



Bangko Sentral ng Pilipinas

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Subject: Guidelines on Liquidity Risk Management

The Monetary Board in its Resolution No. 1082 dated 31 August 2006 approved the adoption of the attached guidelines on liquidity risk management to ensure that financial institutions have the sufficient knowledge and skills necessary to understand and effectively manage liquidity risk.

The guidelines set forth the expectations of the Bangko Sentral ng Pilipinas (BSP) with respect to the management of liquidity risk and are intended to provide more consistency in how the risk-focused supervision function is applied to this risk. Financial institutions are expected to have an integrated approach to risk management to identify, measure, monitor and control risks. Liquidity risk should be reviewed together with other risks to determine overall risk profile.

These guidelines are intended for general application; specific application will depend on the size and sophistication of a particular financial institution and the nature and complexity of its activities.

This Circular shall take effect fifteen (15) days after its publication either in the Official Gazette or in a newspaper of general circulation.

FOR THE MONETARY BOARD:

ARMANDO L. SURATOS
Officer-In-Charge

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PANANALAPING MATATAG, BANSANG PANATAG

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GUIDELINES ON LIQUIDITY RISK MANAGEMENT

I. BACKGROUND

The ongoing viability of institutions, particularly financial organizations, is heavily influenced by their ability to manage liquidity. Innovations in investment and funding products, growth in off-balance sheet activities and continuous competition for consumer funds have affected the way financial institutions (FI) do business and intensified the need for proactive liquidity risk management. FIs need to fully understand, measure and control the resulting liquidity risk exposures.

II. STATEMENT OF POLICY

For purposes of these guidelines, financial institutions include banks, non-bank financial institutions supervised by the BSP and their financial subsidiaries.

The Bangko Sentral ng Pilipinas (BSP) recognizes the liquidity risk inherent in FI activities and how these activities expose an FI to multiple risks which may increase liquidity risk. The BSP will not restrict risk-taking activities as long as FIs are authorized to engage in such activities and:

- Understand, measure, monitor and control the risk they assume;
- Adopt risk management practices whose sophistication and effectiveness is commensurate to the risk assumed; and
- Maintain capital commensurate with their risk exposures.

The principles set forth in these guidelines shall be used to determine the level and trend of liquidity risk exposure and adequacy and effectiveness of an FI's liquidity risk management process. In evaluating the adequacy of an FI's liquidity position, the BSP shall consider the FI's current level and prospective sources of liquidity as compared to its funding needs. Further, the BSP will evaluate the adequacy of funds management practices relative to the FI's size, complexity, and risk profile.

In general, liquidity risk management practices should ensure that an institution is able to maintain a level of liquidity sufficient to meet its financial obligations in a timely manner and to fulfill the legitimate funding needs of its community. Practices should reflect the ability of the institution to manage unplanned changes in funding sources, as well as react to changes in market conditions that affect the ability to quickly liquidate assets with minimal loss. In addition, funds-management practices should ensure that liquidity is not consistently maintained at a high cost, from concentrated sources, or through undue reliance on funding sources that may not be available in times of financial stress or adverse changes in market conditions.

In evaluating the above parameters, the BSP shall consider the following factors:

- The actual and potential level of liquidity risk posed by the FI's products and services, balance sheet structure and off-balance sheet activities;
- The cost of an FI's access to money markets and other alternative sources of funding;
- The diversification of funding sources (on and off-balance sheet);
- The adequacy and effectiveness of Board and Senior Management oversight, particularly the Board's ability to recognize the effects of inter-related risk areas, such as market and reputation risks, to liquidity risk;
- The reasonableness of liquidity risk limits and controls in relation to earnings, as affected by the cost of access to money markets and other alternative sources of funding, and capital;
- The adequacy of measurement methodologies, monitoring and management information systems;
- The adequacy of foreign currency liquidity management;
- The appropriateness and reasonableness of contingency plans for handling liquidity crises;
- The adequacy of internal controls and audit of liquidity risk management process.

The sophistication of liquidity risk management shall depend on the size, nature and complexity of an FI's activities. However, in all instances, FIs are expected to measure their liquidity position on an ongoing basis, analyze net funding requirements under alternative scenarios, diversify funding sources and adopt contingency funding plans.

An FI's liquidity risk management system shall be assessed under the FI's general risk management framework, consistent with the guidelines on supervision by risk as set forth under BSP Circular No. 510 dated 3 February 2006. If an FI's risk exposures are deemed excessive relative to the FI's capital, or that the risk assumed is not well managed, the BSP will direct the FI to reduce its exposure and/or strengthen its risk management system.

III. LIQUIDITY RISK MANAGEMENT PROCESS

Liquidity risk management process should be tailored to an FI's structure and scope of operations and application can vary across institutions. Regardless of the structure, an FI's liquidity risk management process should be consistent with its general risk management framework and should be commensurate with the level of risk assumed. At a minimum, the process should:

1. **Identify Liquidity Risk.** Proper identification of liquidity risk requires that management understand both existing risk and prospective risks from new products and activities. It involves determining the volume and trends of liquidity needs and the sources of liquidity available to meet these needs. Identifying liquidity risk necessitates expressing the FI's desired level of risk exposure based on its ability and willingness to assume risk which may primarily depend on the FI's capital base and access to funds providers. Liquidity risk identification should be a continuing process and should occur at both the transaction, portfolio and entity level.

2. **Measure Liquidity Risk.** Adequate measurement systems enable FIs to quantify liquidity risk exposures on a per entity basis and across the consolidated organization. A relatively large organization with extensive scope of operations would generally require a more robust management information system to properly measure risk in a timely and comprehensive manner.
3. **Control Liquidity Risk.** The FI should establish policies and standards on acceptable product types, activities, counterparties and set risk limits on a transactional, portfolio and aggregate/consolidated basis to control liquidity risk. In setting limits, the FI should recognize any legal distinctions and possible obstacles to cash flow movements among affiliates or across separate books. Lines of authority and accountability should be clearly defined to ensure liquidity risk exposures remain reasonable and within the risk tolerance expressed by the Board.
4. **Monitor Liquidity Risk.** Monitoring liquidity risk requires timely review of liquidity risk positions and exceptions, including day-to-day liquidity management. Monitoring reports should be frequent, timely, and accurate and should be distributed to appropriate levels of management.

IV. DEFINITION OF LIQUIDITY RISK

Liquidity risk is generally defined as the current and prospective risk to earnings or capital arising from an FI's inability to meet its obligations when they come due without incurring unacceptable losses or costs. Liquidity risk includes the inability to manage unplanned decreases or changes in funding sources. Liquidity risk also arises from the failure to recognize or address changes in market conditions that affect the ability to liquidate assets quickly and with minimal loss in value.

In terms of capital markets and trading activities, FIs face two types of liquidity risk: funding liquidity risk and market liquidity risk. Funding liquidity risk refers to the inability to meet investment and funding requirements arising from cash flow mismatches without incurring unacceptable losses or costs. This is synonymous with the general definition of liquidity risk.

Market liquidity risk, on the other hand, refers to the risk that an institution cannot easily eliminate or offset a particular position because of inadequate liquidity in the market. The size of the bid/ask spread of instruments in a market provides a general indication of its depth, hence its liquidity, under normal circumstances. Market liquidity risk is also associated with the probability that large transactions may have a significant effect on market prices in markets that lack sufficient depth. In addition, market liquidity risk is associated with structured or complex investments as the market of potential buyers is typically small. Finally, FIs are exposed to the risk of an unexpected and sudden erosion of market liquidity. This could be the result of sharp price movement or jump in volatility, or internal to the FI such as that posed by a general loss of market confidence. Understanding market liquidity risk is particularly important for institutions with significant holdings of instruments traded in financial markets.

Market and liquidity risks are highly interrelated, particularly during times of uncertainty when there is a high correlation between the need for liquidity and market volatility. Likewise, an FI's exposure to other risks such as reputation, strategic, and credit risks, can likewise significantly affect an institution's liquidity risk. It is therefore important that an FI's liquidity risk management system is consistent with its general risk management framework.

V. SOUND LIQUIDITY RISK MANAGEMENT PRACTICES

When assessing an FI's liquidity risk management system, the BSP shall consider how an FI address the four basic elements of a sound risk management system:

- Active and appropriate Board and Senior management oversight;
- Adequate risk management policies and procedures;
- Appropriate risk measurement methodologies, limits structure, monitoring and management information system; and
- Comprehensive internal controls and independent audits

Evaluation of the adequacy of the FI's application of the above elements will be relative to the FI's risk profile. FIs with less complex operations may generally use more basic practices while larger, and/or more complex institutions will be expected to adopt more formal and sophisticated practices. Large organizations should likewise take a comprehensive perspective to measuring and controlling liquidity risk by understanding how subsidiaries and affiliates can raise or lower the consolidated risk profile.

A. Active and Appropriate Board and Senior Management Oversight¹

Effective liquidity risk management requires that the Board and Senior Management be fully informed of the level of liquidity risk assumed by the FI and ensure that the activities undertaken are within the prescribed risk tolerance. Senior management should have a thorough understanding of how other risks such as credit, market, operational and reputation risks impact the FI's overall liquidity strategy.

Responsibilities of the Board of Directors

The Board has the ultimate responsibility for understanding the nature and level of liquidity risk assumed by the FI and the processes used to manage it.

The Board of Directors should:

¹ This section refers to a management structure composed of a board of directors and senior management. The BSP is aware that there may be differences in some financial institutions as regards the organizational framework and functions of the board of directors and senior management. For instance, branches of foreign banks have board of directors located outside of the Philippines and are overseeing multiple branches in various countries. In this case, "board-equivalent" committees are appointed. Owing to these differences, the notions of the board of directors and the senior management are used in these guidelines not to identify legal constructs but rather to label two decision-making functions within a financial institution.

- Establish and guide the FI's strategic direction and tolerance for liquidity risk by adopting a formal written liquidity/funding policy that specifies quantitative and qualitative targets;
- Approve policies that govern or influence the FI's liquidity risk, including reasonable risk limits and clear guidelines which are adequately documented and communicated to all concerned;
- Identify the Senior Management staff who has the authority and responsibility for managing liquidity risk and ensure that this staff takes the necessary steps to monitor and control liquidity risk;
- Monitor the FI's performance and overall liquidity risk profile in a timely manner by requiring frequent reports that outline the liquidity position of the FI along with information sufficient to determine if the FI is complying with established risk limits;
- Mandate and track the implementation of corrective action in instances of breaches in policies and procedures;
- Establish, review and to the extent possible, test contingency plans for dealing with potential temporary and long-term liquidity disruptions; and
- Ensure that the FI has sufficient competent personnel, including internal audit staff, and adequate measurement systems to effectively manage liquidity risk.

Responsibilities of Senior Management

Senior Management is responsible for effectively executing the liquidity strategy and overseeing the daily and long-term management of liquidity risk. In managing the FI's activities, Senior Management should:

- Develop and implement procedures and practices that translate the Board's goals, objectives, and risk tolerances into operating standards that are transmitted to and well understood by personnel. Operating standards should be consistent with the Board's intent;
- Plan for adequate sources of liquidity to meet current and potential funding needs and establish guidelines for the development of contingency funding plans;
- Adhere to the lines of authority and responsibility that the Board has established for managing liquidity risk;
- Oversee the implementation and maintenance of management information and other systems that identify, measure, monitor, and control the FI's liquidity risk; and

- Establish effective internal controls over the liquidity risk management process.

In evaluating the quality of oversight provided by the Board and Senior Management, the BSP will evaluate how the Board and Senior Management carry out the above functions/responsibilities. Further, sound management practices are highly related to the quality of other areas/elements of risk management system. Thus, even if Board and Senior Management exhibit active oversight, the FI's policies, procedures, measurement methodologies, limits structure, monitoring and information systems, controls and audit should be adequate before quality of Board and Senior Management can be considered "satisfactory".

Lines of Responsibility and Authority

Management of liquidity risk generally requires collaboration from various business areas of the FI, thus a clear delineation of responsibilities is necessary. The management structure should clearly define the duties of senior level committees, members of which have authority over the units responsible for executing liquidity-related transactions. There should be a clear delegation of day-to-day operating responsibilities to particular departments such as the treasury department.

To ensure proper management of liquidity risk, the FI should designate an independent unit responsible for measuring, monitoring and controlling liquidity risk. Said unit should take a comprehensive approach and directly report to the Board of Directors or a committee thereof.

B. Adequate Risk Management Policies and Procedures

An FI's liquidity risk policies and procedures should be comprehensive, clearly defined, documented and duly approved by the Board of Directors. Policies and procedures should cover the FI's liquidity risk management system in order to provide appropriate guidance to management. These policies should be applied on a consolidated basis and, as appropriate, at the level of individual affiliates, especially when recognizing legal distinctions and possible obstacles to cash movements among affiliates.

Liquidity risk policies should identify the quantitative parameters used by the FI to define the acceptable level of liquidity risk such as risk limits and financial ratios as well as describe the measurement tools and assumptions used. Qualitative guidelines should include description of the FI's acceptable products and activities, including off-balance sheet transactions, desired composition of assets and liabilities, and approach towards managing liquidity in different currencies, geographies and across subsidiaries and affiliates. Where appropriate, a large FI should apply these policies on a consolidated basis to address risk exposures resulting from inter-connected funding structures and operations among members of an FI's corporate group.

It is essential that policies include the development of a formal liquidity risk measurement system that addresses business-as-usual scenarios and a contingency funding plan that addresses a variety of stress scenarios. FIs should likewise have specific procedures for addressing breaches in policies and implementation of corrective actions.

Management should periodically review its liquidity risk policies and ensure that these remain consistent with the level and complexity of the FI's operations. Policies should be updated to incorporate effects of new products/activities, changes in corporate structure and in light of its liquidity experience.

C. Appropriate Risk Measurement Methodologies, Limits Structure, Monitoring, and Management Information System

Liquidity Risk Measurement Models/Methodologies

An FI should have a measurement system in place capable of quantifying and capturing the main sources of liquidity risk in a timely and comprehensive manner. Liquidity management requires ongoing measurement, from intra-day liquidity to long-term liquidity positions. Depending on its risk profile, an FI can use techniques of simple calculations, static simulations based on current holdings or sophisticated models. What is essential is that the FI should be able to identify and avoid potential funding shortfalls such that the FI can consistently meet investment, funding and/or strategic targets.

FIs with simple operations can generally use a static approach to liquidity management. Static models are based on positions at a given point in time. While an exact definition of "simple operations" will not be provided, the BSP expects that banks using a static approach to liquidity management would limit their operations to core banking activities such as accepting plain vanilla deposits and making traditional loans. Such banks would not have active Treasury Departments, would not hold or offer structured products and would not be exposed to significant levels of FX risk. Board reporting could be less frequent than in more complex banks but in no event should be less than quarterly.

Complex FIs, on the other hand, will be expected to adopt more robust approaches such as a dynamic maturity/liquidity gap reporting or even simulation modeling. At a minimum, universal banks should use maximum cash outflow/liquidity or maturity gap models. FIs engaged in holding or offering significant levels of structured products and/or derivatives will be expected to have the capability to model the cash flows from these instruments under a variety of scenarios. Specifically, scenarios should be designed to measure the effects of a breach of the triggers (strike price) on these instruments.

Where the FI's organizational structure and business practices indicate cash flow movements and liquidity support among corporate group members, the FI should adopt a consolidated risk measurement tools to help management assess the group's liquidity risk exposure. Depending on the degree of inter-related funding, non-complex measurement and monitoring systems may be acceptable. However, large, complex FIs that display a high degree of inter-related and inter-

dependent funding will be expected to utilize more sophisticated monitoring and management systems. These systems should enable the Board of the consolidated entity to simulate and anticipate the funding needs of the FIs on both a consolidated basis and in each of its component parts.

Liquidity risk measurement methodologies/models should be documented and approved by the Board and should be periodically independently reviewed for reasonableness and tested for accuracy and data integrity. Assumptions used in managing liquidity should be periodically revisited to ensure that these remain valid.

Liquidity models require projecting all relevant cash flows. As such, FIs engaged in complex activities should have the capability to model the behavior of all assets, liabilities, and off-balance sheet items both under normal/business-as-usual and a variety of stressed conditions. Stressed conditions may include liquidity crisis confined within the institution, or a systemic liquidity crisis, in which all financial institutions are affected. For FIs operating in a global environment, cash flow projections should reflect various foreign-currency funding requirements.

When projecting cash flows, management should also estimate customer behavior in addition to contractual maturities. Many cash flows are uncertain and may not necessarily follow contractual maturities. Cash flows may be influenced by interest rates and customer behavior, or may simply follow a seasonal or cyclical pattern. When modeling liquidity risk, it is important that assumptions be documented. Assumptions should be reasonable and should be based on past experiences or with consideration of the potential impact of changes in business strategies and market conditions. Measurement tools should include a sufficient number of time bands to enable effective monitoring of both short- and long-term exposures. This expectation applies not only to complex simulation modeling, but to the construction of simple liquidity GAP models as well.

To sufficiently measure an FI's liquidity risk, management should analyze how its liquidity position is affected by changes in internal (company-specific) and external (market-related) conditions. Management will need to assess how a shift from a normal scenario to various levels of liquidity crisis can affect its ability to source external funds and at what cost, liquidate certain assets at expected prices within expected timeframes, or hasten the need to settle obligations (e.g., limited ability to roll-over deposits). Management should, at a minimum, consider stress scenarios where securities are sold at prices lower than anticipated and credit lines are partially or wholly cancelled.

Regardless of the liquidity risk models used, an FI should adopt an appropriate contingency plan for handling liquidity crisis. Well before a liquidity crisis occurs, management should carefully plan how to handle administrative matters in a crisis. Management credibility, which is essential to maintaining the public's confidence and access to funding, can be gained or lost depending on how well or poorly some administrative matters are handled. A contingency funding/liquidity plan ensures that an FI is ready to respond to liquidity crisis.

The sophistication of a contingency plan should be commensurate with the FI's complexity and risk exposure, activities, products and organizational structure. The plan should identify the types of events that will trigger the contingency plan, quantify potential funding needs and sources and provide the specific administrative policies and procedures to be followed in a liquidity crisis.

Specifically, the contingency plan should:

- Clearly identify, quantify and rank all sources of funding by preference including, but not limited to:
 - Reducing assets
 - Modifying the liability structure or increasing liabilities
 - Using off-balance-sheet sources, such as securitizations
 - Using other alternatives for controlling balance sheet changes
- Consider asset and liability strategies for responding to liquidity crisis including, but not limited to:
 - Whether to liquidate surplus money market assets
 - When (if at all) HTM securities might be liquidated
 - Whether to sell liquid securities in the repo markets
 - When to sell longer-term assets, fixed assets, or certain lines of business
 - Coordinating lead bank funding with that of the FI's other banks and non-bank affiliates
 - Developing strategies on how to interact with non-traditional funding sources (e.g., whom to contact, what type of information and how much detail should be provided, who will be available for further questions, and how to ensure that communications are consistent)
- Address administrative policies and procedures that should be used during a liquidity crisis:
 - The responsibilities of Senior Management during a funding crisis
 - Names, addresses, and telephone numbers of members of the crisis team
 - Where, geographically, team members will be assigned
 - Who will be assigned responsibility to initiate external contacts with regulators, analysts, investors, external auditors, press, significant customers, and others
 - How internal communications will flow between management, ALCO, investment portfolio managers, traders, employees, and others
 - How to ensure that the ALCO receives management reports that are pertinent and timely enough to allow members to understand the severity of the FI's circumstances and to implement appropriate responses.

The above outline of the scope of a good contingency plan is by no means exhaustive. FIs should devote significant time and consideration to scenarios that

are most likely, given their activities. Regardless of the strategies employed, an FI should consider the effects of such strategies on long-term liquidity positions and take appropriate actions to ensure that level of risk exposures shall remain or be brought down within the risk tolerance of the Board.

Limits Structure

The Board and Senior Management should establish limits on the nature and amount of liquidity risk they are willing to assume. In setting limits, management should consider the nature of the FI's strategies and activities, its past performance, the level of earnings and capital available to absorb potential losses and costs of an FI's access to money markets and other alternative sources of funding.

Limits can take various forms. FIs should address limits on types of funding sources and uses of funds, including off-balance sheet positions. In addition, policies should set targets for minimum holdings of liquid assets relative to liabilities. Complex FIs, or FIs engaged in complex activities should set maximum cumulative cash-flow mismatches over particular time horizons and establish counterparty limits. Such limits should be applied to all currencies to which the FI has a significant exposure. In particular, FIs should take into consideration any legal distinctions and possible obstacles to cash flow movements between the Regular Banking Unit (RBU) and the Foreign Currency Deposit Unit (FCDU).

When evaluating a bank's liquidity position, the BSP will consider low levels of liquid assets relative to liabilities, and significant negative funding gaps to be indicative of high liquidity risk exposure. Further, negative cash-flow mismatches in the short term time buckets will receive heightened scrutiny by the BSP and should also receive the attention of Senior Management and the Board of Directors.

Before accepting negative funding gaps, or setting limits that allow negative funding gaps, the Board and Senior Management should consider the FI's ability to fund these negative gaps. Factors include, but are not limited to: the availability of on-balance sheet liquidity, the amount of firm credit lines available from commercial sources that can be drawn to fund the shortfall, and the amount of unencumbered on-balance sheet assets that can be sold without excessive loss and in a reasonable time-frame.

Further, actual positions and limits should reflect the outcome of possible stress scenarios caused by internal and external factors, particularly those related to reputation risk. Stress scenarios should consider the possibility that securities may be sold at a greater discount and/or may take more time to sell than expected or that credit lines and other off-balance sheet sources of funding may be cancelled or may be unavailable at reasonable cost.

Management should define specific procedures for the prompt reporting and documentation of limit exceptions and the management approval and action required in such cases.

Liquidity Risk Monitoring and Reporting

An adequate management information system is critical in the risk monitoring process. The system should be able to provide the Board, Senior Management and other personnel with timely information on the FI's liquidity position in all the major currencies it deals in, on an individual and aggregate basis, and for various time periods.

Effective liquidity risk monitoring requires frequent routine liquidity reviews and more in-depth and comprehensive reviews on a periodic basis. In general, monitoring should include sufficient information and a clear presentation such that the reader can determine the FI's ongoing degree of compliance with risk limits. For example, reports should address funding concentrations, funding costs, projected funding needs and available funding sources.

Monitoring and Board reporting should be robust. It is not unreasonable to expect complex FIs or FIs engaged in complex activities to monitor liquidity on a daily basis. Board reporting should be no less frequent than monthly. However, the BSP would expect Board-level committees or sub-committees to receive more frequent reporting.

Comprehensive and accurate internal reports analyzing an FI's liquidity risk should be regularly prepared and reviewed by Senior Management and submitted to the Board of Directors.

D. Risk Controls and Audit

An FI should have adequate internal controls in place to protect the integrity of its liquidity risk management process. Fundamental to the internal control system is for the Board to prescribe independent reviews to evaluate the effectiveness of the risk management system and check compliance with established limits, policies and procedures.

An effective system of internal controls for liquidity risk includes:

- A strong internal control environment;
- An adequate process for identifying and evaluating liquidity risk;
- Adequate information systems; and
- Continual review of adherence to established policies and procedures.

To ensure that risk management objectives are achieved, management needs to focus on the following areas: appropriate approval processes, limits monitoring, periodic reporting, segregation of duties, restricted access to information systems and the regular evaluation and review by independent competent personnel.

Internal audit reviews should cover all aspects of the liquidity risk management process, including determining the appropriateness of the risk management system, accuracy and completeness of measurement models, reasonableness of assumptions and stress testing methodology. Audit staff

should have the skills commensurate with the sophistication of the FI's risk management systems. Audit results should be promptly reported to the Board. Deficiencies should be addressed in a timely manner and monitored until resolved/corrected.

E. Foreign Currency Liquidity Management

The principles described in this Circular also apply to the management of any foreign currency to which the FI maintains a significant exposure. Specifically, management should ensure that its measurement, monitoring and control systems account for these exposures as well. Management needs to set and regularly review limits on the size of its cash flow mismatches for each significant individual currency and in aggregate over appropriate time horizons. In addition, an FI should consider effects of other risk areas, particularly settlement risks from its off-balance sheet activities. An FI should also conservatively assess its access to foreign exchange markets when setting up its risk limits. As with overall liquidity risk management, foreign currency liquidity should be analyzed under various scenarios, including stressful conditions.