

Introduction

Liquidity represents the ability of a financial institution to meet all of its financial obligations and to fund changes to its balance sheet composition. Adequate liquidity is essential to provide for asset growth, whether the growth is anticipated or not. Furthermore, financial institutions should consider the cost of funds when considering liquidity. Liquid funds should be available at reasonable prices for the maturities needed to manage the balance sheet.

In view of the complexities of the regulated entities' on and off-balance sheet exposures and rapid changes in the financial marketplace, each regulated entity must establish an effective and independent funds management function. Funds management is the core of effective planning and financial management. It encompasses the management of the regulated entity's liquidity position and management of on- and off-balance sheet positions and liabilities to provide adequate financial resources to meet anticipated funding demands. Effective liquidity planning includes the consideration of the effect that future events may have on funding requirements, as well as the probability of such events occurring.

Liquidity risk is the risk that a regulated entity will be unable to meet its financial obligations as they come due or meet the credit needs of its customers, members, and associates in a timely and cost-efficient manner. Each regulated entity should implement a risk management policy that addresses standards regarding operational liquidity needs and contingent liquidity needs. The policy should include: an enumeration of specific types of investments to be held for such liquidity purposes, a description of the entity's ability to access capital markets during periods of market stress, and the methodology to be used for determining the regulated entity's operational and contingency liquidity needs. This examination module has applicability in the examination of the Enterprises (Fannie Mae and Freddie Mac), and the Federal Home Loan Banks (FHLBanks).

The funding of complex mortgage-related and option-embedded or structured assets can create liquidity management challenges for the regulated entities. Option-embedded assets and option-embedded liabilities make it difficult to estimate cash flows and the amount of cash needed to meet both operational liquidity needs (funds needed in the normal course of business) and contingent liquidity needs (funds needed for operational needs when access to capital markets is impeded).

The liquidity positions of the regulated entities can be affected by both internal and external sources. Among these sources are actions taken by the Federal Reserve, U.S. Treasury, or other government agencies; legislation relating to the government-sponsored enterprise (GSE) or its business; unexpected systemic events leading to the withdrawal of liquidity from the market; extreme market-wide widening of credit spreads; a downgrade of a GSE's or the U.S. government's credit ratings from the major ratings organizations; a significant decline in net worth of the regulated entity; or a sudden catastrophic operational failure in the financial sector

due to a terrorist attack or other disaster. For that reason, each regulated entity should have contingency plans in case of changes in the market or if its liquidity needs projections are incorrect.

Effective contingency planning involves identifying minimum and maximum liquidity needs under various scenarios and weighing alternative courses of action designed to meet those needs. As part of their strategic planning process, the regulated entities should have documented strategies for managing liquidity risk and clear policies and procedures for limiting and controlling risk exposures that appropriately reflect the regulated entity's risk tolerances. Strategies should identify primary sources of funding for meeting daily operating cash outflows, as well as seasonal and cyclical cash flow fluctuations. Strategies should also address alternative responses to various adverse business scenarios. Policies and procedures should provide for the formulation of plans and courses of actions for dealing with potential temporary, intermediate-term, and long-term liquidity disruptions. Senior management should coordinate the regulated entity's liquidity risk management with disaster, contingency, and strategic planning efforts, as well as with the risk management staff.

A useful liquidity assessment procedure is to monitor the "TED spread." This is the spread between three-month London Interbank Offered Rate (LIBOR) and three-month Treasury bills. This is a pure measure of credit risk sentiment. The term TED spread initially referenced the difference between the interest rates on three-month Treasury contracts and three-month EuroDollar contracts, expressed in LIBOR. When this spread is low (e.g., 25 basis points or less), then short-term markets are not stressed, and the regulated entities should have no problems accessing the agency debt market except for firm-specific credit issues. As the TED spread widens, access to the agency debt market may deteriorate. At the same time, as the TED spread widens, private unsecured counterparties will see some degradation in their access to international capital markets making the return of funds from counterparties less assured. Balance-sheet liquidity from the highest-quality counterparties is important when the TED spread is wide but less important when the TED spread is narrow.

Assessing the liquidity position of a regulated entity presents many challenges, especially in that market forces outside the control of the regulated entity can change rapidly and significantly affect liquidity needs. The regulated entities have three broad sources of liquidity: assets that are converted readily into cash with little or no discount and are held specifically for that reason, other assets that can be liquidated or pledged in a repurchase transaction, and debt issuance. Of these three sources, the regulated entities rely mostly on debt issuance, making maintaining access to the debt market, on reasonable terms, the key to liquidity management. A regulated entity should have financial modeling capabilities to identify potential liquidity shortfalls and simulate various market scenarios. Information from these simulations should serve as the basis for determining the adequacy of an institution's liquidity position.

Regulatory Environment

The primary authorities governing liquidity management activities are set forth below. The examiner should ensure that the application of such authorities to a regulated entity has been considered by the regulated entity and its legal counsel.

1) Rules and Regulations of the Federal Housing Finance Agency (FHFA) which include the following parts and sections relevant to liquidity management:

12 CFR part 1236 Prudential Management and Operations Standards (PMOS) Standard 5: Adequacy and Maintenance of Liquidity and Reserves, includes, among others, the following requirements:

- a) A regulated entity should establish a liquidity management framework that ensures it maintains sufficient liquidity to withstand a range of stressful events.
- b) A regulated entity should articulate a liquidity risk tolerance that is appropriate for its business strategy and its mission goals and objectives.
- c) A regulated entity should have a sound process for identifying, measuring, monitoring, controlling, and reporting its liquidity position and its liquidity risk exposures.
- d) A regulated entity should establish a funding strategy that provides effective diversification in the sources and tenor of funding.
- e) A regulated entity should conduct stress tests on a regular basis for a variety of institution-specific and market-wide stress scenarios to identify sources of potential liquidity strain and to ensure that current exposures remain in accordance with each regulated entity's established liquidity risk tolerance.
- f) A regulated entity should use stress test outcomes to adjust its liquidity management strategies, policies, and positions and to develop effective contingency plans.
- g) A regulated entity should have a formal contingency funding plan that clearly sets out the strategies for addressing liquidity shortfalls in emergencies. Where practical, contingent funding sources should be tested or drawn on periodically to assess their reliability and operational soundness.
- h) A regulated entity should maintain adequate reserves of liquid assets, including adequate reserves of unencumbered, marketable securities that can be liquidated to meet unexpected needs.

12 CFR part 1236 PMOS Standard 6: Management of Asset and Investment Portfolio Growth, includes a section on the responsibilities of the board of directors and senior management. This standard also includes, among other things, a requirement that each regulated entity should manage its asset growth and investment growth in a prudent manner that is consistent with the regulated entity's business strategy, board-approved policies and risk tolerances, and safe and sound operations.

12 CFR part 1236 PMOS Standard 7: Investments and Acquisitions of Assets, includes a section on the responsibilities of the board of directors and senior management. This standard also requires, among other things, that each regulated entity should have an investments policy that establishes the regulated entity's investment objectives, risk tolerances, investment constraints, and policies and procedures for selecting investments.

12 CFR part 1270 Liabilities sets forth, among other things, sources of funds for business operations for which an FHLBank is authorized to incur liabilities, such as consolidated obligations (COs), demand deposits, cash accounts, purchased Federal funds (Fed Funds), and repurchase agreements (Repos).

12 CFR 1270.3(b) also requires each FHLBank to hold liquidity reserves against members' deposits. In addition to these reserves, 12 CFR 932.8 requires that each FHLBank hold contingency liquidity in an amount sufficient to enable it to meet its liquidity needs, at a minimum to cover five business days of inability to access the CO debt markets.

12 CFR 1270.10(b) requires each FHLBank president to certify that the FHLBank will remain in compliance with the liquidity requirements in Section 11(g) of the FHLBank Act and any regulations, and will remain capable of making full and timely payment of all of its current obligations, including direct obligations, coming due during the next quarter.

2) *Rules and Regulations of the predecessor Office of Federal Housing Enterprise Oversight which include the following relevant to liquidity management:*

12 CFR part 1720 Safety and Soundness Standards addresses, among other things, balance sheet growth and management and non-mortgage liquidity investments.

3) *Rules and Regulations of the predecessor Federal Housing Finance Board (Finance Board), which include the following relevant to liquidity management:*

12 CFR part 917 addresses powers and responsibilities of the FHLBank boards of directors and senior management. In particular, 12 CFR 917.3, Risk Management, is pertinent.

12 CFR part 1207 Minority and Women Inclusion addresses, among other things, the responsibilities of the regulated entities and Office of Finance to develop, implement, and maintain policies to ensure the inclusion of minorities, women, and individuals with disabilities.

4) *Advisory Bulletins of the predecessor Finance Board and FHFA that provide supervisory guidance relating to the topic of liquidity management activities are the following:*

Advisory Bulletin 2003-AB-2, (Business Continuation Contingency Planning) dated February 10, 2003, and Advisory Bulletin 2002-AB-3, (Disaster Recovery Planning) dated February 13, 2002, offer guidance on specific attributes to be considered by FHLBanks in the formulation of their business continuity plans, and the establishment of bilateral agreements with other FHLBanks.

Advisory Bulletin 2005-AB-05, (Risk Management Oversight) dated May 18, 2005, provides guidance on the risk management responsibilities of the board of directors, senior management, and risk management function.

Advisory Bulletin 2012-AB-03 (FHFA Examination Rating System) dated December 19, 2012, describes the FHFA examination rating system, known as CAMELSO (Capital, Asset Quality, Management, Earnings, Liquidity, Sensitivity to Market Risk, and Operational Risk). Among other things, AB 2012-03 provides guidance to examiners when rating a regulated entity's earnings and instructs them to determine the quantity, trend, sustainability, and quality of earnings.

5) *OFHEO Policy Guidance*

Non-Mortgage Liquidity Investments, (PG-00-002), December 19, 2000.

6) *Issuance of the Board of Governors of the Federal Reserve System that address Intraday Liquidity Management and Payment System Risk Policy.*

In July 2006, the Board of Governors of the Federal Reserve System implemented changes in their daylight overdraft policy for GSEs and certain international organizations. The changes required these organizations to eliminate their daylight overdrafts at the Federal Reserve Banks relating to their interest and redemption payments and to pay a penalty fee if daylight overdrafts occur in their accounts as a result of their general corporate payment activity.

7) *Other Supervisory Guidance issued by the FHFA*

Memorandum dated March 6, 2009, from Stephen M. Cross, Deputy Director, Division of FHLBank Regulation, to Federal Home Loan Bank Presidents regarding Liquidity Guidelines for the FHLBanks provides specific instruction on liquidity standards. FHFA issued this memorandum because of stress and instability in domestic and international credit markets.

Memorandum dated May 22, 2013, from Owen Lennon, Examiner-in-Charge, Division of Enterprise Regulation, to Fannie Mae Executive Vice President and Chief Financial Officer regarding Liquidity Risk Management Guidance.

Memorandum dated July 15, 2013, from Duane Creel, Examiner-in-Charge, Division of Enterprise Regulation, to Freddie Mac Executive Vice President and Chief Risk Officer regarding Liquidity Risk Management Guidance.

Issues Specific to the FHLBanks

The primary source of funding for FHLBanks are the COs issued by the Office of Finance. Each FHLBank has access to CO bonds and other debt securities, allowing it to raise funds to meet liquidity needs. However, liquidity issues might arise when an FHLBank's access to capital markets is impeded due to a market disruption, disaster, or the inability of the Office of Finance to issue COs.

Traditionally, FHLBanks have relied upon domestic and global institutional investors. These wholesale sources of funds are generally stable and low cost. FHLBanks may also accept demand and time deposits from members; however, member deposits historically constitute an insignificant part of the FHLBank's total funding. FHLBanks successfully use market sources to diversify their funding bases among investors and across maturities. Unlike deposits, whose maturities are generally determined by the preferences of the member, funds in the capital markets can be accessed at a variety of tenors. The many choices among market funding alternatives have provided FHLBanks with flexibility in managing their cash flow and liquidity needs.

Reliance on market funding sources, however, leaves FHLBanks exposed to price and credit sensitivities of institutional investors. As a general rule, institutional investors are less willing than members to provide funds if an FHLBank is facing real or perceived financial difficulties. An FHLBank's ability to access the capital markets may also be adversely affected by outside events. For example, market exposure and accounting problems experienced by one GSE may "spill over" to an FHLBank and adversely affect the FHLBank System's ability to access funds at a reasonable cost.

When capital markets were stressed in 2008, for example, FHLBank access to term funds diminished. This, in part, reflected the reluctance of dealers to acquire any intermediate- or longer term FHLBank obligations, not because of the inherent credit quality of the bonds but because of the price risk the underwriters were exposed to during a time of market uncertainty. During the stress period, the FHLBanks faced stronger than typical demand for the shortest maturity discount notes (DNs) as market participants fled to quality and desired to shorten their maturities. Experience to-date indicates capital market access by the FHLBanks is less likely to be a question of no access at all than a question of a particular maturity and at what price.

Within the FHLBank System, liquidity management is a daily activity. Cash management/treasury personnel generally have the responsibility for ensuring that the FHLBank

has sufficient funds to meet its day-to-day obligations, commitments, and the financing needs of customers. This requires adequate forecasting of these needs and ensuring that the FHLBank not only has the financial capacity to raise funds, but also the balance sheet capacity to leverage capital and comply with the applicable regulatory requirements.

The key processes associated with liquidity management are:

- 1) Liquidity requirements are addressed in the FHLBank's risk management policy detailing guidelines for how risks to its liquidity are measured, monitored, and controlled. The risk management policy should address: statutory requirements with respect to deposit reserves; maintenance and management of operational and contingency liquidity; and the FHLBank's ability to meet potential funding needs arising from credit demand, deposit withdrawals, and debt redemption in a timely and cost-efficient manner.
- 2) Duties and responsibilities that pertain to liquidity management should be segregated between the key/critical functions of the FHLBank, such as capital markets, cash management/treasury, correspondent bank services, accounting, and management committees. Specific examples may include, but are not limited to, the following:
 - a) Designated capital markets personnel are authorized to execute investment transactions.
 - b) Cash management/treasury personnel are responsible for forecasting financing and liquidity needs and obtaining funding on a daily basis to satisfy those needs. Target balances have been established to meet start-of-day and end-of-day liquidity needs. Excess funds are usually invested in money market transactions.
 - c) Correspondent bank personnel are responsible for processing wire transactions.
 - d) Accounting personnel are responsible for posting transactions to the general ledger and reconciling the accounts.
 - e) Asset/liability management personnel provide reports to management that should reflect the regulated entity's degree of compliance with liquidity requirements.
 - f) Liquidity planning and funding is periodically reviewed with the applicable management committee(s).
- 3) The responsibility for monitoring the FHLBank's position with the Federal Reserve Bank is usually assigned to the FHLBank's cash management/treasury personnel. They should have inquiry access to the wire system allowing them to monitor large incoming/outgoing wire activity. In addition, the automated wire system should have software controls that establish internal dollar limits and prohibit wires that will overdraw the account at the Federal Reserve to reduce the potential for daylight overdrafts.
- 4) The FHLBank's investment policies should authorize specific individuals to execute investments, restrict investments to only highly rated counterparties, and require the diversification of money market transactions, reducing concentrations with specific

counterparties and countries.

- 5) The FHLBank's credit personnel should monitor the credit quality and collateral of advance borrowers and unsecured credit counterparties.
- 6) The FHLBank should establish agreements with other FHLBanks to serve as a surrogate for liquidity in times of need.
- 7) The following information should be periodically reported to the asset liability management committee and the board of directors:
 - a) Liquidity position and compliance.
 - b) Regulatory liquidity and reserve position compliance.
 - c) Projected asset and liability maturity gaps to assess whether liquidity targets in excess of policy requirements should be maintained.
- 8) 12 CFR 931.3 of the Finance Board regulations requires members to purchase capital stock of the FHLBank in accordance with the FHLBank's capital plan. Requests for large capital redemptions require review by cash management/treasury personnel to ensure sufficient CO capacity will be available to meet forecasted activity.
- 9) Credit lines should be established and agreements entered into with approved counterparties to permit the FHLBank to purchase Fed Funds or enter into Repos. The FHLBank's legal counsel should review the legal agreements, including master repurchase agreements, and be able to opine that the FHLBank's interests are adequately protected under them. The FHLBank should periodically test those lines.
- 10) Duties, responsibilities, and liabilities of the respective parties to agreements between the FHLBank and its key/critical vendors and outside service providers should be addressed in such legal agreements. The FHLBank's legal counsel should review the relevant legal agreements and be able to opine that the FHLBank's interests are adequately protected. In addition, an independent review of the outside service providers should be conducted in accordance with Statement on Standards for Attestation Engagements No. 16, Service Organization Control. Such independent reviews (referred to as SSAE 16s) should be obtained, or alternative methods performed to obtain assurances on the internal control structure of outside service providers that are used by the FHLBank.
- 11) A business continuity plan should be established to ensure continuation of the FHLBank's operations due to a disabling event. The plan should include the establishment and periodic testing of bilateral or "buddy bank" relationships with one or more other FHLBanks.

The following is a discussion of the FHLBank's funding instruments:

FHLBank Consolidated Obligation Debt Program

Discount note funding is usually the most economical way for FHLBanks to meet short-term or unanticipated demand for funds. DNs are offered into the market through regularly scheduled competitive auctions. DNs are auctioned twice weekly, on Tuesdays and Thursdays, to the selling group members. After issuance, DNs can be traded in the secondary market through securities dealers and banks. In addition, the Office of Finance has a "window" discount note program where it continually offers discount notes in a wide spectrum of maturities. The Office of Finance also markets overnight discount notes.

FHLBank CO bonds are issued in a wide variety of sizes, structures, and maturities. In addition, customized debt products tailored for specific investors/markets are actively considered, subject to the FHLBank System's funding requirements. COs are available in maturities ranging from less than one year to 30 years, with the majority of issues between one and five years. Issue sizes can range from \$1 million to \$7 billion, and individual bonds can be reopened to meet additional demand.

The FHLBanks have a calendar date to issue one Global Bond each month. These are typically fixed-rate, fixed-term bonds with a maturity of five years or less and an issue size of \$3 billion or more. In some months, the FHLBanks may elect not to issue a Global Bond or elect to reopen an existing bond, often for less than \$3 billion, but with a minimum size of \$1 billion.

The TAP Issue Program was launched on July 6, 1999, as a refinement to the FHLBank bullet bond auction process. Rather than frequently bringing numerous small bullet issues of similar maturities to market, the TAP Issue Program aggregates the most common maturities (2-, 3-, 5-, and 7-year) by reopening them over a three-month period. As a result, these "on-the-run" issues grow over each cycle thereby enhancing liquidity of these bonds. TAP Issues remain open for three months, after which they are closed and a new series of TAP Issues is opened to replace them. Among other things, the TAP Issue Program has reduced the number of separate bullet bonds issued and provided enhanced funding diversification for the FHLBanks.

There is a great deal of flexibility with the structures and terms of issues brought to market. Bullets and fixed-rate callables predominate, but the FHLBank System can place floaters, step-ups/downs, zeros, and many others, including range notes and amortizing prepayment-linked bonds. These option-embedded debt securities have improved the FHLBanks' funding costs, but have also created complexity in the funding structure. Nonetheless, the ability to issue option-embedded debt securities, particularly American callable bonds, is an important interest rate risk management tool.

Member Deposit Funding

Deposit funding is supplied by the deposits an FHLBank receives from its members. These deposits represent a limited funding source, but are a relatively stable source of funds. Members' customers usually maintain transaction accounts that include demand deposit accounts and time certificates of deposit. The returns from investment alternatives may affect the amount of funds provided by members.

For example, if higher returns are available from alternative investments, an FHLBank's deposit funding may decline. On the other hand, a sudden economic downturn may adversely affect the returns from investment alternatives and could result in significant cash inflows if members perceive FHLBanks as safe havens for their money during times of market turmoil. Generally, deposits as a funding source are insignificant and on average, may not represent more than two percent of the FHLBanks' total funding.

Other Borrowings

The FHLBank may borrow Fed Funds from the interbank market. The Fed Funds market is the day-to-day unsecured lending of excess reserve funds between banks. Such lending is referred to as "Fed Funds sold" by the lending bank and "Fed Funds purchased" by the borrowing bank. If a bank has excess reserves, it can sell the reserves and record the sale as an asset. If an FHLBank needs funds to meet its obligations or prevent an overdraft at its Federal Reserve Bank, it can purchase the excess reserves of another bank. The primary Fed Funds market is overnight, but maturities may extend a few days or weeks. Fed Funds are not deposits. Credit risk exists for the seller; however, if an FHLBank experiences financial difficulties, it may find its ability to borrow in the Fed Funds market hampered or eliminated. Historically, FHLBanks have rarely used Fed Funds as a funding source. Examiners should inquire as to the cause for an FHLBank to purchase Fed Funds, other than for routine testing of lines.

Assets as Liquidity Sources

FHLBanks typically hold liquid assets to supplement liquidity from liabilities. These assets can be quickly and easily converted to cash or are timed to mature when the managers anticipate a need for additional liquidity. Also, liquid assets include those that can be pledged or used in a Repo. Money market investments are usually the most liquid assets of an FHLBank. They include overnight and term Fed Funds, certificate of deposits, bank notes, and, to a lesser degree, commercial paper and bankers' acceptances. These are funds that normally can be withdrawn or transferred within one to two business days. However, a large money market investment portfolio may cause reputation risk for the FHLBank as it could be deemed an arbitrage strategy for the purpose of profits.

An FHLBank's investment securities can provide liquidity in three ways: (1) the maturity of a security; (2) the sale of securities for cash; or (3) the use of securities as collateral in a Repo or other borrowing. For an investment security to be saleable, it must not be encumbered. A security that is severely depreciated, has a small face amount, is already pledged or encumbered, or of poor credit quality is not a good candidate for collateral.

In accordance with Accounting Standards Codification 320, "Investments - Debt and Equity Securities," investment securities are separated into three categories; trading, available-for-sale (AFS), and held-to-maturity (HTM). HTM securities can be pledged or used as collateral in a Repo and, in this manner only, provide an FHLBank with a source of secondary liquidity. Because securities held for trading and AFS are not subject to the "intent and ability" restrictions of HTM securities, the FHLBank can sell, pledge, or use these trading and AFS securities as collateral for liquidity.

Other Off-Balance-Sheet Activities

Loan commitments, such as fee-paid letters of credit used as backup lines, are traditional uses of funds that are off-balance-sheet. Commitments to purchase a security "when issued" are another example of off-balance sheet uses of funds. Management should be able to estimate the amount of unfunded commitments that will require funding over various time horizons. Liquidity managers should assess how these and other off-balance-sheet activities will affect the FHLBank's cash flows and liquidity, especially in scenario analyses of a low probability high impact event.

Liquidity Standards

Stress and instability in the domestic and international credit markets caused FHFA to institute liquidity standards and reporting requirements for the FHLBanks. Currently, FHFA requires each FHLBank to maintain certain positive cash balances under two market scenarios. FHFA also requires that each FHLBank provide it with liquidity data each week demonstrating it is in compliance with these requirements. FHFA worked with FHLBank representatives in establishing standards for determining liquidity needs and maintaining minimal levels of liquid assets. The guidelines established were summarized in a March 2009 memorandum to the FHLBank Presidents and serve as the basis for financial scenario analyses completed by the institutions.

Issues Specific to the Enterprises

The primary source of funds for the Enterprises is proceeds from the issuance of short-term and long-term debt securities. Accordingly, each Enterprise's liquidity depends largely on its ability to issue unsecured debt in the capital markets. The Enterprises' status as GSEs and the support from the federal government continues to be essential to maintaining their access to the

unsecured debt markets.

As with the FHLBanks, the Enterprises have a diversified funding base of domestic and international investors. Purchasers of their debt securities include fund managers, commercial banks, pension funds, insurance companies, foreign central banks, corporations, state and local governments, and other municipal authorities. Purchasers of the Enterprises' debt securities are also geographically diversified, with a significant portion of their investors located in North America, South America, Europe, and Asia.

In addition to funding obtained from the issuance of debt securities, other sources of Enterprise funding include:

- 1) Principal and interest payments received on mortgage loans, mortgage-related securities, and non-mortgage investments.
- 2) Proceeds from the sale of mortgage-related securities, mortgage loans, and non-mortgage assets, including proceeds from the sales of foreclosed real estate assets.
- 3) Funds from Treasury pursuant to the senior preferred stock purchase agreement.
- 4) Borrowings under secured and unsecured intraday funding lines of credit established with financial institutions.
- 5) Guarantee fees received on Enterprise mortgage-backed securities (MBS).
- 6) Borrowings against mortgage-related securities and other investment securities held pursuant to repurchase agreements and loan agreements.
- 7) Payments received from mortgage insurance counterparties.
- 8) Net receipts on derivative instruments.

The Enterprises' primary funding needs include:

- 1) The repayment of matured, redeemed, and repurchased debt.
- 2) The purchase of mortgage loans (including delinquent loans from MBS trusts), mortgage-related securities, and other investments.
- 3) Interest payments on outstanding debt.
- 4) Dividend payments made to Treasury pursuant to the senior preferred stock purchase agreement.
- 5) Net payments on derivative instruments.
- 6) The pledging of collateral under derivative instruments.
- 7) Administrative expenses.
- 8) Losses incurred in connection with MBS guaranty obligations.
- 9) Losses incurred in sale of Other Real Estate Owned.

FHFA has directed each Enterprise to maintain a portfolio of highly liquid securities to cover 30 calendar days of net cash needs, assuming they would have no access to short- and long-term unsecured debt markets and also accounting for other assumptions required by FHFA. In

addition, the Enterprises are to maintain (within the cash and other investments portfolio) a daily balance of U.S. Treasury securities that has a redemption amount greater than or equal to 50 percent of the average of the previous three month-end balances of cash and other investments portfolio. Lastly the Enterprises are to maintain a portfolio of unencumbered agency mortgage securities and U.S. Treasury securities with more than one year remaining to maturity with a market value (less a discount and expected prepayments during the year) that meets or exceeds projected 365-day net cash needs. The guidelines established were summarized in memoranda issued to the Enterprises regarding liquidity risk management.

Treasury bills and deposits at the Federal Reserve are superior sources of liquidity. Such forms of liquidity, however, impose a trade-off because a regulated entity can hold such investments at a negative carry. Each regulated entity needs to evaluate the tradeoff between superior liquidity and the cost of carry.

Examination Guidance

The workprogram for the Liquidity examination module is detailed below. If this module is included in the examination scope, the examiner must perform worksteps sufficient in coverage to document the basis for conclusions on the quantity of risk and quality of risk management pertaining to this area. Transaction testing is mandatory and the examiner must document sufficient worksteps from Section 4, *Testing*, to support the findings and conclusions from this examination module.

In determining the extent of review and testing to be conducted in completing each examination, the examiner should take into account any applicable FHFA off-site monitoring or analysis reports, such as analyses of the quality and effectiveness of corporate governance practices, financial condition and performance, economic and housing industry conditions, internal controls, and audit coverage relating to the regulated entity's liquidity management activities.

NOTE: Text in (*italics*) referenced in a workstep represents illustrative guidance that serve as suggestions for specific inquiry.

1) Scope of Examination Work Performed

- 1) Review past reports of examination for outstanding issues or previous problems related to liquidity management.
- 2) Review FHFA off-site monitoring or analysis reports, and workpapers produced as part of on-going monitoring, related to liquidity management.
- 3) Assess the status of outstanding examination findings pertaining to liquidity management.
- 4) Review internal audit reports for outstanding issues relating to liquidity management.
- 5) Review minutes of meetings of the board of directors and relevant board and management committees for any issues regarding liquidity management.
- 6) Evaluate any significant changes related to liquidity risk management that have been implemented since the last examination or are being considered that may affect the regulated entity's risk profile.

Summarize the work performed in the examination of the regulated entity's liquidity management practices. To the extent there were modifications to the originally planned scope based on concerns identified during the examination, document those changes and the reasons for such changes.

2) Description of Risks

- 1) Determine if liquidity policies and procedures are approved by the board of directors and are coordinated with strategic and business plans. *(Does management with liquidity management responsibility have input in the strategic planning process?)*
- 2) Review and assess risk assessments of the areas that monitor or manage liquidity.
- 3) Review and evaluate the liquidity strategy to determine if it includes a stressed case scenario, defined tolerances, and if it has appropriate contingency steps. *(Does the stressed case scenario truly reflect an extreme event?)*
- 4) Review and evaluate periodic reports provided to the board of directors and senior management addressing liquidity relative to defined liquidity tolerances, significant risk exposures and control issues, corporate governance issues, and other matters needed or requested by the board of directors and senior management. *(Do reports contain information on the level of risk? Are reports timely?)*
- 5) Review any internal liquidity assessments and external liquidity consulting reports, if any, and ensure that issues are reported to the appropriate individuals within the organization. *(Is the opportunity cost of maintaining liquidity considered in the assessments?)*
- 6) Consider the regulated entity's capacity to borrow under any Federal government liquidity support program, if applicable.
- 7) Consider the stability of the regulated entity's funds providers' concentration by:
 - a) Geography
 - b) Type: banks, money market funds, central banks, state/local governments, insurance corporations, other.
 - c) Maturity.
- 8) Evaluate the capacity to issue liabilities to meet medium- and long-term liquidity needs. *(Consider the cost of the varying types and maturities of liabilities.)*

- 9) Assess the level of liquidity risk. Consider the following:
- a) Risk limits.
 - b) Structural balance sheet management.
 - c) Pricing.
 - d) Growth objectives.
 - e) Contingency funding planning.
 - f) Source concentrations.
 - g) Funding needs over various time horizons.
 - h) Financial condition of the regulated entity and the overall condition of the housing finance industry.

3) Risk Management

Risk Identification Process

- 1) Evaluate the effectiveness of any risk assessments, including quantitative and qualitative evaluations that identify the key risks and the controls established by the regulated entity over liquidity management activities. *(Is there any activity management can point to that it undertook in response to a risk assessment?)*
- 2) Evaluate the effectiveness of evaluations conducted pursuant to the Sarbanes-Oxley Act of 2002 (SARBOX) that identify the key risks and controls pertaining to financial reporting and evaluate potential fraud, and procedures implemented to periodically attest to the adequacy of the control environment.
- 3) Assess corrective actions on control weaknesses identified by the annual risk assessments and evaluations conducted under SARBOX.
- 4) Evaluate workflow and processes as well as controls, including the level and direction of risks to liquidity adequacy and quality of liquidity management. *(Are workflow evaluations focused on efficiency or on risk mitigation?)*
- 5) Evaluate any significant changes to liquidity management activities that have been implemented since the last examination or are being considered that may affect the regulated entity's risk profile such as management, systems, key personnel, product lines, funding, investment and derivative strategies, regulatory requirements, and processing. *(Were the changes done in conjunction with strategic or business line plan changes?)*

Organizational Structure

- 1) Identify functional department and reporting responsibilities.
- 2) Identify key personnel responsible for liquidity management activities and reporting lines.
- 3) Identify primary duties, responsibilities, and technical expertise of personnel. (*Are existing training opportunities sufficient to maintain staff's expertise?*)
- 4) Assess segregation of duties.
- 5) Determine whether there is cross-training of personnel.
- 6) Determine whether there is coordination with other departments such as risk management, information technology, treasury, investment, cash management, accounting, and wire transfer.
- 7) Identify management and board of directors committees with the responsibility of monitoring risks to the regulated entity's liquidity. (*Do any board members have any liquidity management background or expertise?*)

Policy and Procedure Development

- 1) Ensure that the board has approved the regulated entity's liquidity policy and that the policy addresses all areas of liquidity risk. Consider the following:
 - a) Risk limits.
 - b) Structural balance sheet management.
 - c) Pricing.
 - d) Growth objectives.
 - e) Contingency funding planning.
 - f) Management reporting.
 - g) Source concentrations.
 - h) Funding needs over various time horizons.
 - i) Financial condition of the regulated entity and the overall condition of the housing finance industry.

(Are established risk limits meaningful – are they set at levels that could be reasonably assumed to hit at some point? Are the time horizons used in the measurements relevant?)

- 2) Ensure that the regulated entity has reasonable guidelines for management of the liquidity position. Guidelines should be based on the structure of the investment and funding base.

Depending on how much the regulated entity relies on volatile liability markets, guidelines should call for the use of the following:

- a) Balance sheet ratios.
 - b) Total debt rolling over within one year/total debt outstanding.
 - c) The maintenance of minimum levels of U.S. Treasury securities.
 - d) Cash flow ratios.
 - e) Maintenance of minimum liquidity metrics.
 - f) Liquid assets/short-term funding.
 - g) Investor monitoring that periodically reviews limits on concentrations of funding sources by the following:
 - 1) Geographic markets.
 - 2) Instruments.
 - 3) Customer type.
- 3) Assess the diversification of funding sources, including earnings, borrowing, and capital contributions.
- 4) Ensure that guidelines in policies and procedures are consistent with strategic objectives and that planning, budgeting, and that new product development incorporates funding considerations in the decision-making process. (*Are the same personnel involved in all of these areas?*)
- 5) Determine if the regulated entity's policies and procedures provide sufficient guidance regarding required actions in the event of inadequate liquidity.

Risk Metrics

- 1) The establishment of board and management committees to oversee liquidity management function.
- 2) The development, review, and approval of risk measurement methodology and risk management strategies. (*Is the review conducted at appropriate intervals?*)
- 3) The development, adoption, and periodic review of the liquidity management policy that establishes:
 - a) Sources of operational and contingency liquidity.
 - b) Methodologies for measuring operational and contingency liquidity needs.
 - c) Guidelines for periodic monitoring and reporting liquidity positions.
 - d) Internal control structure and parameters.
 - e) Business continuity and recovery plans.

- f) Guidelines for monitoring liquidity position and policy exception reporting.
- 4) Evaluate the volume and trends of sources of liquidity and funding available to meet liquidity needs. Assess if the cost of these sources is part of the regulated entity's evaluation. Consider the following:
- a) Contingency funding plans.
 - b) Cash flow reports or cash flow gap reports or similar reports used by management to identify expected liquidity requirements for overnight, 30-day, and 365-day time horizons.
 - c) Liquidity from assets.
 - d) Review other potential sources of asset liquidity (additional securitizations, loan or securities sales, cash flow from loans, investments, etc.).
 - e) Liquidity from liabilities.
 - f) Regulated entity debt spreads and debt spread trends.
 - g) Potential erosion of demand from credit-sensitive investors.
 - h) The maturity of debt securities or callable debt that may be repurchased.
 - i) Compare estimated capacity to borrow under established Repo lines to short-term liquidity needs.

Reporting

- 1) Evaluate the effectiveness of management reports concerning liquidity needs and funding sources. Consider management's need to receive reports that contain the following:
- a) Reports on the current status and trends regarding liquidity metrics.
 - b) Compliance with limits and controls.
 - c) Evaluations of the results of past strategies.
 - d) Assessments of the potential risks and returns of proposed strategies.
 - e) Identify the major changes in the regulated entity's funding and liquidity risk profile.
 - f) Stress scenarios.
- (Are reports designed for different levels of management?)*
- 2) Contact FHFA personnel who monitor liquidity reports submitted by the regulated entity and assess the following as appropriate:
- a) The regulated entity's compliance with FHFA directed minimal liquidity requirements.
 - b) The accuracy of the data contained in the liquidity reports.
 - c) The timeliness of reporting.

Internal/External Audit

- 1) Evaluate the adequacy of the scope and testing performed by external and internal auditors. *(Are all areas of potential risk considered? If not, why not? Are reasons for excluding certain areas within the scope of audit work reasonable and supported?)*
- 2) Evaluate the adequacy of the scope and testing performed by outside consultants.
- 3) Assess the adequacy of tracking systems for monitoring implementation of corrective actions.
- 4) Assess the adequacy of actions taken in response to audit findings.

Information Technology

- 1) Identify and assess the automated and manual systems and applicable controls used by liquidity management activities for processing funding, measuring liquidity needs and available liquidity, including cash flow projection reports, and business continuity and recovery. *(Are systems specific to liquidity management considered in the business continuity plan? Does the regulated entity have appropriate plans in place to ensure that liquidity needs and monitoring can be accomplished despite business interruptions?)*

Compliance

- 1) As required under 12 CFR part 1207, determine if the regulated entity takes steps to assure that women- and minority-owned or controlled funds providers are given the opportunity to compete for regulated entity funding needs.
- 2) Evaluate the steps taken to comply with PMOS Standard 5- Adequacy and Maintenance of Liquidity and Reserves, specifically:
 - a) Assess the regulated entity's liquidity management framework that ensures it maintains sufficient liquidity to withstand a range of stressful events.
 - b) Determine if the regulated entity's liquidity risk tolerance is appropriate for its business strategy and its mission goals and objectives.
 - c) Assess the regulated entity's process for identifying, measuring, monitoring, controlling, and reporting its liquidity position and its liquidity risk exposures.
 - d) Determine if the regulated entity has established a funding strategy that provides effective diversification in the sources and tenor of funding.
 - e) Assess the regulated entity's stress tests on a regular basis for a variety of institution-specific and market-wide stress scenarios to identify sources of potential liquidity strain

and to ensure that current exposures remain in accordance with each regulated entity's established liquidity risk tolerance.

- f) Determine if the regulated entity uses stress test outcomes to adjust its liquidity management strategies, policies, and positions and to develop effective contingency plans.
- g) Assess the regulated entity's formal contingency funding plan that clearly sets out the strategies for addressing liquidity shortfalls in emergencies. Where practical, contingent funding sources should be tested or drawn on periodically to assess their reliability and operational soundness.
- h) Determine if the regulated entity maintains adequate reserves of liquid assets, including adequate reserves of unencumbered, marketable securities that can be liquidated or pledged to meet unexpected needs.

(Has the board of directors appropriately identified the risks in these areas and ensured that appropriate risk mitigation programs are in place?)

- 3) Evaluate the steps taken to comply with PMOS Standard 6 – Management of Asset and Investment Portfolio Growth. Specifically, determine if the regulated entity has managed asset and investment portfolio growth consistent with its board-approved liquidity strategy.
- 4) Evaluate the steps taken to comply with PMOS Standard 7 – Investments and Acquisitions of Assets. Specifically, determine if the regulated entity has established an investment policy that is consistent with its board-approved liquidity strategy.
- 5) (FHLBanks only) Assess the timeliness and accuracy of submissions of monthly certification of compliance with regulations to the FHFA.
- 6) Evaluate the board of directors at the FHLBanks for fulfilling the requirements of 12 CFR part 917 and Advisory Bulletin 05-05.
- 7) At the FHLBanks, determine compliance with 12 CFR part 1270, pertaining to sources of funds and liquid reserves.
- 8) Determine at the FHLBanks if liquidity is certified in conformance with 12 CFR part 1270.
- 9) Assess business continuity plans as they pertain to liquidity needs per Advisory Bulletin 03-2 and Advisory Bulletin 02-3 in the FHLBanks.
- 10) Determine if the regulated entity has eliminated daylight overdrafts.
- 11) For the Enterprises, evaluate the use of non-mortgage investments for adherence to 12 CFR part 1720 and PG-00-002.

6) Testing

- 1) Evaluate the regulated entity's liquid assets, including:
 - a) Level of liquid assets
 - b) Trends in liquid assets
 - c) Liquid assets and trends relative to total assets
 - d) Types of liquid assets
 - e) Maturities of liquid assets
 - f) Credit ratings of liquid assets
 - g) Geographic concentrations of liquid assets
- 2) Validate the appropriateness of assumptions and methodologies that underlie the liquidity model used to calculate operational and contingency liquidity needs. (*Are assumptions in the models consistent with similar assumptions in other areas such as strategic planning?*)
- 3) Validate sources of funds to be available for contingency liquidity needs by reconciling management reports to general ledger.
- 4) Validate the accuracy of the regulated entity's cash flow projections, including maturity gap, repricing gap, and option gap reports.
- 5) Verify the accuracy of liquidity reports provided to FHFA, as applicable.
- 6) Verify records of periodic testing of business contingency and recovery plans.
- 7) Verify contingency liquidity agreements with other institutions. Determine if the agreements are tested periodically.
- 8) Evaluate the market acceptance of recent debt issuances.
- 9) Verify credit lines with other financial institutions for the purpose of meeting liquidity needs in case of emergency. (*Has management considered the implications to its reputation when it draws on any lines from other institutions?*)
- 10) Validate the regulated entity's adherence to regulations and the risk management policy. Obtain recent general ledger and subsidiary system reports, as well as spreadsheets/databases, and verify compliance with the regulatory liquidity policies and the

requirements of FHFA regulations. Verify that securities that have been pledged under a Repo are excluded from the calculation utilized to satisfy contingency liquidity requirements.

- 11) Verify the regulated entity's liquidity status (level of liquid assets, composition of liquid assets, trends, concentrations, maturities, available lines, debt market support) and compliance with its liquidity policies and assess whether regulatory requirements are periodically reported to management and board of directors committees. Also, verify that each FHLBank's quarterly liquidity certification report has been timely filed with FHFA.
- 12) Verify agreements that are in place with Fed Funds counterparties and/or securities dealers for alternative sources of liquidity.
- 13) Evaluate the process for receiving information from key systems in order to monitor the regulated entity's liquidity position and needs through discussions with examiners and management. Examples include:
 - b) Wire system, such as large incoming, outgoing, and late or failed wires.
 - c) On-going monitoring of the target balance maintained at the Federal Reserve Bank.
 - d) Daylight overdraft notices received from the Federal Reserve Bank.
 - e) Automated clearing house transactions, such as large incoming and outgoing transactions.
 - f) Safekeeping.
 - g) Member deposit overdrafts.
 - h) Acquired member assets, such as large paydowns and funding.
 - i) Office of Finance reports used to monitor bond activity.
 - j) Trading activity.
 - k) Advances, such as large advances, paydowns, and maturities.
 - l) Outstanding loan commitments and letters of credit.
 - m) General ledger reports.
- 14) Review the most recent deposit overdraft report and daylight overdraft notifications received from the Federal Reserve Bank. Review with line management the situations that caused the customer deposit and/or daylight overdraft and the corrective action implemented. Evaluate whether the situations were isolated and whether they were the result of weaknesses in the design of the internal control environment or noncompliance with existing policies and procedures.

7) Conclusions

- 1) Summarize conclusions for all examination work performed, including work performed by other FHFA staff as it relates to the regulated entity's liquidity. Develop a memorandum articulating the risks to the institution related to liquidity and the regulated entity's management of those risks. The memorandum should describe the basis of conclusions reached and summarize the analysis completed. Within the memorandum, discuss the types of risk the regulated entity is exposed to in the liquidity area (e.g., market, credit, operational); the level of risk exposure; the direction of risk (stable, decreasing, increasing); and the quality of risk management practices (strong, adequate, weak). A memorandum must be prepared irrespective of whether the examiner's assessment is positive or negative. The memorandum should include a recommended rating for the Liquidity area based on the FHFA rating system.
- 2) Conclude on the responsiveness to previous examination findings. Evaluate the adequacy of the regulated entity's response to previous examination findings and concerns.
- 3) Develop findings and prepare findings memoranda, as appropriate. Based on examination work performed, develop findings communicating concerns identified during the examination. Findings should identify the most significant risks to the institution and the potential effect to the regulated entity resulting from the concerns identified. Such documents should describe a remediation plan specifying the appropriate corrective action to address examination concerns and establish a reasonable deadline for the regulated entity to remediate the finding. Communicate preliminary findings to the EIC. Discuss findings with regulated entity personnel to ensure the findings are free of factual errors or misrepresentations in the analysis.
- 4) Develop a list of follow-up items to evaluate during the next annual examination. In addition to findings developed in the steps above, include concerns noted during the examination that do not rise to the level of a finding. Potential concerns include issues the regulated entity is in the process of addressing, but require follow-up work to ensure actions are completed appropriately. In addition, potential concerns should include anticipated changes to the institution's practices or anticipated external changes that could affect the institution's future liquidity needs or management practices.

Workprogram

1. Scope of Examination Work Performed

Workpapers must document the examination activities undertaken to evaluate potential risks related to liquidity management.

2. Description of Risks

- Identify areas of concern related to liquidity management.
- Assess the current risks and the trends in risk to the organization emanating from liquidity management practices.
- Evaluate changes within the organization or industry affecting risk.
- Evaluate the entity's own risk-identification practices and conclude on their adequacy.

3. Risk Management

- Assess and conclude on the adequacy of the organization's risk identification process.
- Assess and conclude on the overall adequacy of internal controls, including an evaluation of:
 - The regulated entity's organizational structure.
 - Policy and procedure development for liquidity management.
 - Appropriateness of risk metrics established for liquidity management.
 - Reporting by management and the board.
- Assess and conclude on the internal and external audit of risks.
- Assess and conclude on the adequacy of information technology and controls related to liquidity management.
- Assess and conclude on the adequacy of the organization's efforts to ensure:
 - Compliance with laws, regulations and other supervisory guidance.
 - Compliance with the organization's policies and procedures.

4. Testing

- Complete testing, as appropriate, to assess adherence with examination standards.

5. Conclusions

- Summarize conclusions for all examination work performed related to liquidity management.
 - Conclude on the level of risk to the organization.
 - Include an assessment of the adequacy of an organization's monitoring of risk and establishment of internal controls to mitigate risk.
- Conclude on responsiveness to examination findings from previous examinations.
- Develop examination findings as appropriate.
- Identify areas requiring follow-up examination activities or monitoring.