. Those principles advocate a relevant and active internal audit role in assessing an organization's liquidity risk management (LRM) process.

To assure the institution's senior management and board that liquidity management is aligned to the business strategy and risk appetite, internal auditors need an approach that fulfills internationally supported standards and local regulations. The IIA's *International Standards for the Professional Practice of Internal Auditing* (*Standards*) and the Three Lines Model clarify the role of the internal audit activity in providing this independent assurance.

Regulators review and evaluate banks based on procedural and methodological tools, including specific metrics and mandatory reporting. Each financial institution's liquidity risk management framework is a crucial contributor to the health of the entire financial system and economy.

This practice guide gives an overview of international standards and best practices of LRM, including the use of an LRM framework. It describes the organizational roles and responsibilities related to liquidity governance, risk management, control, and monitoring processes. These include the internal audit activity's role as the provider of independent assurance over the quality and effectiveness of those processes. Due to the complexity of the subject, internal auditors should review whether they have the necessary knowledge, skills, and experience to undertake LRM audit activities, as noted in the Competency Rule of Conduct in The IIA's code of Ethics.

1. In this practice guide, the terms "banking supervisor" and "supervisor" refer to a responsible authority with the necessary legal powers to authorize banks, conduct ongoing supervision, address compliance with laws, and undertake timely corrective actions to address safety and soundness concerns. Adapted from Basel Committee on Banking Supervision. *Core Principles for Effective Banking Supervision* (Basel, Switzerland: Bank for International Settlements, 2012).

Introduction

The central bank governors of the Group of Ten countries (G10) established the Basel Committee on Banking Supervision in 1974. The G10 formed the Basel Committee to enhance financial stability by improving the quality of banking supervision worldwide. It also serves as a forum for its 45 member countries for regular cooperation on banking supervisory matters. The Basel Committee issued an initial capital adequacy framework in 1988, and it continues to revise and supplement the internationally recognized framework to strengthen the banking sector's regulation, supervision, and **risk management**.

Note

Terms in bold are defined in the Glossary in Appendix B.

However, liquidity **risk** was not well regulated before the financial crisis that began in 2007. Because of weak liquidity management, many banks had difficulties rolling over funding to support lending activities or maintain positive cash flows, despite having capital levels that complied with regulatory ratios then in effect. As the commercial paper market froze, the banking system came under severe stress, and banks were unable to trade or sell assets that had been liquid previously. The crisis brought to the forefront **liquidity's** important role in the healthy functioning of the banking sector, financial markets, and the greater economy.

In response, the Basel Committee reformed its standards and principles related to capital adequacy and liquidity risk management. Known as the Basel Framework, the comprehensive set of reform measures aimed to improve the banking sector's ability to absorb shocks arising from financial and economic stress, strengthen banks' transparency and disclosures, and improve risk management and **governance.**[2]

Specific to the global liquidity standard, the Basel Framework issued a common set of supervisory monitoring metrics, the liquidity coverage ratio (LCR)[3], the net stable funding ratio (NSFR)[4], and a guidance document for LRM, *Principles for Sound Liquidity Risk Management and Supervision*. The 17 internationally recognized principles for managing and monitoring liquidity risk, which are listed in Appendix C, are grouped into five main categories that form the subsections of this guidance:

1. Key principles for the management and supervision of liquidity risk.
2. Governance of liquidity risk management.
3. Measurement and management of liquidity risk.
4. Public disclosure.

2. Basel Committee. *International framework*.
3. Basel Committee. *Liquidity Coverage Ratio*.
4. Basel Committee. *Stable funding ratio.*

5. The role of supervisors.

Many banking systems have implemented and maintained Basel Framework requirements — taking into account the requirements of their jurisdictions. In addition, many countries have created their own adaptations of its liquidity standards and measures. Internal auditors should be aware of any variations their organization has chosen, or is required to follow, regarding the Basel Framework’s LRM defined practices. For example, a bank may differ in approach to LRM based upon its on- and off-balance sheet obligations. Even when the organization does not follow the Basel Framework strictly, internal auditors can refer to this guide's principles and best practices.

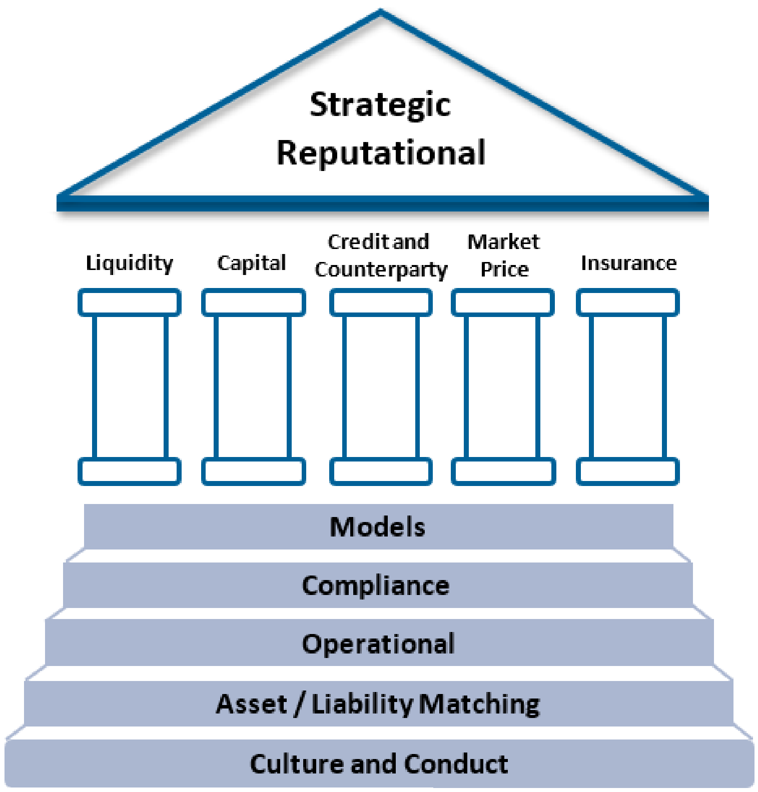
The internal audit activity assures senior management and the **board** that the LRM processes effectively meet the organization's regulatory obligations and liquidity needs. However, fulfilling regulatory obligations is only a foundation for sound LRM.

Much broader than assuring compliance with regulations, the internal audit activity's role is linked to the organization's strategy and objectives (Standard 2200 – Engagement Planning). The internal audit activity provides assurance and advice regarding managing those **risks** that threaten the organization's ability to achieve its objectives. It assures senior management and the board that the LRM framework aligns with the bank's strategy and **risk appetite**, and that LRM processes operate effectively as designed. In an ever-changing global economic environment where technology, inflation, war, political unrest, and fraud continue to rapidly move financial markets, an effective LRM framework is crucial to maintaining stability in the banking sector.

Business Significant Risks

To properly manage their organization's risks, employees must understand the terminology associated with risk management, compliance, and internal auditing. One tool to communicate risk information across organizations is a risk framework. The IIA's Financial Services Guidance Committee has developed a comprehensive risk framework specifically for financial services organizations. This risk framework, depicted in **Figure 1**, illustrates the significant areas of risk applicable to the financial services industry globally.

Figure 1. The IIA's Financial Services Risk Framework



Source: The Institute of Internal Auditors.

Banking institutions are inherently vulnerable to liquidity risk, one of the significant risk areas in the Financial Services Risk Framework. As defined in the *Principles for Sound Liquidity Risk Management and Supervision*, liquidity is "the ability of a bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses."[5]

5. Basel Committee. *Sound Liquidity Risk Management*.

The Basel Committee defines two main types of liquidity risk: funding liquidity risk and market liquidity risk. Funding liquidity risk is "the risk that the firm will not be able to meet efficiently both expected and unexpected current and future cash flow and collateral needs without affecting either daily operations or the financial condition of the firm." Market liquidity risk is “the risk that a firm cannot easily offset or eliminate a position at the market price because of inadequate market depth or market disruption.”[6] This guidance refers primarily to funding liquidity risk, because market liquidity risk is more dependent on outside factors that are unique to each bank.

Funding liquidity risk includes the various risks that could cause a bank to be unable to pay its debts and obligations when due. For example, banks may be unable to procure sufficient funds under stressed scenarios, such as inflation rate movement, stock market fluctuations, or delinquency rate changes which would result in asset flight-to-quality and loss of trading counterparties or creditors. Systemic inability to convert investments or procure funds can cause a liquidity crisis or a credit crunch, a time in which loans become difficult to obtain and interest rates increase.

Liquidity risk is unpredictable and challenging to measure for several reasons:

- Cash-flow obligations are uncertain because they depend on external events and entities.
- The likelihood that a liquidity risk event may occur is hard to predict because of secondary risk events.
- The impact of liquidity risk events can multiply and have wide-ranging adverse effects on the greater financial system and economy.
- Liquidity risk evolves at a high velocity, which could quickly lead to a tipping point beyond which recovery is difficult. This could happen even when an organization has not started to suffer loss of liquidity.
- Changes in financial markets have made financial systems increasingly interconnected, leading to faster transmission of stress and more complexity in containing the impact.

The internal audit activity plays an essential role in assessing LRM by providing assurance to governing boards and regulators. Local regulations usually determine the general reporting requirements of banks, and internal auditors should be aware of the reporting and other regulatory requirements related to assessing the bank's liquidity adequacy.

Internal auditors also should be aware of the bank’s overall liquidity management framework and practices, such as the volume of high-quality liquid assets, the amount and type of unencumbered assets, the contingency funding plan, and stress test results. For example, bank management may be required to report specific metrics quarterly or monthly, with or without a formal annual report on their internal liquidity adequacy assessment process. The internal audit activity can add value by understanding and evaluating the organization's ability to meet the regulatory requirements and adapt to future changes.

6. Basel Committee. *Sound Liquidity Risk Management*.

Key Principles for the Management and Supervision of Liquidity Risk

A bank must establish an LRM framework that ensures it can meet its obligations in its day-to-day operation and during periods of liquidity stress, whether the stress is specific to the individual institution or systemic throughout the financial system. The goal is to ensure that the institution can deal with liquidity stress that could cause loss or deterioration of funding sources up to a predetermined risk appetite or tolerance level. Thus, each bank must maintain an easily accessible buffer of highly liquid assets at a level that reflects a prudent assessment of its exposures to key liquidity risk drivers. Exposures to liquidity risk can come from business and funding models, customer and counterparty behavior characteristics, product design features, and reputations.

The LRM framework must include a defined approach to managing the bank's liquidity risk events in an orderly fashion aligned with the bank's risk appetite, **risk tolerance**, and strategic objectives. The framework should also include a methodology for analyzing internal and external factors to identify, assess, and manage liquidity risks. The methodology should include descriptions of the indicators, metrics, and limits that inform and alert management of potential liquidity issues.

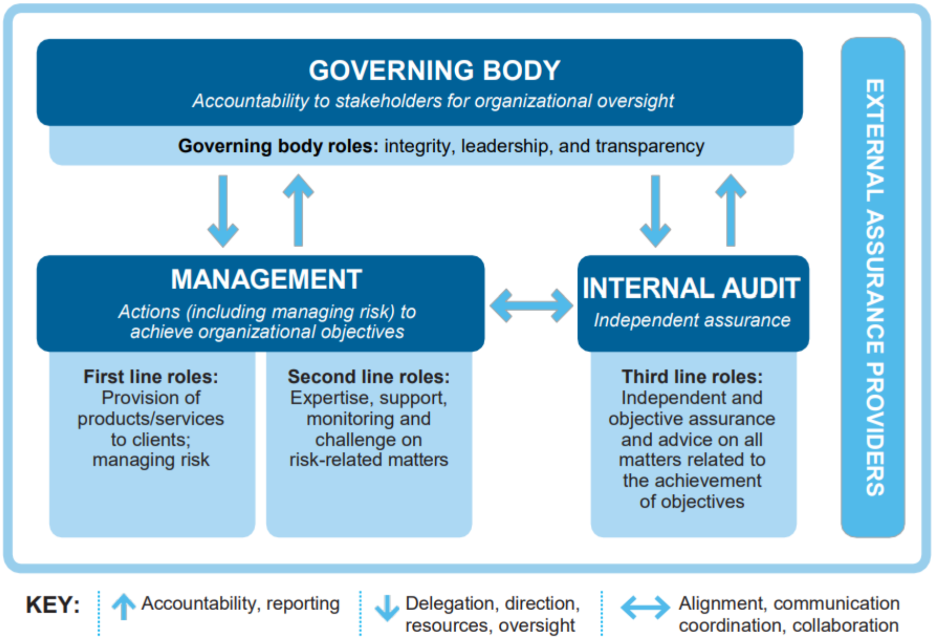
Governance of Liquidity Risk Management

Risk management is a fundamental element of sound governance. Successful management of liquidity risk, like any other area of risk, requires clearly defined roles and responsibilities throughout the organization. The Basel Framework holds the board accountable for determining that the bank's liquidity and LRM processes are adequate. The bank's management is responsible for establishing and operating the risk management framework on behalf of the board.

Three Lines Model and Liquidity Risk Management

As shown in **Figure 2**, the Three Lines Model differentiates responsibilities to ensure effective risk management, control, and governance, along with independent assurance. Differentiated roles, responsibilities, and processes in a clear governance structure support the organization's ability to achieve its objectives in the context of the social, regulatory, and economic environments.

Figure 2. The Three Lines Model



The first line roles refer to operational management primarily responsible for maintaining effective processes that manage and mitigate liquidity risk in day-to-day business activities. The second line roles consist of separately established risk policy and control functions that independently monitor and challenge the first line, ensuring that it operates within the predefined risk tolerance level.

Senior management's asset and liability committee (ALCO) oversees the establishment of policies and strategy, makes key liquidity risk decisions, and regularly reviews the organization's liquidity risk profile.[7] The risk management function reporting to the chief risk officer is typically charged with performing second line responsibilities. In small or less mature institutions, the board or other types of committees may perform similar functions. However, internal auditors should recommend in this situation that the board create a clear delineation of first- and second-line responsibilities as part of good governance.

The ALCO typically reports to the board. Its members should include those with authority over the business units responsible for executing liquidity-related transactions and other activities within the risk management process. These roles need to be represented on the committee because they significantly influence the institution's liquidity strategy.

Examples of such business units include lending, investment securities, and wholesale and retail funding. Risk management may also validate the ALCO's decisions and the execution of those decisions. In addition, the Basel Framework guidelines specify requirements for second line roles (risk management, compliance, and financial functions) to report bank activities to the board regularly.

7. In this practice guide, the term ALCO refers to senior management's assets and liabilities committee or to a committee or group charged with similar responsibilities that may have another name.

The third line is the internal audit activity, which provides independent assurance over the processes implemented by the first line and overseen by the second line. Only the assurance provided by the third line can be deemed objective and independent. Instead of being directly responsible for any risk management activities, the internal audit activity independently assesses the adequacy and effectiveness of the policies and processes applied by the other lines and reports directly to the board without the influence of management. Such an evaluation includes determining whether the outcomes achieved by management align with the organization's mission, objectives, and risk appetite.

The nature and types of these functions depend on many factors, including organizational maturity. In general, those in the first line role should propose targets that allow the organization to operate within the defined risk appetite and policy limits. The functions in place to challenge first line targets (for example, the bank's risk management function) should propose risk appetite and limits for board approval and ensure that those proposals are appropriately consistent with the bank's risk profile.

The ALCO should review the liquidity risk profile and monitor conformance to the bank's stated risk appetite. This oversight includes evaluating and reacting to changing market conditions and ensuring that adequate liquidity and capital resources, as well as robust stress testing programs and contingency plans, are in place. The board should review and approve the bank's strategy, quality, and risk management practices at least annually, and must review and ratify any material policy changes. Ultimately, the board is responsible for ensuring that senior management effectively manages liquidity risks.

To assess the effectiveness of the LRM framework, internal auditors should first understand the bank's liquidity strategy (Standard 2201 – Planning Considerations). Internal auditors may participate in senior management committee meetings as nonvoting observers to gain insight into this strategy. Nonvoting observation enables internal auditors to maintain the independent positioning required by Standard 1110 – Organizational Independence. Internal auditors may observe ALCO meetings and any other risk management committee and board meetings about liquidity risks to evaluate:

- How the entities work and establish responsibilities.
- Whether the entities are sufficiently informed to make decisions.
- The frequency and content of presentations about liquidity risks.

Internal auditors may review the charters and meeting minutes of the ALCO and any relevant risk committee(s), as well as management reports and other documents. This review will help them better understand the liquidity risk management process and the organization's governance structure, such as the roles and responsibilities within all levels of management.

Based on their observations and information gathering, internal auditors should identify and document sufficient, reliable, relevant, and useful information to achieve the engagement's objectives (Standard 2310 – Identifying Information). Additionally, documentation is needed to support the engagement's results and conclusions (Standard 2330 – Documenting Information).

Although the Basel Framework requirements may seem to give priority to such assessments over the governance of liquidity risk management, Standard 2110 – Governance applies equally. It requires internal auditors to assess and recommend improvements to the organization's governance processes in a number of areas. They include:

- Making strategic and operational decisions.
- Overseeing risk management and control.
- Promoting appropriate ethics and values.
- Ensuring effective performance management and accountability.
- Communicating risk and control information throughout the organization.
- Coordinating the activities of and communicating information among the board, external and internal auditors, other assurance providers, and management.

Liquidity Risk Appetite and Risk Tolerance

According to the Basel Framework's LRM Principle 3 (see Appendix C), senior management should develop the strategy, policies, and practices to manage liquidity risk according to the liquidity risk tolerance set by the board. The board should review and approve the strategy, policies, and procedures at least annually. Principle 3 also states that the board is ultimately responsible for the liquidity risk exposure assumed by the bank and how the risk is managed.

Therefore, the board should establish a liquidity risk tolerance that reflects the bank's business objectives, strategic direction, overall risk appetite, financial condition, funding capacity, and role in the financial system. The tolerance should ensure that the firm manages its liquidity prudently in steady times to withstand a prolonged period of stress. Senior management should articulate the risk tolerance so that the trade-off between risks and profits is clear to all levels of management. The ALCO should continuously review the bank's liquidity developments and regularly report to the board.

In support of the assessment of the LRM processes (Standard 2120 – Risk Management), internal auditors should obtain the organization's board-approved **risk appetite statement**. The statement typically includes metrics related to monitoring liquidity risk. Internal auditors should look for these metrics and assess whether they effectively capture the key risks. The statement should describe how management identifies the key risks the bank might be exposed to and how management sets the risk appetite and specific liquidity risk tolerance levels. Risk tolerances may be expressed as exposure limits.

Typically, the risk appetite statement includes at least two liquidity metrics during normal conditions and at least two during stress conditions, and the metrics are embedded in the limit structure. The risk appetite and liquidity risk tolerances should be integrated into overall liquidity management, including links to business strategy, risk strategy, internal capital adequacy assessment, and internal liquidity adequacy assessment.

Measurement and Management of Liquidity Risk

A bank's liquidity strategy, including policies and procedures for measuring, managing, and controlling liquidity, should help the bank maintain sufficient sources of liquid funds to meet its funding obligations as they come due. The strategy, policies, and procedures should be designed to ensure that the bank is able to fund all obligations across planned time horizons, during both normal operations and under stress situations such as those caused by extreme internal and external events.

The policies and procedures should also outline appropriate early warning indicators to alert the bank to a pending liquidity issue. These crises tend to spread quickly, given the rapid dissemination of information through mass media, social media, and other forms of communication. Measuring liquidity risk based on timely internal and external information is key to ensuring liquidity issues are identified and addressed in a timely fashion.

The Basel Framework introduced two minimum standards for measuring adequate funding and liquidity in stress situations. The liquidity coverage ratio (LCR), shown in **Figure 3**, was designed to promote the short-term resilience of a bank's liquidity risk profile by ensuring that the bank has sufficient high-quality liquid assets (HQLA) to survive a stress scenario lasting 30 days.

The net stable funding ratio (NSFR), shown in **Figure 4**, was developed to reduce funding risk over a long time horizon. It requires banks to fund their activities with sufficiently stable sources to mitigate the risk of future funding stress. The NSFR requires banks to maintain a stable funding profile proportionate to the composition of their assets and off-balance sheet activities.

Figure 3. Liquidity Coverage Ratio: Global Minimum Standard

The liquidity coverage ratio (LCR) promotes the short-term resilience of a bank's liquidity risk profile by ensuring that a bank has an adequate stock of unencumbered high-quality liquid assets (HQLA). These are assets that can be converted into cash easily and immediately in private markets to meet its liquidity needs for 30 calendar days. The LCR is expressed by the formula:

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

Phased timetable for LCR	2022	2023	2024
Minimum LCR requirement	80%	90%	100%

Once the LCR has been fully implemented, its 100% threshold will be a minimum requirement in normal times.

Source: *Basel III: Liquidity Coverage Ratio*

Figure 4: Net Stable Funding Ratio

The net stable funding ratio (NSFR) is defined as the amount of available stable funding relative to the amount of required stable funding. This ratio should be equal to at least 100% on an ongoing basis. "Available stable funding" is defined as the portion of capital and liabilities with values that are expected to be reliable over the one-year time horizon considered by the NSFR. NSFR is expressed by the formula:

$$\frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} \geq 100\%$$

Source: *Basel III: Net Stable Funding Ratio*

Internal auditors should verify that sound methodology is in place to estimate cash flows and is reflected in the bank's measurement and management policies and processes. Internal auditors may verify whether management:

- Has defined liquidity targets for cash and liquidity balances, monitors compliance with the specified limits, and reports instances of noncompliance to the oversight function.
- Reviews end-of-day liquidity positions and activities and takes actions to address liquidity shortfalls while abiding by the predefined governance requirements.
- Reports significant balance levels or shortfalls to the oversight committee.
- Monitors and takes action on, when appropriate, early warning indicators regarding the funding sources and markets.

Internal auditors should also consider how management ensures that liquidity positions and metrics are accurately computed. Data underlying liquidity monitoring and reporting systems should be assessed for accuracy. The financial instruments should be correctly classified, and weights and discounts should be applied consistently with the bank's framework and applicable regulatory guidance.

Measuring liquidity risk exposure is not enough if the bank does not have a strategy to ensure it manages the risk exposures appropriately. Good management of information systems, analysis of net funding requirements under alternative scenarios, diversification of funding sources, and contingency planning are the building blocks of a sound liquidity strategy. Senior management must develop and implement an LRM strategy that aligns with the bank's risk appetite and liquidity risk tolerance to ensure the bank maintains sufficient liquidity. The strategy should consider how liquidity risk is affected by other risks, such as credit, market, operational, and reputational risks.

The Basel Framework also provides various expectations for an effective LRM strategy:

- Management should apply an LRM framework that requires the projection of cash flows and the monitoring of risk exposures and funding needs, considering limitations to the transferability of liquidity.
- The bank should maintain a cushion of unencumbered HQLA that can be readily used without operational impediments.

- Management should develop and implement a funding strategy that provides effective access to diversified funding sources and monitors the factors that affect the bank's ability to raise funds.
- Intraday liquidity positions and risks should be actively managed under normal and stressed conditions to ensure the bank can fulfill financial obligations.
- Early warning indicators should be established to alert the bank of potential concerns. Liquidity crises can start small but spread quickly once taking hold.
- Collateral positions should be actively managed, with potential collateral calls being included in cash flow projections and stress testing.
- A range of liquidity stress scenarios should be analyzed regularly: bank-specific, market-wide, and a combination of both.
- Stress testing results should be reviewed and used to inform decisions to adjust LRM strategies, policies, and positions.
- Management should develop and regularly test contingency funding plans: conditions for plan activation, actions procedures, and protocols for addressing liquidity shortfalls in emergencies.

The ALCO is typically at the center of liquidity risk management. The policies and procedures that drive the ALCO's decisions and the bank's execution of those decisions need to include clear delineations of authority levels, escalation protocols, limits, and triggers. Internal auditors may evaluate whether the ALCO adequately reviews and monitors:

- The bank's short-term funding strategies to meet anticipated obligations.
- The bank's liquidity position.
- Internal and external risk factors that could negatively impact the organization's liquidity risk profile.
- Liquidity forecasts and trends by management.
- Activities of the bank's subsidiaries and affiliates and its obligations to help them meet their contractual obligations.
- Funding and contingency funding plans.
- Results of stress testing.
- Targets or ranges established for liquidity measures.

Liquidity stress testing is an integral component of a comprehensive liquidity risk management program. It estimates the impact of stress events and management actions on the bank’s cash flows and liquidity position. Stress scenarios should be customized to capture the bank’s key liquidity risk exposures resulting from bank-specific business strategies.

For assurance engagements covering the measurement and management of liquidity risk, internal auditors should determine whether:

- The bank's stress tests and scenarios represent a sufficient variety of bank-specific and market-wide liquidity risk events.
- The assumptions used in the scenarios are appropriate.

- The bank runs scenarios frequently enough to incorporate timely changes.

Stress testing can involve complex quantitative models, and the internal auditor may not have the requisite competencies to evaluate the testing assumptions and effectiveness. In these instances, according to IIA Standard 1210.A1 (related to Proficiency), the **chief audit executive** must obtain competent advice and assistance for assurance engagements involving outsourcing the assessment or employing a subject matter expert or guest auditor.

Public Disclosure

Basel Framework LRM Principle 13 states that a bank should regularly communicate information on its LRM and liquidity position to the public. Sufficient transparency enables market participants to maintain an informed opinion on the bank's ability to meet its liquidity obligations, ensuring effective market discipline.

However, some private banking holding companies do not have to disclose such information. Therefore, internal auditors should be familiar with regulations relevant to their organization. The IIA Code of Ethics requires internal auditors to uphold the principle of confidentiality, prudently protecting information according to their legal and professional obligations and supporting the legitimate and ethical objectives of the bank.

The information that the bank disseminates should detail the functions and responsibilities of the relevant committees. The LRM framework indicates the degree of centralization or decentralization of the treasury function that balances and manages the daily cash flow, liquidity of funds, and asset/liability management. When the functions of treasury and LRM are decentralized, the framework should describe the interaction between the units.

Additionally, the information should contain a qualitative explanation of the bank's liquidity metrics. These metrics include the time interval covered, whether the calculations were carried out under normal or stress conditions, the organizational level to which the indicators refer, and any assumptions used.

Internal auditors should evaluate whether the bank has established complete and accurate disclosures that allow market participants to develop an informed opinion on its ability to meet its liquidity needs. The purpose of this Basel Framework requirement aligns with one of the requirements within Standard 2130.A1. This requirement relates to the evaluation of the adequacy and effectiveness of controls related to the reliability and integrity of the bank’s financial and operational information. The internal audit activity must evaluate the adequacy and effectiveness of controls (Standard 1220 – Due Professional Care) related to these areas:

- The bank’s achievement of its strategic objectives.
- The reliability and integrity of its financial and operational information.
- The effectiveness and efficiency of its operations and programs.
- The bank’s ability to safeguard assets.
- The bank’s compliance with laws, regulations, policies, procedures, and contracts.

The Role of Supervisors

Supervisors periodically evaluate the bank's general LRM framework and its liquidity position to determine whether the bank complies with regulations related to liquidity management and whether the bank has sufficient capacity to adapt to the liquidity stresses that it might encounter. Internally, the first and second lines ensure that the bank adheres to regulatory requirements and adopts effective measures to correct any deficiencies detected.

Banks must demonstrate practices of prudent management of risks to supervisors, which includes maintaining liquidity appropriate to the size and complexity of their operations and services. Additionally, regulations specific to the management of liquidity risk establish multiple minimum requirements. Internal auditors may assess whether internal controls are sufficient to ensure the accuracy of information submitted to supervisors and whether the reporting capability is robust enough to support the submission on a timely basis. Supervisors typically request the following information:

- Liquidity position, submitted daily or monthly.
- Liquidity surplus by time bucket.
- The LCR.
- The NSFR.
- Stress test results (simulation and scenario analysis).
- Contingency funding plan.

Supervisors generally communicate with each other and appropriate public authorities, such as central banks, both within and outside their national jurisdictions, to effectively cooperate and coordinate supervisory efforts. While such communication is periodic under normal conditions, it typically becomes more frequent during periods of stress. Per IIA Standard 2050 – Coordination and Reliance, the CAE should share information, coordinate activities, and consider relying upon the work of other internal and external assurance and consulting service providers.

Internal auditors routinely work with supervisors to ensure the information provided to them is accurate and timely. They also will work with the supervisor to interpret their audit reports (Standard 2400 – Communicating Results) and understand the procedures performed in-house and by third parties. In general, the internal audit activity can function as a key liaison to assist the supervisors and the bank in fulfilling their responsibilities to each other and the public.

Working with supervisors is a common role for internal auditors. They should remain mindful of the Confidentiality Principle in The IIA's Code of Ethics that states, "internal auditors respect the value and ownership of information they receive and do not disclose information without appropriate authority unless there is a legal or professional obligation to do so." To follow this principle, internal auditors should operate within appropriate confidentiality safeguards and coordinate with the organization's legal team when sharing organization information.

Conclusion

Regular internal audit assessments are crucial in validating the sufficiency of a bank's liquidity risk management program. These independent assurance activities should include a review of the governance, management, measurement of liquidity risk, disclosures, and coordination with supervisors confirming adherence to the Basel Framework and internally implemented liquidity thresholds aligned with the bank's risk appetite.

Proper management of a bank's liquidity position is critical to its ability to withstand financial stress and manage negative cash flows. Internal auditors can play an important role in confirming the sufficiency of LRM process design and execution, which benefits not only the individual bank but the banking sector as a whole.

Appendix A. Relevant IIA Standards and Guidance

The following IIA resources were referenced throughout this practice guide. For more information about applying the *International Standards for the Professional Practice of Internal Auditing*, please refer to The IIA's Implementation Guides.

Code of Ethics
Principle 1: Integrity
Principle 3: Confidentiality
Principle 4: Competency
Standards
Standard 1110 – Organizational Independence
Standard 1210 – Proficiency
Standard 1220 – Due Professional Care
Standard 2050 – Coordination and Reliance
Standard 2110 – Governance
Standard 2120 – Risk Management
Standard 2130 – Control
Standard 2200 – Engagement Planning
Standard 2201 – Planning Considerations
Standard 2310 – Identifying Information
Standard 2330 – Documenting Information
Standard 2400 – Communicating Results
Guidance
Practice Guide, "Engagement Planning: Establishing Objectives and Scope," 2017.
Practice Guide, "Evaluating Ethics-Related Programs and Activities," 2012.
Position Paper, "The IIA's Three Lines Model: An Update of the Three Lines of Defense," 2020.

Appendix B. Glossary

Definitions of terms marked with an asterisk are taken from the "Glossary" of The IIA's publication "*International Professional Practices Framework*®, 2017 edition" (also known as the Red Book), published by the Internal Audit Foundation. Other sources are identified in footnotes.

board* – The highest level governing body (e.g., a board of directors, a supervisory board, or a board of governors or trustees) charged with the responsibility to direct and/or oversee the organization's activities and hold senior management accountable. Although governance arrangements vary among jurisdictions and sectors, typically the board includes members who are not part of management. If a board does not exist, the word "board" in the *Standards* refers to a group or person charged with governance of the organization. Furthermore, "board" in the *Standards* may refer to a committee or another body to which the governing body has delegated certain functions (e.g., an audit committee).

chief audit executive* – Describes the role of a person in a senior position responsible for effectively managing the internal audit activity in accordance with the internal audit charter and the mandatory elements of the International Professional Practices Framework. The chief audit executive or others reporting to the chief audit executive will have appropriate professional certifications and qualifications. The specific job title and/or responsibilities of the chief audit executive may vary across organizations.

governance* – The combination of processes and structures implemented by the board to inform, direct, manage, and monitor the activities of the organization toward the achievement of its objectives.

liquidity – The ability of a bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses. [8]

risk* – The possibility of an event occurring that will have an impact on the achievement of objectives. Risk is measured in terms of impact and likelihood.

risk appetite* – The level of risk that an organization is willing to accept.

risk appetite statement – The articulation in written form of the aggregate level and types of risk that a financial institution will accept or avoid in order to achieve its business objectives. It includes quantitative measures expressed relative to earnings, capital, risk measures, liquidity, and other relevant measures as appropriate. It should also address more difficult to quantify risks such as reputation and conduct risks as well as money laundering and unethical practices.[9]

8. Basel Committee. *Sound Liquidity Risk Management*.
9. Financial Stability Board. *Effective Risk Appetite*.

risk management* – A process to identify, assess, manage, and control potential events or situations to provide reasonable assurance regarding the achievement of the organization's objectives.

risk tolerance – The acceptable variation in outcomes related to specific performance measures linked to objectives the entity seeks to achieve.[10]

10. Beasley, Hancock, and Branson. *Enterprise Risk Management*.

Appendix C. Basel Framework Principles for the Management and Supervision of Liquidity Risk

Regulators and governing bodies worldwide have developed and discussed guiding principles for managing and monitoring liquidity risk. Internationally, the 17 LRM principles detailed in the Basel Framework are widely recognized.

Fundamental Principle for the Management and Supervision of Liquidity Risk	
1	A bank is responsible for the sound management of liquidity risk. A bank should establish a robust liquidity risk management framework that ensures it maintains sufficient liquidity, including a cushion of unencumbered, high-quality liquid assets, to withstand a range of stress events, including those involving the loss or impairment of both unsecured and secured funding sources. Supervisors should assess the adequacy of both a bank's liquidity risk management framework and its liquidity position and should take prompt action if a bank is deficient in either area in order to protect depositors and to limit potential damage to the financial system.
Governance of Liquidity Risk Management	
2	A bank should clearly articulate a liquidity risk tolerance that is appropriate for its business strategy and its role in the financial system.
3	Senior management should develop a strategy, policies, and practices to manage liquidity risk in accordance with the risk tolerance and to ensure that the bank maintains sufficient liquidity. Senior management should continuously review information on the bank's liquidity developments and report to the board of directors on a regular basis. A bank's board of directors should review and approve the strategy, policies, and practices related to the management of liquidity at least annually and ensure that senior management manages liquidity risk effectively.
4	A bank should incorporate liquidity costs, benefits and risks in the internal pricing, performance measurement and new product approval process for all significant business activities (both on- and off-balance sheet), thereby aligning the risk-taking incentives of individual business lines with the liquidity risk exposures their activities create for the bank as a whole.
Measurement and Management of Liquidity Risk	
5	A bank should have a sound process for identifying, measuring, monitoring, and controlling liquidity risk. This process should include a robust framework for comprehensively projecting cash flows arising from assets, liabilities, and off-balance sheet items over an appropriate set of time horizons.
6	A bank should actively monitor and control liquidity risk exposures and funding needs within and across legal entities, business lines and currencies, taking into account legal, regulatory, and operational limitations to the transferability of liquidity.
7	A bank should establish a funding strategy that provides effective diversification in the sources and tenor of funding. It should maintain an ongoing presence in its chosen funding markets and strong relationships with funds providers to promote effective diversification of funding sources. A bank should regularly gauge its

	capacity to raise funds quickly from each source. It should identify the main factors that affect its ability to raise funds and monitor those factors closely to ensure that estimates of fundraising capacity remain valid.
8	A bank should actively manage its intraday liquidity positions and risks to meet payment and settlement obligations on a timely basis under both normal and stressed conditions and thus contribute to the smooth functioning of payment and settlement systems.
9	A bank should actively manage its collateral positions, differentiating between encumbered and unencumbered assets. A bank should monitor the legal entity and physical location where collateral is held and how it may be mobilized in a timely manner.
10	A bank should conduct stress tests on a regular basis for a variety of short-term and protracted institution-specific and market-wide stress scenarios (individually and in combination) to identify sources of potential liquidity strain and to ensure that current exposures remain in accordance with a bank's established liquidity risk tolerance. A bank should use stress test outcomes to adjust its liquidity risk management strategies, policies, and positions, and to develop effective contingency plans.
11	A bank should have a formal contingency funding plan (CFP) that clearly sets out the strategies for addressing liquidity shortfalls in emergency situations. A CFP should outline policies to manage a range of stress environments, establish clear lines of responsibility, include clear invocation and escalation procedures, and be regularly tested and updated to ensure that it is operationally robust.
12	A bank should maintain a cushion of unencumbered, high-quality liquid assets to be held as insurance against a range of liquidity stress scenarios, including those that involve the loss or impairment of unsecured and typically available secured funding sources. There should be no legal, regulatory, or operational impediment to using these assets to obtain funding.
Public Disclosure	
13	A bank should publicly disclose information on a regular basis that enables market participants to make an informed judgement about the soundness of its liquidity risk management framework and liquidity position.
The Role of Supervisors	
14	Supervisors should regularly perform a comprehensive assessment of a bank's overall liquidity risk management framework and liquidity position to determine whether they deliver an adequate level of resilience to liquidity stress given the bank's role in the financial system.
15	Supervisors should supplement their regular assessments of a bank's liquidity risk management framework and liquidity position by monitoring a combination of internal reports, prudential reports, and market information.
16	Supervisors should intervene to require effective and timely remedial action by a bank to address deficiencies in its liquidity risk management processes or liquidity position.
17	Supervisors should communicate with other supervisors and public authorities, such as central banks, both within and across national borders, to facilitate effective cooperation regarding the supervision and oversight of liquidity risk management. Communication should occur regularly during normal times, with the nature and frequency of the information sharing increasing as appropriate during times of stress.

Appendix D. Sample Liquidity Risks and Controls

The table lists some of the main risk areas and controls that internal auditors consider when performing a liquidity risk engagement. The list is neither exhaustive nor meant to be used as an engagement work program or checklist. In practice, these risk areas should be broken down into their appropriate balance sheet accounts, product lines, or similar categories used by the particular organization and analyzed for relevant risks. The controls are broadly represented in categories of elements, such as strategies, documents, models, data flows, reports, and analyses that could be utilized to mitigate risks that may occur in the listed risk areas.

Liquidity Risk Area	Control Category
Equity capital and/or risk-weighted assets include inappropriate variations in products or investments.	• Stress testing multiple scenarios has been performed. • Equity capital and risk-weighted assets are regularly examined for appropriateness and completeness according to the Basel Framework's requirements and any local requirements.
Liabilities cannot be met when they come due or can only be met at an uneconomic price.	• Contingency funding plans for a variety of scenarios have been established. • Cash buffers are increased through sale of fixed assets. • Short-term financing sources are adequate. • Monitoring metrics that trigger a cutback in lending activities are in place. • Excess reserves are converted to cash.
Assets cannot be converted into cash.	• Asset liability management policy and procedures are in place. • Assets have been securitized and illiquid assets have been removed from the bank's balance sheet. • Repurchase agreements (repos) have been increased. • Commercial paper or bonds have been issued. • Quantity and type of high-quality liquid assets are appropriate for the bank's liquidity risk profile. • Increase unencumbered assets.
Liquidity Risk Area	Control Category
Off-balance sheet obligations are not properly reported.	• Protocols for testing off-balance sheet commitments are in place (such as FASB requirements 2016-02 ASC 842 and IFRS testing protocols).

Foreign exchange fluctuations are unfavorable.	• Hedge exposures via currency swaps. • Hedge exposures naturally.
Bank's liquidity metrics are not aligned with its risk appetite.	• ALCO regularly reviews the liquidity risk profile and monitors the bank's compliance with the risk appetite as stated by the board. • Control functions collaborate to ensure liquidity risk information is shared across the organization. • Intraday liquidity metrics are monitored on a real-time basis.
Liquidity events are not identified early enough to react.	• A process for responding to early warning indicators has been established. • Liquidity risk metrics, triggers, and limits are regularly monitored. • Macro- and micro-economic environments are regularly monitored. • Geopolitical environments in relevant markets are regularly monitored.
Board is not updated completely, clearly, and/or timely.	• ALCO or other relevant committee regularly reports on liquidity risks to the board.

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